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Learning Disabilities

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December 2025

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1. **Infants and Toddlers With Moderate-To-Severe Cerebral Palsy Receive Very Low Doses of In-Person Rehabilitation**

Authors: Bican, Rachel and Heathcock, Jill

Publication Date: 2026

Journal: Pediatric Neurology

Abstract: Background: Dose of rehabilitation services is important for optimizing developmental outcomes for children with cerebral palsy (CP). However, little is known about how much in-person rehabilitation infants and toddlers with CP currently receive, and how dose relates to function. The purpose of this study is to describe the dose of in-person rehabilitation services received by infants and toddlers with CP and to evaluate the relationship between physical therapy (PT) dose, age, and gross motor function.; Methods: We enrolled 53 participants (6 months-2 years old) with moderate-to-severe CP, defined as Gross Motor Function Classification System levels III-V. Parent-reported data on outpatient and early intervention PT, occupational therapy, and speech-language pathology services over the past 6 months were used to calculate monthly service dose. The Gross Motor Function Measure, 88-item was administered to quantify motor function.; Results: Participants received very low doses of therapy across disciplines. The mean total hours of rehabilitation services the participants received were between 0.4 and 3.0 hours per discipline per month. Combined in-person services averaged less than 9 total hours per month. There was no relationship found between the total hours of PT the child received and their age (P = 0.27, F = 1.22) or gross

motor function (as measured by the Gross Motor Function Measure, 88-item) (P = 0.82, F = 0.05).; Conclusions: Infants and toddlers with moderate-to-severe CP receive low doses of in-person rehabilitation, and the dose of PT does not appear to be individualized based on age or functional severity. These findings suggest a need for more tailored, intensive, and family-centered rehabilitation planning in early childhood.

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2. **Robot-assisted gait training for lower limb motor recovery in cerebral palsy: A meta-analysis of combined and standalone approaches.**

Authors: Chen H.;Yun G.;Wang J.;Fan Y.;Zhao W.;Zhan Y.;Sun S. and Wang, Y.

Publication Date: 2026

Journal: Gait and Posture

Abstract: Background: Cerebral palsy (CP), a leading cause of childhood motor disability, severely impacts lower limb function. Conventional gait training (CGT) faces challenges in standardization, while robot-assisted gait training (RAGT) offers biomechanical consistency but conflicting efficacy evidence. This meta-analysis evaluates RAGT monotherapy versus combined RAGT+CGT, therapeutic dose, and exoskeleton treadmill versus wearable robotic systems. Method(s): A systematic search across seven databases identified 19 randomized controlled trials (n = 1129). Outcomes included Gross Motor Function Measure-88 (GMFM-88) domains D/E, Berg Balance Scale (BBS), 6-minute walk test (6MWT), walking speed, and Modified Ashworth Scale (MAS). Subgroup analyses assessed therapeutic dose and robot type. Random- and fixed-effects models were applied. Result(s): Combined RAGT+CGT significantly outperformed RAGT alone and CGT in GMFM-D [MD= 8.39,95 %CI(5.56,11.23) vs. 5.11,95 %CI(1.22,9.00),P Result(s): Combined RAGT+CGT significantly outperformed RAGT alone and CGT in GMFM-D [MD= 8.39,95 %CI(5.56,11.23) vs. 5.11,95 %CI(1.22,9.00),P Result(s): Combined RAGT+CGT significantly outperformed RAGT alone and CGT in GMFM-D [MD= 8.39,95 %CI(5.56,11.23) vs. 5.11,95 %CI(1.22,9.00),P Conclusion(s): Combined RAGT and conventional rehabilitation significantly enhances lower limb motor function, balance, walking endurance/speed, and reduces spasticity in children with CP compared to RAGT alone (excluding GMFM-E). Medium-term interventions (8 weeks;dose:1000-4000 min) using exoskeleton treadmills yield superior outcomes to both extended protocols (>8 weeks;>4000 min) and wearable devices. Standardized assessments are needed to clarify GMFM-E improvements. Copyright © 2025 Elsevier B.V.

3. **Research Patterns in the Treatment of Adults With Problem Behavior and Intellectual and Developmental Disabilities: A Quantitative Systematic Review**

Authors: Khokhar, Nazurah;Cox, Alison D.;Ayvaci, Asude;Thillainathan, Thurka and Stellato, Sonia

Publication Date: 2026

Journal: Behavior Modification

Abstract: Research featuring adults with intellectual and developmental disabilities who engage in problem behavior has outlined various treatment approaches. The current quantitative systematic literature review identified and coded 76 peer-reviewed and gray literature articles published between January 2002 and September 2022. Following article identification and coding, we calculated effect size estimates (i.e., Tau Baseline Corrected) and assessed the methodological rigor of included articles. Through this work, we uncovered 42 unique multi-protocol treatments (i.e., treatments incorporating multiple therapeutic elements). Multi-protocol treatments were associated with larger effect sizes (more effective) compared to single-protocol treatments. The average methodological rigor score associated with peer-reviewed works was 1.6 (out of 4), while gray literature works scored 1.2. We offer commentary in response to these outcomes, alongside recommendations for future research to address the many avenues of inquiry that appear to remain largely neglected (e.g., component analysis to evaluate individual treatment elements and their efficacy).

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4. **Pediatric Constraint-Induced Movement Therapy: Current Practices and Implementation Barriers**

Authors: Larson, Sophia C.;Smith, Alyssa E.;Aravamuthan, Bhooma R.;Moore, Hunter G.;Antonoff, Kaylin A.;Ramey, Sharon and Hoyt, Catherine R.

Publication Date: 2026

Journal: OTJR: Occupational Therapy Journal of Research

Abstract: Hemiplegic Cerebral Palsy (CP) is the most common pediatric motor disability, characterized by unilateral motor weakness. Pediatric Constraint-Induced Movement Therapy (pCIMT) improves affected extremity function but faces variable clinical integration. This study assessed U.S. providers' awareness and use of pCIMT, educational practices, and barriers to broader implementation for more eligible children. Overall, 148 providers specializing in pediatric stroke or hemiplegic CP completed surveys on pCIMT familiarity, implementation challenges, and support for evidence-based practices (EBP). Participants indicated high pCIMT competency. Although 75% reported regional pCIMT availability, only 14% indicated that pCIMT is accessible to all children who could benefit. Reported barriers included therapist and family availability, cost, and institutional limitations. Despite valuing EBP, participants reported minimal workplace support for its use. The study revealed significant barriers to pCIMT accessibility and implementation. Further research is needed to address these challenges and improve clinical adoption of EBP, such as pCIMT. Plain Language Summary: Understanding How to Get a Targeted Movement Intervention to All Children With One-Sided

Weakness in the United States Hemiplegic Cerebral Palsy (CP) affects movement on one side of the body and is the most common pediatric movement disorder. Pediatric Constraint-Induced Movement Therapy (pCIMT) improves the use of the affected limb, but it is not widely used. We wanted to understand why and figure out where and how it is being offered. We surveyed 148 professionals in health care and academia about their awareness of pCIMT, what makes it hard to use, whether pCIMT is offered near them, and about workplace support for evidence-based treatments. The survey also asked how pCIMT is typically provided, including how long treatments last, type of constraint, and constraint wearing schedule. Most providers reported awareness of and local availability of pCIMT. However, they reported that not all children who might benefit from it had access. The main obstacles that were identified were finding enough time for therapists and families, the cost of treatment, and limits set by health care facilities. In addition, pCIMT programs were reported to vary widely in how they were structured and delivered, which could affect how well they work. Workplaces generally supported evidence-based practices but did not always make them a top priority. Better understanding provider's perspectives about pCIMT, how it is currently offered, and obstacles to availability can aid in the identification of implementation strategies to address the challenges that make it difficult for providers to offer widely. Future research can investigate the impact of educating therapists about its benefits and how it can be covered by insurance/ Medicaid; the use of flexible guidelines for pCIMT programs that can be adapted to different settings and patient needs; and specialized training.

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5. **Global, regional, and national sepsis incidence and mortality, 1990-2021: a systematic analysis.**

Publication Date: 2025

Journal: The Lancet.Global Health

Abstract: BACKGROUND: The global burden of sepsis, a life-threatening dysregulated host response to infection leading to organ dysfunction, remains challenging to quantify. We aimed to comprehensively estimate the global, regional, and national burden of sepsis, including the impact of the COVID-19 pandemic and underlying causes of sepsis-related deaths with co-occurring infectious syndromes. METHOD(S): We used multiple cause-of-death, hospital, minimally invasive tissue sampling, and linked death certificate and hospital record data representing 149 million deaths, covering 4290 location-years with mortality estimates from the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2021 to capture explicit and implicit sepsis cases and deaths. We estimated age-location-sex-specific fractions of sepsis-related deaths from 195 underlying causes of death and 22 infectious syndromes from 1990 to 2021 using binomial logistic regression models, and estimated sepsis-related deaths using GBD cause-specific mortality estimates. Using 250 million hospital admissions and 7.82 million deaths from hospital data, representing 1310 location-years, we modelled case fatality rates by use of binomial logistic regression, applied to sepsis death estimates to estimate sepsis incidence by age, location, and year. FINDINGS: In 2021, we estimated 166 million (95% uncertainty interval 135-201) sepsis cases and 21.4 million (20.3-22.5) all-cause sepsis-related deaths globally, representing 31.5% of total global deaths. Sepsis-related deaths decreased between 1990 and 2019, followed by a surge in 2020 and 2021. As of 2021, individuals aged 15 years and older experienced increases across incidence (230%) and mortality (26.3%) since 1990. Those aged 70 years and older had the highest sepsis-related

mortality in 2021 (9.28 million [8.74-9.86] deaths). Sepsis-related deaths from infectious underlying causes decreased from 11.8 million (11.1-12.5) in 1990 to 8.34 million (7.72-9.01) in 2019, then increased by 86.4% to 15.5 million (14.7-16.4) in 2021. Sepsis-related mortality due to non-infectious underlying causes of death increased from 4.69 million (4.35-5.05) in 1990 to 5.81 million (5.40-6.25) in 2021; the leading non-infectious underlying causes of death with sepsis were stroke, chronic obstructive pulmonary disease, and cirrhosis. In 2021, bloodstream infections inclusive of HIV and malaria (3.08 million [2.83-3.35]) and lower respiratory infections inclusive of COVID-19 (11.33 million [1.20-1.47]) were the most prominent infectious syndromes complicating sepsis-related deaths from non-infectious underlying causes, representing a consistent trend since 1990. INTERPRETATION: The global burden of sepsis increased in 2020 and 2021, reversing progress from 1990. Sepsis incidence and mortality increased in people aged 15 years and older, especially those aged 70 years and older, and as a complication of non-infectious underlying causes of death such as stroke, primarily through bloodstream infections and lower respiratory infections. The global burden of sepsis is substantial, and sepsis is increasingly a complication of non-infectious causes of death. FUNDING: Gates Foundation, Wellcome Trust, and Department of Health and Social Care using UK aid funding managed by the Fleming Fund.

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6. **Appropriateness of Empiric Antimicrobial Therapy for Community Onset Sepsis With Bacteremia in the Emergency Department: A Multidisciplinary Approach.**

Authors: Abdelwahab S.;Dubrovskaya Y.;Marsh K.;Merchan C.;Smalley S.;Siegfried J. and Papadopoulos, J.

Publication Date: 2025

Journal: Journal of Pharmacy Practice

Abstract: Background: Optimizing early antimicrobial therapy and incorporating clinical pharmacists into sepsis treatment strategies are essential for improving patient outcomes. Objective(s): To examine the appropriateness of empiric antimicrobial selection for patients presenting with community onset sepsis with confirmed bacteremia, to characterize de-escalation practices, and to evaluate pharmacy involvement throughout the sepsis care process. Method(s): We conducted a retrospective review of adult patients with community-onset sepsis and confirmed bacteremia who presented to the Emergency Department (ED) between 9/2022 and 5/2023 at our hospital. The primary outcome was the percent of patients with ineffective empiric antimicrobials. Secondary outcomes included time to de-escalation, sepsis outcomes, sepsis guidelines adherence, and pharmacy interventions. Result(s): 109 patients were included. Median Charlson Comorbidity Index (CCI) was 6 (IQR 3-8) and Pitt bacteremia score 0 (IQR 0-1). Median time to first antibiotic administration was 29 minutes (IQR 15-50). Ineffective empiric antimicrobials occurred in 13.7% of cases, with median time to effective antibiotics at 24 h. De-escalation occurred in 84% of cases. The median time for discontinuation was 2 days for antimicrobial coverage against MRSA and atypical organisms and 4 days for coverage against P. aeruginosa. Initial therapy adhered to guidelines in 70.6% of cases, with deviation primarily due to vancomycin administration in the absence of MRSA risk factors. Antibiotic-related pharmacy recommendations were made in 40% (n = 44/109) of

ED patients and 96% (n = 105/109) of hospitalized patients. In-hospital mortality, ICU admission, 30-day infection related re-admission and C. difficile infection within 6 months were 8.3% (n = 9), 42.2% (n = 46), 8.3% (n = 9), and 1.8% (n = 2), respectively. Conclusion(s): Pharmacist involvement led to appropriate antimicrobial selection in the ED, effective de-escalation, and favorable sepsis outcomes.

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7. **Assessment of Nutritional Status Using Body Composition Analysis in Cardiac Surgery and Risk Association with Acute Kidney Injury.**

Authors: Abraham G.;Nagarajan V.;Mathew M.;Alex M.E.;Jain K. and Mogga, P.

Publication Date: 2025

Journal: The Journal of the Association of Physicians of India

Abstract: Poor nutritional status prior to surgery in cardiac patients is one of the risk factors for acute kidney injury (AKI), morbidity, and mortality. There is a lack of data in patients undergoing cardiac surgery with regard to nutritional status and risk of AKI. This study was conducted with the objective of assessment of the nutritional status of cardiac surgery patients using body composition measures (BCM) and other biochemical parameters. This study was conducted at Madras Medical Mission Hospital, Chennai. Before enrolling, informed consent from the patients and ethical authorization were obtained. All patients >18 years of age undergoing cardiac surgery had a BCM analysis done on the pre- and postoperative day 5. Paired t-test was used to compare the pre- and postoperative data. Preoperative body mass index (BMI) of the patients showed that the majority of them were overweight, with a mean BMI of +/-26.55 kg/m2. There were no significant changes in the BCM results for protein weight in either study group (no AKI group-preop: mean +/- SD, 9.0316 +/- 2.39, p = 0.67; postop: mean +/- SD, 9.1919 +/- 2.57, p = 0.77; AKI group-preop: mean +/- SD, 9.57 +/- 8.00, p = 0.67; postop: mean +/- SD, 9.56 +/- 8.07, p = 0.77). There was a significant loss of body fat in all patients, but it was higher in patients who developed AKI (preop: mean +/- SD, 33.28 +/- 10.96, p = 0.11 vs postop: mean +/- SD, 31.83 +/- 10.94, p = 0.53). The skeletal muscle mass in both groups showed no significant changes. Those who developed AKI postoperatively had a higher preoperative visceral fat area (VFA) (mean +/- SD, 116.87) and percentage body fat (PBF) (33%) compared to patients who did not develop AKI (VFA +/-102.36 and PBF 30%). We found that patients had lost body fat postsurgically. Those who were diagnosed with AKI had overhydration, high waist circumference, and VFA preoperatively.

8. **Growing older with intellectual disability: insights, perspectives and future research directions from a stakeholder event**

Authors: Acton, Danny;Wee, Christine;Lowry, Madeleine;Ingram, Charlie;Odiyoor, Mahesh and Jaydeokar, Sujeet

Publication Date: 2025

Journal: Tizard Learning Disability Review

Abstract: Purpose: Ageing with intellectual disability is an increasingly recognised area of need. The purpose of this paper is to report on the perspectives of people with intellectual disability, families and practitioners regarding the challenges and priorities for ageing well and identify implications for future practice and research. Design/methodology/approach: A co-produced stakeholder event was held in the Northwest of England with people with lived experience, family carers, practitioners and service providers. Engagement activities included small group discussions, a wishing well activity, flipchart exercises and creative artefacts. Data were captured through facilitator notes, written contributions and questionnaires, then anonymised, digitised and thematically analysed. Findings: Four main themes were identified: mental health and service access; social inclusion and community support; respite and carer well-being; and dementia. Stakeholders highlighted gaps in tools to recognise early signs of dementia, track changes and provide evidence to clinicians, leading to delays in diagnosis and support. Participants also described the impact of anxiety on daily life, fragmented and costly community services and the strain families face because of outdated or crisis-driven respite provision. Research limitations/implications: The findings of this study reflect perspectives from one region of England and cannot be generalised to all populations, though the themes align with wider literature and suggest broader relevance. Practical implications: Priorities include co-produced dementia monitoring tools, embedding person-centred mental health planning, addressing geographical disparities and expanding proactive respite provision. Originality/value: To the best of authors' knowledge, this is one of the first co-produced UK studies to explore ageing with intellectual disability through direct stakeholder engagement. This study foregrounds lived experience voices and identifies dementia, mental health and carer well-being as critical areas for future policy and practice.

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9. **Ten-Year Outcomes of Anticholinergic Use Among Older Adults With Intellectual Disability: Findings From the Intellectual Disability Supplement to the Irish Longitudinal Study on Ageing (IDS-TILDA)**

Authors: Al Shuhaimi, Lamya;Maidment, Ian D.;Henman, Martin C.;Myint, Phyo K.;O'Connell, Juliette;Ryan, Caitríona;McCallion, Philip;McCarron, Mary and O'Dwyer, Maire

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: People with intellectual disability are frequently exposed to medication with anticholinergic activity. In the general population, the long-term exposure to anticholinergics has been associated with declines in both physical and cognitive function. This study aimed to examine anticholinergic exposure longitudinally in a cohort of older adults with

intellectual disability (aged 40 years or over). Method: The study examined individuals with intellectual disability aged 40 and over, who participated at two time points (Waves 1 and 4), 10 years apart, in the Intellectual Disability Supplement to the Irish Longitudinal Study on Ageing (IDS-TILDA). The Anticholinergic Cognitive Burden (ACB) scale was used to quantify anticholinergic exposure. Logistic regression analysis was employed to examine the adverse outcomes reported at time point 2 in relation to ACB scores at time point 1. Models were adjusted for age, gender, level of intellectual disability, residence, epilepsy and polypharmacy. Results: The study included 487 participants who provided medication data at both time points. Anticholinergic exposure remained consistent over the studied period, with approximately 30% having no exposure, 40% having mild exposure (ACB = 1–4) and 30% having high exposure (ACB = 5+). Antipsychotic medications contributed the most to the total score at both time points (Wave 1 = 35%, Wave 4 = 37%), with other anticholinergics, antiepileptics and antidepressant medications contributing 10%–16% each. Mild and high ACB scores at time point 1 were significantly associated with a higher risk of falls (odds ratio OR] = 1.86, 95% CI: 1.03–3.38) and mental health conditions (ACB 1–4; OR = 6.60, 95% CI: 3.69–11.77; ACB 5+, OR = 17.38, 95% CI: 8.97–33.61) and lower OR for reporting dementia/Alzheimer's disease (ACB 1–4; OR = 0.39, 95% CI: 0.15–0.97; ACB 5+; OR = 0.21, 95% CI: 0.07–0.64). Conclusion: Older adults with intellectual disability are exposed to high anticholinergic burden at the two time points, 10 years apart. Being exposed to anticholinergics at Wave 1 is significantly associated with a higher risk of falls and reporting mental health conditions at Wave 4. A review of antipsychotic prescribing practice is urgently needed to reduce the anticholinergic exposure and its adverse outcomes among older adults with intellectual disability.

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10. **Robotic versus treadmill training: Postural stability in ambulatory CP: RCT study.**

Authors: Aljosh M.;Algabbani M.F.;Fagehi J.M.;Bawazeer M.;Almohiza M.A.;Albishi A.M. and Alhusaini, A. A.

Publication Date: 2025

Journal: Pediatrics International

Abstract: Background: Postural stability is a prerequisite for the performance of daily gross motor functions. It is usually impaired in children with cerebral palsy. The aim of this study was to compare the effect of robotic-assisted gait training and body weight supported treadmill training on postural stability in ambulatory children with cerebral palsy. Method(s): A randomized clinical trial involved 40 ambulatory children with cerebral palsy (5-14 years old). They were randomly allocated to one of two locomotor treadmill-training groups: (1) robotic-assisted gait training (RAGT) and (2) body weight supported treadmill training (BWSTT). All participants completed 24 training sessions within 8 weeks. Postural stability was measured by a computer dynamic posturography (NeuroCom EquiTest) before and after the intervention. Result(s): A two-way repeated measures ANOVA revealed that there was a statistically significant interaction between group and time [F(15, 24) = 3.02, p = 0.008]. The study found that RAGT is more effective than BWSTT on some variables of static and dynamic postural stability. RAGT showed more improvement in weight symmetry at 60degree knee flexion, limit of stability, velocity composite (front/back), and directional control composite for both left/right and front/back (p Result(s): A two-way repeated measures ANOVA revealed that there was a statistically significant interaction between group and time [F(15, 24) = 3.02, p = 0.008]. The

study found that RAGT is more effective than BWSTT on some variables of static and dynamic postural stability. RAGT showed more improvement in weight symmetry at 60degree knee flexion, limit of stability, velocity composite (front/back), and directional control composite for both left/right and front/back (p Conclusion(s): Ambulatory children with CP can improve their postural stability after intensive RAGT.

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11. **Outcomes of acute kidney injury in patients receiving extracorporeal membrane oxygenation during the COVID-19 pandemic: a prospective, observational, and multi-center study**

Authors: AlSahow, Ali;Alkandari, Omar;AlRajab, Heba;AlHelal, Bassam;AlYousef, Anas;AlQallaf, Ahmed;Bahbahani, Yousif;AlKandari, Abdulrahman;Nessim, Gamal;Mashal, Bassem;Mazroue, Ahmad;ElAbbadi, Mohamed;Abdelmoteleb, Alaa;Abdelzaher, Ali;Abdellatif, Mohamed;ElHusseini, Ziad;Abdelrady, Ahmed and Abdalla, Emad

Publication Date: 2025

Journal: Renal Failure

Abstract: INTRODUCTION: Extracorporeal membrane oxygenation (ECMO) is a life-saving therapy in severe respiratory and/or cardiovascular failure. Acute kidney injury (AKI) is a frequent complication of ECMO that increases morbidity and mortality. We report the outcomes of patients with AKI who received ECMO. METHODS: Clinical, management, and 30-d kidney and patient outcome data of adult inpatients with AKI who received ECMO in seven public hospitals in Kuwait from 1 January to 31 December 2021, were prospectively collected and analyzed. RESULTS: There were 3,744 AKI referrals to nephrology during study period, of which 121 received ECMO (3.2%). Patients with AKI on ECMO had a mean age of 56.3 years and a mean baseline eGFR of 81.6 mL/min. Preexisting chronic kidney disease was reported in 21.5% of patients, diabetes in 58.7%, and hypertension in 48%. COVID-19 infection contributed to AKI in 69% of the cases. AKI developed before ECMO initiation in 62% of cases. ECMO was veno-venous in 90% of cases. Dialysis was performed in 92% of cases, 97% of which was continuous modality. Mechanical ventilation was required in 94.2% of patients (all on inotropic support). At 30 d, 86.8% of the cohort died (91% of the deceased were on dialysis), 5% remained on dialysis, and only 3.3% recovered kidney function completely. CONCLUSIONS: AKI in patients receiving ECMO was associated with a high need for dialysis, and a high mortality rate. COVID-19 pandemic may have contributed to this outcome. ECMO modality, and whether AKI was pre or post ECMO did not affect the outcome.

12. **Unraveling the Impact of Spider Cage Therapy on Static and Dynamic Standing Balance in Children with Spastic Diplegic Cerebral Palsy: A Randomized Clinical Trial**

Authors: Anbu, Varsha;Natarajan, Senthil Kumar;Alagesan, Jagatheesan;Venkat, Akshaya and Chitrada, Rekha

Publication Date: 2025

Journal: Internet Journal of Allied Health Sciences & Practice

Abstract: Purpose: Cerebral palsy (CP)is described as a group of disorders with uneven posture and movement; spastic diplegia is the most prevalent type. The intent of this study was to ascertain the efficacy of spider cage therapy for static and dynamic standing balance in children with spastic diplegic cerebral palsy using the Pediatric Balance Scale (PBS) and the Gross Motor Function Measure (GMFM). Method: This study was a randomized controlled trial that used random sampling and blinded evaluators. Children with diplegic CP aged between 5 and 10 years, with GMFCS levels II-IV were assigned to either the spider cage therapy group or the conventional therapy group. The treatment duration was 1 hour and 10 minutes, 5 days a week, for 12 weeks. Normality was tested, and baseline assessments were conducted. Results: The post-test mean values for GMFM in the spider cage group and conventional group were 74.8 (SD 3.59) and 70.5 (SD 2.92) respectively. The post-test mean values for PBS in the spider cage group and conventional group were 47.2 (SD 2.33) and 43.5 (SD 2.96) respectively. The post-test p-value was <0.05. Conclusion: The spider cage group showed statistically significant improvements compared to the conventional group. Based on the results from a 12-week study period, it is concluded that advanced spider cage therapy with a task-oriented approach works better than conventional therapy for improving both static and dynamic standing balance, thereby reducing the functional dependency of spastic diplegic cerebral palsy children.

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13. **Success in Reducing Acute Kidney Injury Post-Percutaneous Coronary Intervention.**

Authors: Anthuvan, Jacob;Blake, Patricia;Blais, Danielle;Lima, Jorge;Logan, Don and Boudoulas, Konstantinos Dean

Publication Date: 2025

Journal: JACC.Case Reports

Abstract: BACKGROUND: Acute kidney injury (AKI) after percutaneous coronary intervention (PCI) contributes to short- and long-term adverse events. In 2018, our rate for AKI was in the lower quartile for several quarters compared to other hospitals in the American College of Cardiology National Cardiovascular Data Registry Cath/PCI Registry. PROJECT RATIONALE: Our quality initiative (QI) project was to understand factors contributing to AKI and opportunities to improve this outcome. PROJECT SUMMARY: A significant delay to the initiation and volume of hydration administered in patients with AKI as compared to without AKI post-PCI was discovered. Lack of understanding hydration order set, fear of volume overload, hydration communication handoff deficiencies, and order-release process variation were contributing factors. Appropriate and sustainable interventions were made improving AKI post-PCI. TAKE-HOME MESSAGES: A successful QI project requires a multidisciplinary team

identifying barriers and deriving solutions. Our QI project resulted in AKI post-PCI improving to the 90th percentile for 9 consecutive quarters.

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14. **Comorbidities in People With Intellectual Disability With and Without Schizophrenia and Schizophrenia Without Intellectual Disability: A Swedish Register Study (IDcare)**

Authors: Bakken, Trine Lise;Axmon, Anna and Sandberg, Magnus

Publication Date: 2025

Journal: Journal of Intellectual Disability Research : JIDR

Abstract: Background: Intellectual disability (ID) and schizophrenia are known to separately carry a high risk of comorbidity of mental health and physical conditions. However, the prevalence and risk of comorbidities among people diagnosed with concurrent ID and schizophrenia have to date not been studied.; Methods: From a cohort including all people in Skåne, Sweden, the following three groups were established: (1) people with ID and concurrent schizophrenia, (2) people with ID without schizophrenia and (3) people with schizophrenia without ID. Diagnoses were determined using the Region Skåne healthcare database. Poisson regression was used to estimate relative risks (RRs) with 95% confidence intervals (CIs) of having at least one diagnosis in each ICD-10 chapter or block for group 1 versus groups 2 and 3, respectively. All analyses were adjusted for age at inclusion (i.e., 2014, continuous variable), sex and ethnicity.; Results: For several diagnostic chapters, there were higher risks among people with ID and schizophrenia, compared to both those with ID without schizophrenia and those with schizophrenia but without ID. These chapters included the following: I (parasites), III (blood and immunity), IV (endocrine), VII (eye), XII (skin and tissue) and XIV (genitourinary). The blocks with the highest risks compared to the other two groups were diabetes mellitus, disorders of other endocrine glands, obesity and other hyperalimentation, organic-including symptomatic and mental health conditions, extrapyramidal and movement and other respiratory diseases principally affecting the interstitium.; Conclusions: People with the combination of ID and schizophrenia had an increased risk of both physical and mental health conditions that could not be explained by either ID or schizophrenia alone. A correct diagnosis for people with the combination of ID and schizophrenia is important for the provision of adequate treatment. Future research should investigate pathways and explanatory factors, as well as the provision of services for people with ID and schizophrenia. (© 2025 The Author(s). Journal of Intellectual Disability Research published by MENCAP and John Wiley & Sons Ltd.)

15. **Engaging ethnically diverse families of children with intellectual and developmental disabilities: a systematic review**

Authors: Banks, Joy;Lamichhane, Kamal and Thomas, Myra

Publication Date: 2025

Journal: Disability & Rehabilitation

Abstract: Purpose: Culture is a critical component of family engagement, particularly for ethnically diverse children with intellectual and developmental disabilities and their family members. Ethnically diverse families of children with intellectual and developmental disabilities often encounter challenges when attempting to access special education and social services. The purpose of this systematic literature review is to explore the ways cultural demographics impact family engagement and types of professional strategies that contribute to increased engagement for ethnically diverse family members of children with intellectual and developmental disabilities. Methods: We conducted a systematic review of the literature using three databases and studies were published during a 22-year period. Results: Twenty studies met the inclusion criteria for our systematic review of literature. Studies included ethnically diverse family members from 11 different countries. Studies included children with intellectual and developmental delays between 1 to 21 years of age. Our findings highlight cross-cultural factors that influence family engagement. Conclusions: Our findings emphasize the importance of developing professionals who understand the expectations, assumptions, and values of ethnically diverse families which can enhance outcomes for family members across various contexts. IMPLICATIONS FOR REHABILITATION: Ethnically diverse children with intellectual and developmental disabilities and their family members experience barriers when accessing services due to language difference, stigma, and lack of collaboration between families and professional service providers. Educators, clinicians, and service providers should understand the ways in which culture, religion, ethnicity, and regional location converge to create different needs for ethnically diverse families of children with intellectual and developmental disabilitie. Recent trends in globalization underscore the need to implement culturally relevant interventions for ethnically diverse children with intellectual and developmental disabilities and their family.

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16. **Evaluation of Static Balance in Children with Cerebral Palsy Using an Innovative Image Processing Software.**

Authors: Basaran Z.;Celik H.I.;Polat O. and Elbasan, B.

Publication Date: 2025

Journal: Healthcare (Switzerland)

Abstract: Background: Impaired balance is one of the most common and functionally limiting problems in children with cerebral palsy (CP), significantly affecting their motor abilities and quality of life. Although force platforms are considered the gold standard for evaluating postural stability, they are often costly, non-portable, and require specialized laboratory environments, limiting their accessibility in routine clinical settings. Objective(s): This study

aimed to develop a novel software program based on image processing techniques to assess static balance in children with CP and to evaluate its validity against traditional force platform measurements. Method(s): A total of 83 children aged 5-15 years (63 with CP, GMFCS levels I-II; 20 healthy controls) participated. Static balance was assessed under four different standing conditions using both a force platform and a newly developed video-based software tool. The software utilized the frame difference method to detect center of mass movements, and parameters such as velocity and total displacement were calculated. Correlation analyses were conducted between the image processing and force platform data. Result(s): The software demonstrated moderate to strong positive correlations with force platform parameters in the majority of test conditions, particularly when participants stood with eyes open. In more challenging balance scenarios (e.g., eyes closed, feet together), correlations were weaker but still significant. Conclusion(s): The findings suggest that this image-based software is a valid, low-cost, and portable alternative for static balance assessment in children with CP. It has the potential for use in diverse clinical or home settings, supporting individualized rehabilitation strategies. Copyright © 2025 by the authors.

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17. **Time to Vasopressor Initiation Is Not Associated With Increased Mortality in Patients With Septic Shock.**

Authors: Black L.P.;Hopson C.;Puskarich M.A.;Modave F.;McCarthy D.M.;DeVos E.;Garvan C.;Fernandez R. and Guirgis, F. W.

Publication Date: 2025

Journal: Annals of Emergency Medicine

Abstract: STUDY OBJECTIVE: The optimal timing of vasopressor initiation in septic shock remains unclear. Our objective was to evaluate the association between time to vasopressor initiation and mortality. METHOD(S): This was a retrospective cohort study of patients with septic shock in the OneFlorida Data Trust, a statewide repository of health care data. We included patients if they received vasopressors during hospitalization after at least 1 episode of hypotension (systolic blood pressure METHOD(S): This was a retrospective cohort study of patients with septic shock in the OneFlorida Data Trust, a statewide repository of health care data. We included patients if they received vasopressors during hospitalization after at least 1 episode of hypotension (systolic blood pressure RESULT(S): There were 4,699 patients with septic shock between 2012 and 2018 included. The primary outcome, 90-day mortality, was present in 34% (n=1,610). Time to vasopressor initiation was not found to be associated with 90-day mortality (odds ratio [OR] 1.01; 95% confidence interval [CI] 1.00 to 1.02). Independent predictors included age (OR 1.04; 95% CI 1.04 to 1.05), mechanical ventilation (OR 2.98; 95% CI 2.56 to 3.48), laboratory components of the Sequential Organ Failure Assessment score (OR 1.18; 95% CI 1.14 to 1.23), lactate level (OR 1.10; 95% CI 1.08 to 1.13), chronic hypertension (OR 0.60; 95% CI 0.52 to 0.70), and liver disease (OR 1.54; 95% CI 1.30 to 1.82). Time to vasopressor initiation was not found to be an independent predictor of vasopressor-free days. CONCLUSION(S): Time from first hypotensive episode to vasopressor initiation was not found to be associated with 90-day mortality or vasopressor-free days in this large cohort of septic shock patients.

18. **Sexual and Reproductive Health in Female Adolescents and Young Adults With Disabilities: A Population-Based Study**

Authors: Brown, Hilary K.;Toulany, Alene;Sharpe, Isobel;McPherson, Amy C.;Lunsky, Yona and Vandermorris, Ashley

Publication Date: 2025

Journal: Journal of Adolescent Health

Abstract: To compare sexual and reproductive health (SRH) outcomes and care in female adolescents and young adults (AYA) with and without disabilities. We undertook a population-based cohort study in Ontario, Canada, of females aged 12–24 years as of April 1, 2021, and followed them to March 31, 2023, for contraceptive prescriptions or procedures, recognized pregnancy, management of sexually transmitted infections (STIs), and violence resulting in acute care. AYA with physical (n = 95,474), sensory (n = 29,638), intellectual/developmental (n = 7,762), and multiple disabilities (n = 12,304) were compared to those without a disability (n = 814,127; referent) using modified Poisson regression, with relative risks (aRR) adjusted for sociodemographic and clinical factors. Compared to AYA without a disability, those with physical disabilities were more likely to have contraception (aRR 1.05, 95% CI 1.03–1.07), pregnancy (1.26, 1.22–1.29), management of an STI (1.17, 1.13–1.20), and violence (1.82, 1.70–1.93). AYA with intellectual/developmental disabilities were less likely than AYA without disabilities to have a pregnancy (0.86, 0.77–0.96) and management of an STI (0.65, 0.57–0.74), but more likely to experience violence (1.99, 1.69–2.35). Those with multiple disabilities were less likely to have management of an STI (0.81, 0.74–0.88), but more likely to experience violence (2.16, 1.88–2.47). There were few differences between AYA with sensory disabilities compared to AYA without a disability after adjustment. Female AYA with disabilities experience significant SRH disparities, including higher risk of violence and, for some, reduced access to SRH care. Findings suggest the need for accessible SRH services, supported by provider training and guidelines, to ensure equitable SRH for AYA with disabilities.

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19. **Digital Health Literacy of People with Intellectual Disabilities: A Scoping Review to Map the Evidence**

Authors: Bruland, Dirk;Geffroy, Daniel and Latteck, Änne-Dörte

Publication Date: 2025

Journal: International Journal of Environmental Research and Public Health 22(11)
Abstract: Digital technologies are revolutionizing health systems worldwide. People with higher digital health literacy are better equipped to access reliable health information, utilize telehealth services, and effectively manage their health through applications. However, a notable digital divide exists for people with intellectual disabilities, and the digitization of healthcare can limit their health opportunities. This scoping review examines the current evidence on digital health literacy among people with intellectual disabilities, emphasizing specific challenges and the need for tailored adaptations. Eleven articles from ten databases were included in the review. Although digital health literacy is becoming increasingly important, it is rarely discussed for people with intellectual disabilities. The term "digital health literacy" is not used, with the exception of one article. However, the focus is mostly on applicability and

often at the functional level. The findings underscore that people with intellectual disabilities are underrepresented in research studies and interventions related to digital health literacy. Additionally, the results indicate the lack of a theoretical population-specific framework that focuses on competencies and life experiences. Participation in the digital world is a human right (UN CRPD). Addressing the digital gap is crucial, as improving digital health literacy can lead to better health outcomes, equitable access to health services, and reduced health disparities among people with intellectual disabilities. Based on the results, research directions for developing a population-specific framework for this highly vulnerable group are discussed.

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20. **Overground gait training improves the sensorimotor cortical dynamics and mobility of persons with cerebral palsy**

Authors: Busboom, Morgan T.;Spooner, Rachel K.;Chinen, Liana S.;Baker, Sarah E.;Corr, Brad;Bemis, Katie L.;Scott, Kimberley;Wilson, Tony W. and Kurz, Max J.

Publication Date: 2025

Journal: NeuroImage.Clinical

Abstract: Competing Interests: Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.; Objective: Persons with cerebral palsy (CP) exhibit aberrant sensorimotor cortical oscillations linked to uncharacteristic motor actions and mobility, but the key physical therapy ingredients needed to offset these aberrations and drive improvements in cortical function remain unclear. This study evaluated whether overground gait training results in mobility gains that are coupled to beneficial changes in sensorimotor cortical oscillations in persons with CP. 34 persons with CP (Age = 20.58 ± 7.61yrs; Gross Motor Functional Classification Scores I-III) and 32 neurotypical (NT) controls (Age = 23.06 ± 3.79yrs) participated. Persons with CP completed 24 overground gait training sessions (3 days/week for 8 weeks). A battery of clinical assessments were used to examine changes in functional mobility. Magnetoencephalographic (MEG) imaging was used to quantify sensorimotor cortical oscillations while performing a knee extension motor task pre- and post-therapy in the CP group. Only one MEG measurement was completed by NTs. Persons with CP improved their Functional Gait Assessment scores by 8.77 % (p 0.05). Notably, the persons with CP who exhibited the largest increases in sensorimotor beta oscillations tended to have greater improvements in the TUG (p = 0.025). Overground gait training enhanced sensorimotor cortical oscillations and yielded clinically meaningful mobility gains. These neuroplastic and functional improvements may stem from gait-related tasks emphasizing movement planning, execution, and problem-solving. (Copyright © 2025 The Author(s). Published by Elsevier Inc. All rights reserved.)

21. **The Effects of Upper Extremity Robotic Rehabilitation in Children with Spastic Hemiparetic Cerebral Palsy: A Randomized Controlled Trial**

Authors: BUYUKTAS, Nuriye and TARSUSLU, Tulay

Publication Date: 2025

Journal: Balikesir Health Sciences Journal

Abstract: Objective: The aim of this study was to investigate the effects of robot-assisted rehabilitation (RR) applied in addition to conventional physiotherapy on upper extremity skills and functional independence level in children with spastic hemiparetic cerebral palsy (HCP). Materials and Methods: 34 children with HCP attended this prospective randomized controlled trial. The study group (n=17) received conventional physiotherapy and RR, the control group (n=17) received only conventional physiotherapy. Conventional physiotherapy program lasted 45 minutes for each child, RR program lasted 30 minutes. Participants were enrolled in sessions 3 times per week for 5 weeks. Outcome measures were Modified Ashworth Scale (MAS) for muscle tone, Abilhand-Kids Test for manual skills, The Quality of Upper Extremity Skills Test (QUEST) for upper extremity motor function and The WeeFIM for functional independence level. Results: Statistically significant reduce were seen in total, elbow and hand muscle tone in the study group ($p<0.05$). Improvement in manual skills, upper extremity motor function and functional independence level were statistically significant in both groups after therapy ($p<0.005$). The improvements were more obvious in the study group ($p<0.005$). Conclusion: Adding RR to conventional physiotherapy program has led to further improvements in the level of muscle tone, manual skills, upper limb motor function and functional independence level.

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22. **Unpacking the "black box" of safe respiratory physiotherapy interventions delivered in the home for children with cerebral palsy and medical complexity**

Authors: Caird, B.;McGowan, N.;Depiazzi, J.;Marpole, R. and Gibson, N.

Publication Date: 2025

Journal: Physiotherapy

Abstract: Competing Interests: Declaration of interest None.; Objective: To describe the physiotherapy interventions provided to children with cerebral palsy (CP) at risk of respiratory illness and determine criteria for safe in-home treatment.; Design: Descriptive study of physiotherapy interventions received by children enrolled in the treatment arm of a 12-month feasibility randomised controlled trial between March 2022 and July 2023.; Setting: Tertiary hospital, community and in-home.; Participants: Ten children with CP aged 28 months to 12 years.; Interventions: All types of respiratory physiotherapy interventions.; Main Outcome Measures: Types of physiotherapy interventions, the number, location, and duration of occasion of service (OOS), patient symptoms at baseline and post intervention, stability of participant during treatment sessions.; Results: There were 159 physiotherapy intervention OOS, median (range) 15.5 (4 to 27). All 10 children had at least one new or worsened symptom at a follow up visit that was present before physiotherapy commenced and was not

present at their initial baseline assessment on entry to the study. Nine children received individualised respiratory action plans, seven received airway clearance-based plans and two exercise-based plans. The most frequently used airway clearance techniques were manual techniques and positioning. Lung health education was delivered to all participants on every visit. No negative events related to physiotherapy interventions occurred. Criteria for children deemed unsuitable for respiratory physiotherapy interventions outside the hospital were developed.; Conclusion: Airway clearance, positioning and lung health education were the most frequently used respiratory physiotherapy interventions in the community. These were safe when children had clear action plans and were delivered by a skilled respiratory paediatric physiotherapist with tertiary experience. CONTRIBUTION OF THE PAPER. (Copyright © 2025 The Author(s). Published by Elsevier Ltd.. All rights reserved.)

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23. **Incidence and Risk Factors for Acute Kidney Injury After Spine Surgery.**

Authors: Castillo H.;Lingampalli N.;Ekweariri N.R.;Baksh N. and Wojewnik, B.

Publication Date: 2025

Journal: Clinical Spine Surgery

Abstract: STUDY DESIGN: This was a retrospective review using the ACS-NSQIP database. OBJECTIVE(S): To investigate the incidence of acute kidney injury (AKI) in elective spine surgery and identify risk factors associated with its development. SUMMARY OF BACKGROUND DATA: Spine surgery is the most common type of surgery in the United States, with AKI being a frequent postoperative complication. AKI is linked to increased morbidity, prolonged hospital stays, and higher costs. However, limited data exist on specific risk factors for AKI in spine surgery patients. METHOD(S): Patients undergoing elective spine surgery were identified using CPT codes from the ACS-NSQIP database. AKI was defined based on perioperative laboratory values. Propensity matching was applied to identify associated risk factors. Univariate and multivariate analyses were performed on the matched cohort to assess preoperative characteristics and postoperative outcomes. RESULT(S): Among 351,998 elective spine procedures, the incidence of postoperative AKI was 0.10% (373 patients). AKI patients were more likely to be non-Hispanic Black (14.7% vs. 9.5%, P=0.033), have a higher BMI (33.2 vs. 31.5, P=0.006), anemia (49.3% vs. 33.6%, PRESULT(S): Among 351,998 elective spine procedures, the incidence of postoperative AKI was 0.10% (373 patients). AKI patients were more likely to be non-Hispanic Black (14.7% vs. 9.5%, P=0.033), have a higher BMI (33.2 vs. 31.5, P=0.006), anemia (49.3% vs. 33.6%, PRESULT(S): Among 351,998 elective spine procedures, the incidence of postoperative AKI was 0.10% (373 patients). AKI patients were more likely to be non-Hispanic Black (14.7% vs. 9.5%, P=0.033), have a higher BMI (33.2 vs. 31.5, P=0.006), anemia (49.3% vs. 33.6%, PRESULT(S): Among 351,998 elective spine procedures, the incidence of postoperative AKI was 0.10% (373 patients). AKI patients were more likely to be non-Hispanic Black (14.7% vs. 9.5%, P=0.033), have a higher BMI (33.2 vs. 31.5, P=0.006), anemia (49.3% vs. 33.6%, PRESULT(S): Among 351,998 elective spine procedures, the incidence of postoperative AKI was 0.10% (373 patients). AKI patients were more likely to be non-Hispanic Black (14.7% vs. 9.5%, P=0.033), have a higher BMI (33.2 vs. 31.5, P=0.006), anemia (49.3% vs. 33.6%, PRESULT(S): Among 351,998 elective spine procedures, the incidence of postoperative AKI was 0.10% (373 patients). AKI patients were more likely to be non-Hispanic Black (14.7% vs. 9.5%, P=0.033), have a higher BMI (33.2 vs. 31.5, P=0.006), anemia (49.3% vs. 33.6%, PCONCLUSION(S):

The incidence of AKI after elective spine surgery is 0.10%. Addressing modifiable risk factors, such as anemia, chronic kidney disease, and hypertension, can help reduce postoperative complications. LEVEL OF EVIDENCE: This study is classified as level III evidence, as it is a retrospective cohort study utilizing the ACS-NSQIP database.

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24. **Comparison of the Aquatic Therapy Protocols on Gait of Children With Cerebral Palsy: A Randomized Controlled Trial**

Authors: Castro, Caio Roberto Aparecido de Paschoal;de Oliveira, Lais Cardoso;Kakihata, Alessandra Mitie;Barbosa, Jose Luis Rodrigues;da Silva, Rafael,Santos Ferreira;Nishida, Márjory Harumi;Pereira, Marina Araujo and Braga, Douglas Martins

Publication Date: 2025

Journal: Pediatric Physical Therapy

Abstract: Objective: To analyze and compare the effects of 2 aquatic exercise protocols on the gait of children with cerebral palsy (CP), aged 6 to 8 years. Methods: A randomized, controlled, and blind clinical trial, carried out with 16 children with CP classified to Gross Motor Function Classification System (GMFCS) II and III bilateral spastic, divided into a group of aquatic balance exercises group (BG) and a group of aquatic trunk exercises group (TG). The following assessments were completed before and after the intervention: 6-Minute Walk Test (6MWT), Trunk Control Measurement Scale, Pediatric Balance Scale, Timed Up and Go, Dynamic Gait Index, and Child Health Questionnaire—Parent form 50. Results: BG was superior to TG in 6MWT after the intervention. Improvement was observed in most outcomes in both groups. Conclusion: The protocols demonstrated positive effects on the outcomes analyzed, and BG performed better in the distance covered in 6MWT.

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25. **Outcomes In Acute Kidney Injury Requiring Haemodialysis - A Retrospective Cohort Study.**

Authors: Chetcuti S. and Masengu, A.

Publication Date: 2025

Journal: Ulster Medical Journal

Abstract: Background Acute kidney injury (AKI) requiring intermittent haemodialysis (AKI-IHD) is associated with significant morbidity and high mortality. There is limited data regarding clinical outcomes in individuals with AKI-IHD in Northern Ireland. The aim of this study was to explore clinical outcomes in a cohort of individuals with AKI-IHD, including rates of recovery to self-sustaining kidney function, mortality rates at 30 days and 2 years from start of haemodialysis, and to investigate potential predictors of these key outcomes. Methods The Acute Haemodialysis Unit in the Royal Victoria Hospital, Belfast, Northern Ireland, was established in 2011 to provide onsite inpatient intermittent haemodialysis (IHD) to individuals requiring this supportive treatment. A retrospective review of 188 incident IHD patients in the Royal Victoria Hospital from January 2018-December 2022 was undertaken. Demographic and clinical outcome information on 12th May 2023 was obtained from the nephrology electronic

database eMed (Mediqal) and the Northern Ireland Electronic Care Record. Results 188 individuals commenced IHD for the first time as a consequence of life-threatening complications of AKI during the 5-year period (January 2018-December 2022). 75% of these patients were not previously known to the nephrology service, (GROUP A, n=142, mean age 63 years, mean baseline serum creatinine 99 micromol/L) while 25% (GROUP B, n=46, mean age 67 years, mean baseline creatinine 278 micromol/L) had been attending a Nephrology Clinic for at least 12 months. A significant proportion of AKI developed during the inpatient admission rather than at initial presentation (GROUP A 47%, GROUP B 50%). 92% of GROUP A recovered self-sustaining kidney function before discharge, compared to 59% of GROUP B. A lower baseline serum creatinine was the only predictor of kidney recovery in GROUP B, p value=0.02. No predictors for kidney recovery were identified in GROUP A. The diagnosis of either AKI and/or dialysis was documented in 80% of electronic discharge letters for patients in GROUP A but only 54% of letters for patients in GROUP B. The 30-day mortality (from IHD start) in GROUP A was 14% compared to 9% in GROUP B. Individuals with a diagnosis of heart failure were four times more likely to die before discharge (p value=0.02) and those aged >= 70 years twice as likely to die before discharge (p value=0.049). The two-year mortality rate in the two groups was similar (GROUP A 35% vs. GROUP B 37%) despite GROUP B being significantly older. Conclusion In this cohort of individuals with AKI-IHD, managed in the Royal Victoria Hospital, Belfast, the majority recovered self-sustaining kidney function. The mortality rates at 30 days were lower than reported in the literature and may be due to careful patient selection. The poorer outcomes associated with AKI-IHD support and a concomitant diagnosis of heart failure or age >= 70 years (or both) are useful in guiding clinical and patient expectations and decision making.

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26. **Impact of early acute kidney injury on 30-day mortality in intensive care unit patients with chronic obstructive pulmonary disease: a retrospective study using MIMIC-IV.**

Authors: Chi C.;Zhou J. and Hou, S.

Publication Date: 2025

Journal: Journal of Thoracic Disease

Abstract: Background: Chronic obstructive pulmonary disease (COPD) is one of the leading causes of death worldwide, and acute kidney injury (AKI) is one of the most common comorbidities in patients with COPD. However, the impact of AKI occurring within 2 days of COPD diagnosis is unclear. Therefore, this study aimed to assess the impact of a 2-day onset of AKI on COPD patient outcomes using the Medical Information Mart for Intensive Care-IV (MIMIC-IV) database. Method(s): This retrospective study is based on version 2.2 of the MIMIC-IV database. We collected clinical data and 30-day all-cause mortality data for patients with COPD in the intensive care unit (ICU), who met the diagnostic criteria for COPD upon admission between 2008 and 2019. We used the International Classification of Diseases, 10th Revision (ICD-10) (codes J44, J440, J441, and J449) to identify COPD. Kaplan-Meier analysis was used to compare 30-day all-cause mortality in COPD patients with and without 2-day AKI. A Cox proportional hazards model was employed to investigate risk factors associated with 30-day all-cause mortality in COPD patients. Result(s): This study included 2,609 patients with COPD, of whom 1,514 (58.03%) developed AKI within 2 days, while 1,095 (41.97%) did not. Patients with COPD, those who developed AKI within 2 days were older than those who did

not develop AKI within 2 days [median: 72.7 (65.1, 80.0) vs. 70.6 (63.2, 79.6), P=0.005] and had a higher Simplified Acute Physiology Score III (SAPSIII) score [median: 50.0 (37.0, 67.8) vs. 37.0 (28.0, 48.0), PResult(s): This study included 2,609 patients with COPD, of whom 1,514 (58.03%) developed AKI within 2 days, while 1,095 (41.97%) did not. Patients with COPD, those who developed AKI within 2 days were older than those who did not develop AKI within 2 days [median: 72.7 (65.1, 80.0) vs. 70.6 (63.2, 79.6), P=0.005] and had a higher Simplified Acute Physiology Score III (SAPSIII) score [median: 50.0 (37.0, 67.8) vs. 37.0 (28.0, 48.0), PResult(s): This study included 2,609 patients with COPD, of whom 1,514 (58.03%) developed AKI within 2 days, while 1,095 (41.97%) did not. Patients with COPD, those who developed AKI within 2 days were older than those who did not develop AKI within 2 days [median: 72.7 (65.1, 80.0) vs. 70.6 (63.2, 79.6), P=0.005] and had a higher Simplified Acute Physiology Score III (SAPSIII) score [median: 50.0 (37.0, 67.8) vs. 37.0 (28.0, 48.0), PResult(s): This study included 2,609 patients with COPD, of whom 1,514 (58.03%) developed AKI within 2 days, while 1,095 (41.97%) did not. Patients with COPD, those who developed AKI within 2 days were older than those who did not develop AKI within 2 days [median: 72.7 (65.1, 80.0) vs. 70.6 (63.2, 79.6), P=0.005] and had a higher Simplified Acute Physiology Score III (SAPSIII) score [median: 50.0 (37.0, 67.8) vs. 37.0 (28.0, 48.0), PConclusion(s): The occurrence of 2-day AKI was an independent risk factor for 30-day all-cause mortality in patients with COPD. Clinically, these findings highlight the importance of providing early kidney protection for patients with COPD.

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27. **Diagnostic Utility of Monocyte Distribution Width for Early Sepsis Detection in Cancer-Enriched Emergency Cohort.**

Authors: Choi, Yong Jun;Park, Jooheon;Lim, Ha Jin;Kwon, Yong Jun;Choi, Hyun-Woo;Kee, Seung-Jung;Kim, Soo Hyun;Shin, Myung Geun;Nah, Eun-Hee and Shin, Jong Hee

Publication Date: 2025

Journal: Journal of Clinical Medicine

Abstract: Background: Timely recognition of sepsis remains a critical clinical challenge, particularly in cancer patients, who are at higher risk due to immunosuppression. Monocyte distribution width (MDW) has emerged as a biomarker with potential utility in the early detection of sepsis. Methods: This retrospective study analyzed 1167 patients who presented to the emergency department of a cancer specialty hospital in Republic of Korea. Patients were classified according to Sepsis-2 and Sepsis-3 criteria, and the diagnostic performance of MDW was compared with conventional biomarkers, including C-reactive protein (CRP) and procalcitonin (PCT). Subgroup analyses were conducted based on malignancy status, leukopenia, and initial signs of infection. Additionally, turnaround times (TATs) were compared among the biomarkers. Results: MDW demonstrated diagnostic accuracy comparable to or exceeding that of CRP and PCT for identifying sepsis and infection across both Sepsis-2 and Sepsis-3 criteria. In the context of diagnosing sepsis using the Sepsis-3 criteria, MDW yielded the highest area under the curve (0.869), sensitivity (91.0%), and negative predictive value (98%). Notably, in cancer patients, MDW maintained strong diagnostic reliability. It also demonstrated high diagnostic capability in patients with leukopenia or presenting with initial signs of infection. Moreover, the TAT was significantly shorter for MDW (median 59 min) than

for CRP (105 min) or PCT (111 min). Conclusions: MDW is a rapid and accessible biomarker with demonstrated value for early sepsis detection in emergency settings. Its balanced diagnostic profile and consistent performance across diverse patient subgroups support its integration into routine clinical workflows, especially as part of multimodal sepsis screening strategies.

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28. **Social deprivation and psychiatric inpatient numbers amongst people with intellectual disabilities and/or autism in England: a preliminary analysis and policy critique**

Authors: Clifford, Adam and Fyson, Rachel

Publication Date: 2025

Journal: Tizard Learning Disability Review

Abstract: Purpose: Health and social care policy in England is committed to reducing psychiatric inpatient numbers for people with intellectual disabilities (ID) and/or autism but is making mixed progress. This study, a preliminary study, aims to explore the extent to which inpatient numbers are influenced by social deprivation. It is hypothesised that higher regional social deprivation will predict higher inpatient numbers amongst people with ID and/or autism. Design/methodology/approach: Data on social deprivation per English Local Authority (n = 317) are publicly available via the Indices of Multiple Deprivation, whilst data on ID and/or autism inpatient numbers per NHS Integrated Care Board (n = 42) are publicly available via NHS Digital. These data sets were curated and combined to test for associations between regional deprivation and ID and/or autism inpatient numbers per million of the general population, as well as regional deprivation and proportional makeup of inpatients with ID (with or without autism) compared to those with autism-only. Findings: Higher regional deprivation was positively correlated with a higher number of inpatients with ID and/or autism, with weak but statistically significant associations ($R^2 = 0.104$, $p = 0.037$). Higher regional deprivation was positively correlated with the proportion of inpatients with ID (with or without autism) ($R^2 = 0.106$; $p = 0.037$) and negatively correlated with the proportion of inpatients with autism-only ($R^2 = 0.129$, $p = 0.019$), again with weak but statistically significant associations. Originality/value: This study supports the hypothesis that, in England, higher regional social deprivation is associated with higher numbers of inpatients with ID and/or autism. However, it is suggested that a range of factors may be confounding the statistical evidence and obscuring stronger links between social deprivation and ID and/or autism inpatient numbers. Implications for ID and autism policy are discussed.

29. **Botulinum-Toxin-Induced Muscle Fasciculations in Children with Cerebral Palsy: A Case-Series Study.**

Authors: D'Amario, Giulia;Brunozzi, Giulia;Procaccini, Martina;Villa, Marianna;Monaco, Chiara;Sini, Francesca;Velli, Chiara;Brogna, Claudia and Romeo, Domenico Marco

Publication Date: 2025

Journal: Brain Sciences

Abstract: Cerebral palsy (CP) is a group of permanent, but not immutable, disorders of movement and posture caused by a non-progressive lesion or an abnormality in the development of the immature brain. It is the leading cause of motor disability in childhood. The most common sign is muscle spasticity, which leads to the development of contractures and bone deformities. Among the treatments for spasticity, botulinum toxin injection has the strongest scientific evidence and is used from the age of 2 years. In this article, we report three pediatric patients with CP who developed muscle fasciculations after botulinum toxin injection, which were administered according to planned dosages and required clinical monitoring and stretching by a healthcare professional. We review the literature and analyze the possible physiopathological mechanisms; however no other similar clinical cases have been reported. In conclusion, we propose to include muscle fasciculations as a potential transient and non-harmful adverse effect of botulinum toxin infiltration, which remains the treatment of choice for muscle spasticity when combined with rehabilitation in cerebral palsy.

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30. **Cardiovascular Disease Incidence and Risk Factors in Older Adults With Intellectual Disabilities: Results of the Healthy Ageing and Intellectual Disabilities Study**

Authors: de Leeuw, Marleen J.;Böhmer, Mylène N.;Bindels, Patrick J. E.;Maes-Festen, Dederieke A. M. and Oppewal, Alyt

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Previous research has shown that older adults with intellectual disabilities are at increased risk of cardiovascular diseases (CVD). However, longitudinal studies investigating the actual incidence of CVD and its associated risk factors in this population are limited. Such research is essential for optimising healthcare delivery and informing effective resource allocation. Therefore, this study aimed to examine CVD incidence in older adults with intellectual disabilities and explore its associations with participant characteristics and risk factors. Method: A prospective longitudinal study was conducted in older adults (≥ 50 years) with intellectual disabilities as part of the Healthy Ageing and Intellectual Disabilities study. Baseline measurements were performed in 2009–2010, with follow-up assessments, including medical record reviews, in 2020–2023. Incidence rates for myocardial infarction (MI), heart failure (HF) and stroke were calculated by sex and 10-year age categories. Competing risk analysis was performed to examine the associations between CVD diagnoses during follow-up and baseline participant characteristics/CVD risk factors,

accounting for mortality as a competing risk. Results: Among 598 participants (62.0 ± 8.5 year; 49.3% female), with a mean follow-up of 8.6 years, incidence rates were 2.3 per 1000 person years for MI, 7.2 for HF, and 5.3 for stroke. Hypertension (HR 3.17; $p < 0.001$), Down syndrome (HR 2.66; $p < 0.01$) and antipsychotic use (HR 1.98; $p = 0.04$) were associated with an increased CVD risk during follow-up. Conclusions: A lower incidence of MI and similar to higher incidence of HF and stroke were found in older adults with intellectual disabilities than in the general population. Further research, including a focus on the association of CVD incidence with Down syndrome, is needed. Meanwhile, proactive assessment and management of CVD risk factors, such as hypertension and antipsychotic use, are important for improving cardiovascular health in older adults with intellectual disabilities.

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31. **Prevalence and Incidence of Cardiovascular Disease in Adults With Intellectual Disabilities: A Systematic Review**

Authors: de Leeuw, Marleen J.;Hilgenkamp, Thessa I. M.;Maes-Festen, Dederieke A. M.;Bindels, Patrick J. E.;Elbers, Roy G. and Oppewal, Alyt

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Given the high risk of cardiovascular diseases (CVD) in adults with intellectual disabilities (ID), there is a strong need for accurate understanding on CVD prevalence and incidence in this population. This information is important to ensure optimal care and resource allocation. However, systematic reviews on this topic are limited. Therefore, this systematic review aimed to provide a comprehensive synthesis of studies on the prevalence and incidence of CVD in adults with ID, including subgroup data. Method: We performed a systematic search in Embase, Medline ALL, Web of Science, Cochrane Central, PsycINFO and Google Scholar up to 21 January 2025, including peer-reviewed articles on CVD prevalence or incidence in adults with ID. Article screening and data extraction were independently performed by two researchers. Data were synthesised by CVD diagnosis. When available, data were reported separately for different subgroups. The methodological quality was assessed by two independent researchers. This review followed the PRISMA guidelines. Results: In 55 articles, prevalence and incidence rates were identified for coronary artery disease (prev 0%–12.9%; inc 2.0–2.8 per 1000py), myocardial infarction (prev 0%–7.9%; inc 0.3–2.8 per 1000py), heart failure (prev 0.8%–18.6%; inc 12.5 per 1000py), cerebrovascular disease (prev 0.7%–15.0%; inc 2.55 per 1000py), stroke (prev 1.3%–17.2%; inc 2.7–3.2 per 1000py), peripheral arterial disease (prev 0.4%–20.7%; inc 1.1 per 1000py), venous thrombosis (prev 0.6%–12.4%; inc 0.8–4.1 per 1000py) and atrial fibrillation (prev 0.8%–6.3%). Subgroup data have been reported based on age, sex, level of ID, aetiology of ID, living circumstances, CVD risk factors, data collection methods and source populations. Overall, higher prevalence and incidence rates were reported in older people and in studies that used physical measurements for diagnosis. Conclusions: Due to variability in methodological quality, clinical characteristics and high statistical heterogeneity, drawing conclusions about CVD prevalence and incidence in adults with ID is challenging. Therefore, the subgroup data presented in this review are valuable for identifying rates within specific subgroups. Longitudinal studies along with research employing valid and reliable data collection methods (preferably objective measurements) aligned with studies in the general population, clear reporting of individual CVD diagnoses and subgroup analyses will offer valuable additional

insights in future research.

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32. **Sprint-Intensity Arm Interval Training May Improve Cardiorespiratory Fitness and Cardiometabolic Health Among Children With Mobility Disabilities: Case Report.**

Authors: Dean, Natalie;Sinha, Tanvee;Bright, Larsen;Ellison, Katie M.;Sayer, Drew;Young, Raven;Davis, Drew;Rimmer, James H. and Lai, Byron

Publication Date: 2025

Journal: JMIR Formative Research

Abstract: Background: There are limited options for aerobic exercise options that improve cardiorespiratory fitness and manage cardiometabolic health that are also age-appropriate and suitable for children with mobility disabilities. Children with disabilities require exercise programs that incorporate adapted movements to meet various functional needs, which offer brief training durations to accommodate busy schedules and use remote training methods at home to bypass logistical transportation barriers. Objective: The aim of this study is to test the potential effects and safety of a sprint-intensity arm-exercise interval training program, combined with music and telehealth, on cardiorespiratory fitness and cardiometabolic health in a child with cerebral palsy. Methods: This study was a 12-week exercise intervention from pretrial to posttrial for a single child with cerebral palsy (male, age 17 y). The intervention was conducted at the participant's homes. The participant exercised 3 times per week while following along with YouTube exercise videos. Videos included 4-second maximal sprint bouts followed by periods of rest, which were repeated 30 times during a single exercise session (total of ~2 minutes of maximal exercise). Exercise sessions were supervised by research staff using videoconferencing. Cardiorespiratory fitness was indicated by peak oxygen consumption (pVO2), which was measured by a portable metabolic cart during a graded exercise test. Cardiometabolic health outcomes included body composition by dual-energy x-ray absorptiometry scan and a cardiometabolic blood profile by a dried blood spot test. Outcomes were descriptively analyzed. Results: The participant achieved a 33.6% increase in pVO2 (14.6 to 19.5 mL/kg-1/min-1), a 37.8% improvement in blood triglycerides (82 to 51 mg/dL), and a 15.4% improvement in the total cholesterol to high-density lipoprotein ratio (6.5 to 5.5). Additionally, he had a 5.9% reduction in body weight (171 to 161 lbs) and a 9.6% reduction in total body fat (61.35 to 55.48 lbs) from the arms, legs, and trunk. The participant experienced no adverse events or problems during the intervention. After completing the program, the participant elicited a maximal intensity of exercise using armbands, as demonstrated through pVO2. Conclusions: Sprint-intensity interval training that uses the arms may be safe and potentially effective for enhancing cardiorespiratory fitness and cardiometabolic health in children with physical disabilities. Further research is needed to verify the outcomes of this case report.

33. **Reactive Balance Control Following Selective Dorsal Rhizotomy in Child with Diplegic Cerebral Palsy.**

Authors: DeptoHoffman D.;Mochida L.Y. and Cesar, G. M.

Publication Date: 2025

Journal: Clinical Case Reports

Abstract: Cerebral palsy (CP) is the most common motor disability in early childhood characterized by impaired selective motor control. Children with CP often exhibit delayed and disorganized muscle activation in response to external perturbations, resulting in a high incidence of falls and decreased participation in activities compared with their peers. We examined changes in reactive balance control post-selective dorsal rhizotomy (SDR) in a child with CP in which the major goal of this surgery is to reduce lower extremity spasticity. A 7-year-old girl with spastic diplegic CP (Gross Motor Function Classification System II) participated. Along with clinical evaluations, we employed computerized dynamic posturography to quantify changes in reactive balance control post-SDR, including the Motor Control Test and the Adaptation Test to simulate unexpected perturbations and assess the child's reactive balance control. Post-surgery evaluations indicated improved symmetry in lower extremity weight bearing, particularly in response to forward perturbations. No falls were observed post-surgery in conditions that previously caused imbalance. However, the latency response times to perturbations were longer than in typically developing peers, and the child's force to overcome induced sway was larger than her peers. Although SDR effectively decreased spasticity in our participant, it did not address other factors like soft tissue contractures, muscle weakness, and fixed biomechanical alignment constraints that contributed to balance issues in CP. To our knowledge, this is the first work that demonstrates such limitations post-SDR. The limited tools available to clinicians to assess reactive balance control in children with CP highlight the need for more effective measurements. This case report sheds light on the importance of targeted clinical approaches to enhance reactive balance control post-SDR.

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34. **Nonmotor Symptom Scales in Children With Movement Disorders: A Scoping Review.**

Authors: Desjardins, Clement;Nilles, Christelle;Gimeno, Hortensia;Peall, Kathryn J.;Martino, Davide;Pringsheim, Tamara and Roze, Emmanuel

Publication Date: 2025

Journal: Neurology

Abstract: BACKGROUND AND OBJECTIVES: Nonmotor symptoms (NMSs) in pediatric movement disorders, such as tics, dystonia, and cerebral palsy (CP), are important to consider but can be often overlooked, despite their substantial impact on daily functioning and quality of life. Understanding which NMSs are evaluated in these patient groups, and by which tools, can support the shaping of future research, including the potential development of future dedicated NMS assesment instruments. The aim of this scoping review was to identify the scales and

tools used in routine practice and/or in research to assess NMSs in children with movement disorders. METHODS: A comprehensive search of MEDLINE, Embase, and PsycINFO was conducted for studies published between 1990 and 2023. Eligible studies included those that evaluated NMSs using scales in children aged 0-18 years with tic disorders, dystonia, or CP. RESULTS: A total of 382 studies were included. Most of the articles identified were cross-sectional, cohort, and case-control studies. Cognitive impairment, mental health, behavioral difficulties, and pain were most frequently assessed using standardized scales. However, self-esteem and communication-critical components of social functioning-were rarely evaluated. The assessment of sleep disturbance, fatigue, and gastrointestinal and urinary symptoms was also less frequently addressed. Notably, our methodological approach may have led to an overrepresentation of NMS assessment in CP, given the larger body of literature available for this condition. DISCUSSION: Significant gaps exist in the evaluation of NMSs in pediatric movement disorders, particularly in areas such as pain, sleep, and gastrointestinal issues. While standardization of NMS assessment is needed, it is unclear whether disorder-specific tools are preferable to broader NMS-focused measures. Given the current lack of data, using general scales may be a pragmatic first step, with refinement into disorder-specific tools as our understanding of symptom patterns evolves. Cross-cultural validation is also essential to improve the applicability of NMS scales across diverse populations. Integrating NMS assessment into routine clinical practice and interdisciplinary care may facilitate early identification and better management of these symptoms.

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35. **Parental Perceptions of Physical Therapy Use Among Children With Cerebral Palsy: A Meta-Synthesis**

Authors: Dlamini, Maggie Dumsile;Chang, Ying-Ju and Mkhonta, Zama

Publication Date: 2025

Journal: Journal of Nursing Research

Abstract: Background: Cerebral palsy (CP), the most common cause of childhood motor disability, is often associated with comorbidities such as epilepsy and spasticity. CP is a heterogeneous group of disorders attributed to the nonprogressive injury of the developing brain during fetal life or infancy affecting posture and movement. Physical therapy, the most important current intervention for CP, targets the relief of muscle stiffness, reduction of perceived pain, and improvement of patient mobility. Purpose: This study was designed to synthesize the qualitative evidence on the perceptions of parents regarding the utilization of physical therapy in the treatment of children with cerebral palsy. Methods: Four electronic databases, including CINAHL, Embase, OVID Medline, and ERIC, were searched for relevant qualitative studies in March 2023. The included studies were critically appraised using the Critical Appraisal Skills Program tool for qualitative research by 2 independent reviewers, and a content thematic approach was used to synthesize the qualitative findings. Results: The 8 studies published between 1990 and 2022 included in this review covered data from 150 participants. The 47 findings extracted from these studies were grouped into 11 subthemes and finally into the following 4 synthesized themes: (1) physical therapy is an essential treatment with many positive outcomes, (2) the success of physical therapy depends on realistic partnerships, (3) honest and organized communication flow is critical, and (4) key challenges in physical therapy include service delivery, personal and family adjustments.

Conclusions: Overall, the parents in the included studies perceived physical therapy as an ideal treatment associated with many positive outcomes for their children with disabilities and as a source of hope for their children's future. Notably, the parents required clear information on the goals of therapy from the outset and to be involved in all care planning to promote therapy compliance.

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36. **Fever and hypotension vs. frank septic shock: Elderly patients taking vasodilators who present with fever and hypotension have a higher incidence of negative blood cultures. A retrospective analysis of 3,726 patients.**

Authors: Dumanis G.;Vaisman A.;Issawy M.;Gilboa M.;Landau Zenilman C.;Itelman E. and Segal, G.

Publication Date: 2025

Journal: American Journal of the Medical Sciences

Abstract: Background: Septic shock is a leading cause of mortality. Yet, blood cultures are negative in many cases, questioning the diagnosis. In the quest for characterization of "culture negative septic shock", the impact of chronic vasodilating medications was questioned. Method(s): This was a retrospective analysis of patients with vital signs compatible with septic shock (fever > 37.9 or Method(s): This was a retrospective analysis of patients with vital signs compatible with septic shock (fever > 37.9 or Method(s): This was a retrospective analysis of patients with vital signs compatible with septic shock (fever > 37.9 or Result(s): The study included 3,726 patients (ages 65 to 90). Of these, 1,382 (37.1%) took chronic vasodilators. This group of patients had a lower rate of positive blood cultures compared to the group that did not receive vasodilators (28.5% vs. 32%; P = 0.026). They were older (median 80 vs. 78 years; P = 0.001), and their background included more cardiovascular diseases (P Result(s): The study included 3,726 patients (ages 65 to 90). Of these, 1,382 (37.1%) took chronic vasodilators. This group of patients had a lower rate of positive blood cultures compared to the group that did not receive vasodilators (28.5% vs. 32%; P = 0.026). They were older (median 80 vs. 78 years; P = 0.001), and their background included more cardiovascular diseases (P Result(s): The study included 3,726 patients (ages 65 to 90). Of these, 1,382 (37.1%) took chronic vasodilators. This group of patients had a lower rate of positive blood cultures compared to the group that did not receive vasodilators (28.5% vs. 32%; P = 0.026). They were older (median 80 vs. 78 years; P = 0.001), and their background included more cardiovascular diseases (P Result(s): The study included 3,726 patients (ages 65 to 90). Of these, 1,382 (37.1%) took chronic vasodilators. This group of patients had a lower rate of positive blood cultures compared to the group that did not receive vasodilators (28.5% vs. 32%; P = 0.026). They were older (median 80 vs. 78 years; P = 0.001), and their background included more cardiovascular diseases (P Result(s): The study included 3,726 patients (ages 65 to 90). Of these, 1,382 (37.1%) took chronic vasodilators. This group of patients had a lower rate of positive blood cultures compared to the group that did not receive vasodilators (28.5% vs. 32%; P = 0.026). They were older (median 80 vs. 78 years; P = 0.001), and their background included more cardiovascular diseases (P Conclusion(s): Chronic use of vasodilators amongst elderly patients presenting with fever and hypotension is associated with a higher incidence of negative blood cultures. We suggest these patients exhibit a combination of sepsis and shock rather than frank septic shock.Copyright © 2025

37. **Association of vitamin A and D deficiency and the presence of sepsis in the geriatric population: a cross-sectional study.**

Authors: Feng, Yichuang;Xuan, Pengfei;Kang, Ping;Yang, Jingping;Wang, Hongyan and Li, Tiewei

Publication Date: 2025

Journal: Frontiers in Nutrition

Abstract: Background: Extensive research has established that vitamins A (VA) and D (VD) are essential to immune function. Deficiencies in these vitamins are associated with increased susceptibility to infections and more severe disease outcomes. However, the relationship between VA and VD deficiency and sepsis in geriatric persons (aged > 60 years) remains underexplored. The aim of this study was to investigate the association between sepsis incidence in persons over 60 and deficiencies in VA and VD. Methods: 39 geriatric patients diagnosed with sepsis between August 2024 and April 2025 were consecutively enrolled. Among the sepsis patients, 15 succumbed during hospitalization. During the same period, 28 geriatric patients hospitalized with common infectious diseases were recruited as controls. Online medical files at the time of hospitalization were used to gather medical and laboratory information retrospectively. Everyone who participated had their peripheral blood samples taken, and ultra-performance liquid chromatography tandem mass spectrometry helped us assess serum concentrations of 25-hydroxyvitamin D3 [25(OH)D3], 25-hydroxyvitamin D2 [25(OH)D2], and retinol (VA). The combined concentration of 25(OH)D3 and 25(OH)D2 helped calculate the overall VD levels. SPSS 24.0 (IBM Corp., Armonk, NY, USA) helped carry out all analyses. Results: In comparison to controls, geriatric patients with sepsis demonstrated significantly lower serum VA and VD levels, alongside a notably higher deficiency rate for both vitamins. Correlation analyses revealed significant inverse associations between serum levels of VA and VD and the infection marker procalcitonin (PCT) as well as the inflammatory marker interleukin-6 (IL-6). Multivariate regression analysis showed that in persons over 60, deficiencies in either VA or VD were independently associated with significantly higher odds of sepsis. Conclusion: Vitamins A and VD deficiencies were associated with lower serum levels in geriatric sepsis patients and were inversely correlated with PCT and IL-6. Furthermore, deficiencies in either vitamin were independently associated with a higher prevalence of sepsis in this population.

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38. **Association of Sepsis Survivor Subtypes With Long-Term Mortality and Disability After Discharge: A Retrospective Cohort Study.**

Authors: Flick R.J.;Kamphuis L.A.;Valley T.S.;ArmstrongHough M. and Iwashyna, T. J.

Publication Date: 2025

Journal: Critical Care Medicine

Abstract: OBJECTIVES: Determine if previously described sepsis survivor subtypes can be

applied outside of their derivation cohort using a parsimonious algorithm. Test the association between subtype and the primary outcome of 3-month mortality, and secondary outcomes of readmission, physical function, and health-related quality of life through 1 year of follow-up. DESIGN: Retrospective cohort study. SETTING: Participants enrolled in the Crystalloid Liberal or Vasopressors Early Resuscitation in Sepsis (CLOVERS) trial, a multisite trial in the United States that enrolled patients with sepsis-induced hypotension. PATIENTS: All participants who were alive on day 28 after enrollment and had nonmissing data for outcome and subtype-defining variables (Charlson Comorbidity Index, length of stay, discharge destination). Participants were retrospectively assigned at time of discharge to one of five previously derived survivor subtypes: low risk, healthy with severe disease, multimorbidity, low functional status, and unhealthy baseline with severe disease.None. MEASUREMENTS AND MAIN RESULTS: Of 1563 participants, 1368 were eligible and assigned a subtype. Three-month mortality was 13.1% and varied significantly between subtypes (5.1-45.5%; p CONCLUSION(S): Sepsis survivor subtypes that are readily identifiable at hospital discharge are significantly associated with mortality at 3 months, and patient-important outcomes through 12 months. Using subtypes to predict a patient's risk of adverse outcomes could aid the discharge planning and recovery process.

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39. **Long-Term Outcomes After Acute Kidney Injury During Hospitalization: A Systematic Review and Meta-Analysis of Matched Controls Studies.**

Authors: Fresilli S.;Labanca R.;Losiggio R.;Asiller OO.;Baiardo Redaelli M.;Yavorovskiy A.G.;Vives M.;Beretta L.;Bellomo R. and Landoni, G.

Publication Date: 2025

Journal: Critical Care Medicine

Abstract: OBJECTIVES: The impact of acute kidney injury (AKI) on long-term outcomes of hospital survivors is controversial. We conducted a systematic review and meta-analysis of all studies reporting such outcomes in patients with AKI and including a control population. DATA SOURCES: We included original studies published in peer-reviewed journals that compared long-term outcomes (survival, need for dialysis, chronic kidney disease [CKD]) among hospitalized patients with vs. without AKI. STUDY SELECTION: Pertinent articles enrolled patients who experienced and survived a defined episode of AKI, included a control group without AKI, and reported at least one long-term outcome (mortality, dialysis, or CKD), with a minimum follow-up of 1 year. DATA EXTRACTION: Two independent investigators extracted data on study characteristics, patient populations, follow-up duration, and long-term outcomes. Discrepancies were resolved by consensus. DATA SYNTHESIS: We identified 14 studies for a total of 1,058,109 overall matched patients with a median duration of follow-up of 3 years. Patients who experienced an episode of AKI and survived hospital discharge had a significant increase in long-term mortality at the longest follow-up available for each study (137,506/519,672 [26.4%] vs. 93,702/530,663 [17.6%]; relative risk [RR], 1.42; 95% CI, 1.13-1.78; p = 0.002), compared with controls. They also had a greater risk of receiving dialysis (1,928/42,529 [4.5%] vs. 854/42,529 [2.0%]; RR, 2.48; 95% CI, 1.79-3.43; p CONCLUSION(S): Compared with controls, patients who experienced an episode of AKI and survived to hospital discharge have an increased risk of death, dialysis, and CKD.

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40. **Discovery of a resistant cohort to acute kidney injury: insights from patients with septic shock.**

Authors: Fuhrman D.Y.;Libermann T.A.;Hukriede N.A.;Molinari L.;Parikh S.M. and Kellum, J. A.

Publication Date: 2025

Journal: Critical Care

Abstract: Background: Acute kidney injury (AKI) is a significant complication among critically ill patients, particularly those with sepsis, yet no specific therapies exist. Progress in some diseases has been achieved by analyzing individuals who appear resistant. This study sought to develop a framework to investigate AKI resistance using clinical phenotyping and biomarkers and applied this framework to a large cohort of patients with septic shock. Method(s): We performed a retrospective analysis of patients enrolled in the Protocolized Care for Early Septic Shock (ProCESS) trial. We measured urinary tissue inhibitor of metalloproteinase-2 (TIMP-2), insulin-like growth factor binding protein 7 (IGFBP7), and kidney injury molecule 1 (KIM-1) 6 h after the start of resuscitation. AKI was defined first as high risk by [TIMP-2]*[IGFBP7] > 1.0 (ng/mL)2/1000 and either meeting Kidney Disease Improving Global Outcomes Criteria (KDIGO) criteria within 7 days after the start of resuscitation or having [KIM-1] > 2.0 ng/ml. AKI resistance was defined as the combination of (a) high-risk by [TIMP-2]*[IGFBP7] > 1.0 (ng/mL)2/1000 but without meeting (b) KDIGO AKI criteria nor (c) [KIM-1] > 2.0 ng/ml. We compared clinical characteristics and outcomes across three groups: AKI-resistant, AKI, and reduced risk, which was defined as [TIMP-2]*[IGFBP7] Method(s): We performed a retrospective analysis of patients enrolled in the Protocolized Care for Early Septic Shock (ProCESS) trial. We measured urinary tissue inhibitor of metalloproteinase-2 (TIMP-2), insulin-like growth factor binding protein 7 (IGFBP7), and kidney injury molecule 1 (KIM-1) 6 h after the start of resuscitation. AKI was defined first as high risk by [TIMP-2]*[IGFBP7] > 1.0 (ng/mL)2/1000 and either meeting Kidney Disease Improving Global Outcomes Criteria (KDIGO) criteria within 7 days after the start of resuscitation or having [KIM-1] > 2.0 ng/ml. AKI resistance was defined as the combination of (a) high-risk by [TIMP-2]*[IGFBP7] > 1.0 (ng/mL)2/1000 but without meeting (b) KDIGO AKI criteria nor (c) [KIM-1] > 2.0 ng/ml. We compared clinical characteristics and outcomes across three groups: AKI-resistant, AKI, and reduced risk, which was defined as [TIMP-2]*[IGFBP7] Result(s): Among 573 patients, 339 (59.2%) had reduced risk, 194 (33.9%) developed AKI, and 40 (7%) were AKI-resistant. Median (IQR) non-renal SOFA scores were lower for patients at reduced risk for AKI (5 [2-7]) than for those with AKI resistance (6 [4.5-8], P Result(s): Among 573 patients, 339 (59.2%) had reduced risk, 194 (33.9%) developed AKI, and 40 (7%) were AKI-resistant. Median (IQR) non-renal SOFA scores were lower for patients at reduced risk for AKI (5 [2-7]) than for those with AKI resistance (6 [4.5-8], P Result(s): Among 573 patients, 339 (59.2%) had reduced risk, 194 (33.9%) developed AKI, and 40 (7%) were AKI-resistant. Median (IQR) non-renal SOFA scores were lower for patients at reduced risk for AKI (5 [2-7]) than for those with AKI resistance (6 [4.5-8], P Conclusion(s): Despite greater illness severity, AKI-resistant patients had similar mortality and length of stay as lower-risk patients but better outcomes than those with AKI. Studying these patients may reveal novel therapeutic targets for AKI prevention and treatment.Copyright © The Author(s) 2025.

41. **The Prevalence, Risk Factors, and Short-Term Health Outcomes of Delirium in Patients Admitted to a Nephrology Ward in Eastern Europe: An Observational Prospective Cohort Study**

Authors: Gadalean, Florica;Petrica, Ligia;Milas, Oana;Bob, Flaviu;Parv, Florina;Gluhovschi, Cristina;Suteanu-Simulescu, Anca;Marcu, Lavinia;Glavan, Mihaela;Ienciu, Silvia;Kigyosi, Raluca and Stanigut, Alina

Publication Date: 2025

Journal: Journal of Clinical Medicine

Abstract: Background/Objectives: To date, delirium is considered one of the most frequent acute neuropsychiatric syndromes among hospitalized populations, although there is a lack of data regarding its frequency and predictors in nephrological patients. The aims of this study were to investigate the prevalence of and the risk factors for delirium and to evaluate the association between delirium and short-term clinical outcomes, including the length of stay (LOS) and in-hospital mortality rate among patients from the nephrology unit of a tertiary university hospital in Eastern Europe. Method: A cohort of 942 patients admitted between January 2023 and December 2023 were enrolled in a prospective observational study. Delirium was diagnosed by a psychiatrist during hospitalization. The endpoint was defined as hospital death or hospital discharge. Results: In the studied group, the median age was 65 years, and 519 (55.09%) patients were males. The prevalence of delirium was 5.41% (51/942 patients). The patients with delirium had a significantly longer LOS (11.96 days vs. 8.86 days, p = 0.007) and a significantly higher in-hospital mortality rate (47.05% vs. 14.36%, p p = 0.034), history of stroke (OR = 3.493; 95%CI: 1.849-6.598; p p = 0.001), and AKI stages 2 and 3 (OR = 2.175; 95%CI: 1.152-4.105; p = 0.017). From a time-to-event analysis, delirium was associated with increased mortality (HR = 2.77; 95%CI: [1.79 to 4.29]; p p =0.024). Conclusions: Among nephrological patients, age, alcohol abuse, history of stroke, and AKI stages 2 and 3 were independent risk factors for delirium. Delirium significantly increased the LOS and in-hospital mortality.

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42. **Efficacy of Hand Arm Bimanual Intensive Therapy in Improving Real-World Bimanual Performance and Identifying Predictors for Therapy Success in Children with Unilateral Cerebral Palsy**

Authors: Gardas, Shailesh S.;Woosley, Katie;Brown, Caroline;Key, Taylor;McBryde, Natalie;Morton, Brody;Lysaght, Christine;Adams, Caroline;Holland, Holly and Surkar, Swati M.

Publication Date: 2025

Journal: Physical & Occupational Therapy in Pediatrics

Abstract: Aim: This study assesses real-world bimanual performance improvements following Hand-Arm Bimanual Intensive Therapy (HABIT) using an objective tool (accelerometers) and to identify demographic and clinical predictors of these gains in children with unilateral cerebral palsy (UCP). Methods: Forty children with UCP (mean age: 10.7 ± 3.24 years) participated in 30 h of HABIT. Bilateral wrist-worn accelerometers measured bimanual performance using use

ratio, bilateral magnitude, and median acceleration. Self-perceived performance was measured using the Canadian Occupational Performance Measure (COPM), and upper extremity (UE) capacity with Jebsen-Taylor Hand Function Test (JTHFT), Nine-Hole Peg Test (NHPT), and Box and Block Test (BBT). Predictors such as age, sex, affected side, severity levels, and baseline capacity were analyzed. Results: Use ratio (p =.02) and median acceleration (p =.04) showed improvements, indicating enhanced real-world performance. Gains were observed in COPM (performance and satisfaction, p =.001) and UE capacity (JTHFT: p =.001, NHPT: p =.02, and BBT: p =.01). Age, baseline NHPT and JTHFT scores explained 40.7% of the variance in use ratio, while NHPT accounted for 11.5% of the variance in median acceleration. Conclusion: HABIT enhances real-world bimanual performance in children with UCP. Older age and more impaired baseline dexterity are significant predictors of greater therapeutic gains, offering potential strategy to maximize real-world functional gains.

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43. **Transcranial direct current stimulation for upper and lower limb motor function in young people with Cerebral Palsy: a randomised controlled pilot study.**

Authors: Gavine B.;Weightman M.;Mavrommati F.;Buckingham R.;Kilbride C.;Salvan P.;Smith M.;Theologis T.;Green D.;Cramp M.;Jenkinson N.;Nagy L.;JohansenBerg H.;Fleming M.K. and Dawes, H.

Publication Date: 2025

Journal: Disability and Rehabilitation

Abstract: Purpose: Cerebral Palsy (CP) is the commonest cause of childhood motor disability. Transcranial direct current stimulation (tDCS) is a promising adjuvant therapy, but research targeting upper and lower limbs simultaneously is needed. We aimed to pilot tDCS with upper/lower limb motor training, estimate the potential effect on motor function, and investigate brain imaging correlates of function. Material(s) and Method(s): Participants (10-16 years) with CP affecting upper and/or lower limbs were randomised (online software) to 10 sessions of active (n = 14) or sham (n = 13) tDCS combined with motor training. The primary outcomes were upper and lower limb function assessed at 1-week post-intervention using the Jebson Taylor hand function (JTT) and Timed Up and Go (TUG) tests. Secondary, imaging outcomes included baseline tractography, grey matter volume, and resting state connectivity. Result(s): Adherence was good: 74% completed all intervention sessions, 100% completed the primary outcome assessment. There were no between-group differences (1-week post-intervention, intention-to-treat; group-by-time JTT: F(1,25)=1.189,p = 0.286, partial-eta-squared = 0.05; TUG: F(1,25)=1.605,p = 0.217, partial-eta-squared = 0.06). Imaging showed subtle associations between better JTT at baseline and higher grey matter volume (caudate nucleus) and stronger sensorimotor resting state connectivity. Conclusion(s): The trial was well tolerated, but effect sizes were small. Larger studies are needed to further explore tDCS for CP.

44. **The Mental Health and Well-Being of Adults With Intellectual Disabilities During the COVID-19 Pandemic Across the UK: A Four-Wave Longitudinal Analysis**

Authors: Gillooly, Amanda;Thompson, Paul;Bradshaw, Jill;Caton, Sue;Hatton, Chris;Jahoda, Andrew;Kelly, Rosemary;Maguire, Roseann;Oloidi, Edward;Taggart, Laurence;Todd, Stuart and Hastings, Richard P.

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Research concerning the impact of the COVID-19 pandemic on the mental health and well-being of adults with intellectual disabilities has been cross-sectional and small scale. We examined the trajectory of mental health and well-being across the pandemic period across the UK and the factors which predicted different mental health trajectories. Method: Adults with intellectual disabilities participated in co-designed structured interviews. Four waves of data were collected between December 2020 and late 2022. At Wave 1, 621 adults with intellectual disabilities participated, with 355 at Wave 4. Well-being, pandemic anxiety, depression, anxiety, anger and loneliness outcomes were measured. Latent class mixed modelling was used to identify subgroups and within-group trajectories. Results: Well-being and pandemic anxiety remained relatively stable across time, but levels of anger, depression, anxiety and loneliness reduced gradually over time. Overall patterns masked trajectory subgroups, with differences in intercept and steepness of decline or increase in mental health problems. Different factors were generally influential for trajectory class membership and overall change across time for outcomes. Leaving the house for exercise or green spaces reported increasing well-being and reduced loneliness. Similarly, those working, volunteering or in education at Wave 1 were found to have increasing well-being and reduced loneliness, sadness and worry, and increasing wellbeing and reducing anger if they were working pre-pandemic. Conclusions: Social connection and engagement in purposeful activity were vital to maintaining the mental health and well-being of people with intellectual disabilities. Factors that were found to reduce mental well-being during the pandemic should be considered in planning for future major public health challenges and in promoting better mental well-being for people with intellectual disabilities in everyday life.

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45. **Evidence-Based Classification, Assessment, and Management of Pain in Children with Cerebral Palsy: A Structured Review.**

Authors: Gogola A. and Gnat, R.

Publication Date: 2025

Journal: Healthcare

Abstract: Highlights: What are the main findings? Pain in children with cerebral palsy is highly prevalent, multifactorial, and often under-recognised, with diagnostic challenges linked to complex underlying mechanisms. Evidence supports multimodal, personalised management strategies that combine physical, pharmacological, and psychosocial interventions within an interdisciplinary framework. What is the implication of the main finding? Effective pain

management requires function-oriented goals, routine screening, and integration of family perspectives to ensure person-centred care. There is a pressing need for standardized protocols and high-quality clinical trials to improve evidence-based practice in this field. Background and objectives: Pain is a prevalent and often underestimated issue in children with cerebral palsy (CP). When left untreated, pain can result in secondary complications such as reduced mobility and mental health challenges, which negatively impact social activity, participation, and overall quality of life. This review explores the complex mechanisms underlying pain in CP, highlights contributing factors, and places particular emphasis on diagnostic challenges and multimodal pain management strategies. Method(s): Three scientific databases and, additionally, guideline repositories (2015-2025) were searched, yielding 1335 records. Following a two-step deduplication process, 850 unique items remained. Eighty-five full texts were assessed, of which 49 studies were included. These comprised one randomised controlled trial, 16 non-randomised studies, 12 systematic reviews, 8 non-systematic reviews, and 12 guidelines or consensus statements. Methodological quality was appraised with AMSTAR-2 where applicable, and Oxford levels of evidence were assigned to all studies. Result(s): Study quality was variable: 25% were systematic reviews, with only one randomised controlled trial. This literature identifies overlapping nociceptive, neuropathic, and nociplastic mechanisms of pain development. Classification remains inconsistent, though the International Classification of Diseases provides a useful framework. Only five assessment tools have been validated for this population. Interventions were reported in 45% of studies, predominantly pharmacological (27%) and physiotherapeutic (23%). Evidence gaps remain substantial. Conclusion(s): This review highlights the complexity of pain in children and adolescents with cerebral palsy and the need for a biopsychosocial approach to assessment and management. Evidence supports individualised, multimodal strategies integrating physical therapies, contextual supports, and, where appropriate, medical or surgical interventions. Clinical implementation remains inconsistent due to limited high-quality evidence, inadequate assessment tools, and poor interdisciplinary integration.

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46. **Evidence-Based Classification, Assessment, and Management of Pain in Children with Cerebral Palsy: A Structured Review**

Authors: Gogola, Anna and Gnat, Rafal

Publication Date: 2025

Journal: Healthcare

Abstract: Background and objectives: Pain is a prevalent and often underestimated issue in children with cerebral palsy (CP). When left untreated, pain can result in secondary complications such as reduced mobility and mental health challenges, which negatively impact social activity, participation, and overall quality of life. This review explores the complex mechanisms underlying pain in CP, highlights contributing factors, and places particular emphasis on diagnostic challenges and multimodal pain management strategies. Methods: Three scientific databases and, additionally, guideline repositories (2015-2025) were searched, yielding 1335 records. Following a two-step deduplication process, 850 unique items remained. Eighty-five full texts were assessed, of which 49 studies were included. These comprised one randomised controlled trial, 16 non-randomised studies, 12 systematic reviews, 8 non-systematic reviews, and 12 guidelines or consensus statements. Methodological quality

was appraised with AMSTAR-2 where applicable, and Oxford levels of evidence were assigned to all studies. Results: Study quality was variable: 25% were systematic reviews, with only one randomised controlled trial. This literature identifies overlapping nociceptive, neuropathic, and nociplastic mechanisms of pain development. Classification remains inconsistent, though the International Classification of Diseases provides a useful framework. Only five assessment tools have been validated for this population. Interventions were reported in 45% of studies, predominantly pharmacological (27%) and physiotherapeutic (23%). Evidence gaps remain substantial. Conclusions: This review highlights the complexity of pain in children and adolescents with cerebral palsy and the need for a biopsychosocial approach to assessment and management. Evidence supports individualised, multimodal strategies integrating physical therapies, contextual supports, and, where appropriate, medical or surgical interventions. Clinical implementation remains inconsistent due to limited high-quality evidence, inadequate assessment tools, and poor interdisciplinary integration.

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47. **Perioperative approach to nephrotoxicity in cytoreductive surgery and hyperthermic intraperitoneal chemotherapy.**

Authors: Goksu, Senay and Duzgun, Ozgul

Publication Date: 2025

Journal: World Journal of Gastrointestinal Surgery

Abstract: BACKGROUND: Combining cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) is a promising treatment approach for peritoneal carcinomatosis (PC). However, intraperitoneal chemotherapeutic agents significantly increase the risk of acute kidney injury (AKI). Identifying perioperative risk factors plays a critical role in preserving renal function. AIM: To evaluate postoperative renal outcomes in patients with PC who underwent CRS + HIPEC. METHODS: Patients who underwent CRS + HIPEC for PC between 2017 and 2024 were included in this retrospective cohort study. Demographic data, preoperative estimated glomerular filtration rate, HIPEC agents used (cisplatin, mitomycin C, oxaliplatin), intraoperative fluid management, vasopressor use, and postoperative creatinine levels were recorded. AKI was defined according to the 2012 Kidney Disease: Improving Global Outcomes criteria. Independent predictors were identified through multivariate logistic regression analysis. RESULTS: AKI developed in 61 of 445 patients (13.7%). Among them, 62.0% were stage I, 24.6% were stage II, and 13.1% were stage III. The highest AKI rate was observed in the cisplatin group (21.4%), with lower rates in the oxaliplatin group (9.6%) and the mitomycin C group (6.5%). Independent risk factors included cisplatin use [odds ratio (OR) = 2.8; 95% confidence interval: 1.6-4.9; P P = 0.02), vasopressor requirement (OR = 1.9; P = 0.03), and preoperative estimated glomerular filtration rate = 0.03), and preoperative estimated glomerular filtration rate 2 (OR = 2.3; P = 0.01). AKI was associated with a prolonged hospital stay. Three patients (0.7%) progressed to chronic kidney disease. CONCLUSION: Independent risk factors such as cisplatin use, inadequate fluid replacement, vasopressor requirement, and preoperative renal function should be considered during perioperative planning to reduce AKI risk following CRS + HIPEC.

48. **Severe Acute Kidney Injury Associated With Intestinal Ostomies.**

Authors: Gomez-Fregoso, Juan A.;Zaragoza, Jose J.;Gonzalez-Duarte, Juan Alberto;Nuno-Guzman, Carlos M.;Hernandez-Barajas, Eduardo M.;Andrade-Jorge, Zarahi;Leon, Juarez Correa-de;Padilla-Armas, Jorge L.;Ornelas-Ruvalcaba, Rebeca Lizzete;Cabrera-Aguilar, Jose Said;Chavez-Alonso, Gael;Villalvazo-Maciel, Estefania;Orozco-Chan, Carlos E.;Rodriguez-Garcia, Gonzalo;Navarro-Blackaller, Guillermo;Medina-Gonzalez, Ramon;Gallardo-Gonzalez, Alejandro Martinez;Alcantar-Vallin, Luz;Abundis-Mora, Gabriela J.;Garcia-Garcia, Guillermo, et al

Publication Date: 2025

Journal: Kidney Medicine

Abstract: Rationale & Objective: People with ostomies can experience high output, a risk of acute kidney injury (AKI). We evaluated patients with AKI associated with ostomies (ostomy-AKI) and compared with AKI of other etiologies (general-AKI) with the objective of describing their clinical presentation and their association with major adverse kidney events at 10 and 30-90 days (major adverse kidney events [MAKE] 10 and 30-90, respectively). Study Design: A retrospective cohort study. Setting & Participants: Conducted at the Hospital Civil of Guadalajara. We included patients with Ostomy-AKI and General-AKI. Exposures or Predictors: Ostomy-AKI. Outcomes: Describing and differentiating their clinical presentation and their association with MAKE 10 and MAKE 30-90, in addition to its individual components, as death, new requirement for dialysis, or >=25% decline in the estimated glomerular filtration rate from baseline. Analytical Approach: Analyzed the risk by logistic regression model and a multivariate Cox proportional hazard. Results: From February 2020 to October 2023, 84 patients with ostomy-AKI and 348 with general-AKI were included. Most ostomy-AKI were male (78.7 vs 56.2%), the mean ostomy output was 980 mL/day (760-1,700), 82.9% requiring fluid adjustment. Ostomies had been created for cancer (46%) 2.3 months before AKI. The etiology of ostomy-AKI, compare to general-AKI, was more frequently due to hypovolemia (48.9% vs 24.5%) and was of greater AKI severity (stage 3, 82.9% vs 63.9%). Both groups had the same frequency of MAKE 10 (94%), and their individual components. MAKE 30-90 occurred more frequently in ostomy-AKI (65.9% vs 49.3%) as well as mortality (59.5% vs 37%), doubling this risk (OR 2.403; 95% CI, 1.090-5.299; P = 0.03 and OR 2.757; 95% CI, 1.273-5.973; P = 0.01, respectively). Limitations: A retrospective cohort, residual confounding, and small sample size. Conclusions: In comparison with general-AKI, patients with ostomy-AKI present more often with hypovolemia and greater AKI stage, had a higher mortality at 30-90 day follow-up, and a 2.5-fold increase in risk of MAKE. Copyright © 2025 The Authors.; plain-language-summary Hypovolemia is a frequently observed in patients with high output ostomy. In such cases, the risk of developing acute kidney injury (AKI) is elevated. This complication is strongly related to adverse clinical outcomes. However, the major adverse kidney events during mid-term follow-up have not been adequately explored. In this cohort of patients with AKI, we observed that those with ostomy-related AKI, compared with those without ostomy presented more frequent with hypovolemia attributed to a high output stoma and more severe AKI stages. The risk of major adverse kidney events at 30-90 days was significantly higher, particularly in terms of mortality.

49. **Comparison of non-invasive strategies to drive fluid resuscitation in sepsis or septic shock: a meta-analysis of RCTs.**

Authors: Graziani M.;Gasperini L.;Gasperini C.;Maraziti G.;De Pascale G. and Becattini, C.

Publication Date: 2025

Journal: Internal and Emergency Medicine

Abstract: Early fluid resuscitation reduces mortality in patients with sepsis or septic shock, but excessive fluid administration may prolong hospitalization and increase complications. Several non-invasive strategies have been proposed to guide fluid resuscitation, yet their comparative efficacy remains uncertain. We systematically searched PubMed and EMBASE through June 2025 to identify randomized controlled trials evaluating non-invasive strategies to guide fluid resuscitation in adult patients with sepsis or septic shock. Pairwise and network meta-analyses were conducted to assess short-term mortality. Length of stay (LOS) in intensive care unit (ICU) was also analyzed. 20 RCTs (2.435 patients) were included. In pairwise meta-analyses, lactate clearance-guided resuscitation was associated with reduced short-term mortality compared to ScvO2 (RR 0.81, 95% CI 0.65-1.00; I2 = 0%). No significant difference in mortality was observed between capillary refill time versus lactate clearance (RR 0.82; 95% CI 0.65-1.04; I2 = 0%), passive leg-raising plus stroke volume versus usual care (RR 0.91, 95% CI 0.67-1.23; I2 = 14%), echocardiography versus usual care (RR 0.72, 95% CI 0.32-1.61; I2 = 70%), and inferior vena cava collapsibility versus usual care (RR 0.75, 95% CI 0.52-1.09; I2 = 19%). In network meta-analysis, none of the assessed strategies to guide fluid resuscitation reduced mortality compared to usual care. Heterogeneity was moderate. Non-invasive dynamic parameters-lactate clearance, along with capillary refill time and inferior vena cava collapsibility assessment-are promising, bedside-available tools for guiding fluid resuscitation in patients with sepsis or septic shock. Their broader use in clinical practice may be warranted, pending confirmation from high-quality studies.

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50. **Variation in Intensive Pediatric Physical Therapy Practice in the United States: Results From a National Survey**

Authors: Greve, Kelly;Chole, Dana;Rubsam, Meaghan;Hedgecock, James B.;Li, Yuxiang;Zhang, Nanhua and Hall, Jamie B.

Publication Date: 2025

Journal: Pediatric Physical Therapy

Abstract: Purpose: Intensive pediatric physical therapy (PT) programs are increasingly common yet lack a clear definition. This study aimed to examine current practice patterns of intensive pediatric PT in the United States. Methods: A survey was developed and administered using the FITT (frequency, intensity, time, type) model and Knowledge to Action Cycle for pediatric physical therapists providing intensive PT. Survey respondents included pediatric physical therapists providing intensive physical therapy in outpatient, non-acute settings. Data analysis used descriptive statistics and cluster analysis. Results: Eighty pediatric physical therapists reported intensive programs involved children aged 4-6 years with

cerebral palsy (90%), neuromuscular (78%), and neuromotor (44%) disorders. Greatest dose often-always ranged from 2-5 visits per week, ≤60-120 minute sessions over 3-8 weeks. Top interventions included locomotor training (80%), task-specific training (78%), and progressive resistive exercise (76%). Two clusters were identified based on therapist organization and dose. Conclusions: This first study of intensive pediatric PT revealed marked variability, underscoring the need for a standardized definition to improve clinical care.

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51. **Commentary on "Aquatic Therapy Protocols on Gait of Children With Cerebral Palsy: A Randomized Controlled Clinical Trial"**

Authors: Güeita-Rodríguez, Javier and Lambeck, Johan

Publication Date: 2025

Journal: Pediatric Physical Therapy

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52. **The Effect of Hippotherapy Simulator-Assisted Therapy on Motor and Functional Outcomes in Children with Cerebral Palsy.**

Authors: Gunay Yazici C.;Ozden F.;Coban O.;Tarakci D.;Aydogdu O. and Sari, Z.

Publication Date: 2025

Journal: Medicina

Abstract: Background and Objectives: Horse riding simulators (HRS) provide rhythmic, repetitive, and multidirectional movements analogous to horseback riding, which may facilitate postural control, balance, and functional abilities in children with cerebral palsy (CP). This study aimed to investigate the effects of the HRS application on the muscle tone of the lower extremity, gross motor function, trunk postural control, balance, gait functions, and functional independence in children with CP. Material(s) and Method(s): A quasi-experimental study included 30 children with cerebral palsy (17 hemiparetic, 13 diparetic; mean age, 9.3 +/- 3.2 years). All participants received Neurodevelopmental Therapy (NDT) for eight weeks, followed by eight weeks of HRS plus NDT, in a sequential design. Outcomes included the Modified Ashworth Scale (MAS), MyotonPRO, Gross Motor Function Measures (GMFM)-88, Pedalo Sensamove Balance Test (Pedalo SBT), Pediatric Balance Scale (PBS), Trunk Impairment Scale (TIS), gait analysis parameters, and Functional Independence Measure (WeeFIM). Assessments were made at baseline, the 8th, and the 16th week. Result(s): At week 16, after incorporating HRS, all MAS parameters demonstrated greater improvements compared to those achieved during the first eight weeks of NDT alone (ES: 0.728-0.931, p Result(s): At week 16, after incorporating HRS, all MAS parameters demonstrated greater improvements compared to those achieved during the first eight weeks of NDT alone (ES: 0.728-0.931, p PRO measurements showed a significant reduction in gastrocnemius stiffness (ES = 0.672, p PRO measurements showed a significant reduction in gastrocnemius stiffness (ES = 0.672, p PRO measurements showed a significant reduction in gastrocnemius stiffness (ES = 0.672, p PRO measurements showed a significant reduction in gastrocnemius stiffness (ES = 0.672, p PRO measurements showed a significant reduction in gastrocnemius stiffness (ES = 0.672, p SBT scores increased following HRS intervention from baseline to week 16 (ES = 0.599-0.602, p SBT scores increased following HRS intervention from baseline to week 16 (ES = 0.599-

0.602, p Conclusion(s): HRS integrated with conventional NDT may improve muscle tone, motor function, balance, gait, and functional independence in children with cerebral palsy, representing a valuable adjunct to standard rehabilitation. These findings provide the first evidence that simulator-assisted interventions may benefit daily activities in children with cerebral palsy.

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53. **The Effect of Hippotherapy Simulator-Assisted Therapy on Motor and Functional Outcomes in Children with Cerebral Palsy.**

Authors: Gunay Yazici, Canan;Ozden, Fatih;Coban, Osman;Tarakci, Devrim;Aydogdu, Onur and Sari, Zubeyir

Publication Date: 2025

Journal: Medicina

Abstract: Background and Objectives : Horse riding simulators (HRS) provide rhythmic, repetitive, and multidirectional movements analogous to horseback riding, which may facilitate postural control, balance, and functional abilities in children with cerebral palsy (CP). This study aimed to investigate the effects of the HRS application on the muscle tone of the lower extremity, gross motor function, trunk postural control, balance, gait functions, and functional independence in children with CP. Materials and Methods: A quasi-experimental study included 30 children with cerebral palsy (17 hemiparetic, 13 diparetic; mean age, 9.3 +/- 3.2 years). All participants received Neurodevelopmental Therapy (NDT) for eight weeks, followed by eight weeks of HRS plus NDT, in a sequential design. Outcomes included the Modified Ashworth Scale (MAS), Myoton RPRO, Gross Motor Function Measures (GMFM)-88, Pedalo R Sensamove Balance Test (Pedalo R SBT), Pediatric Balance Scale (PBS), Trunk Impairment Scale (TIS), gait analysis parameters, and Functional Independence Measure (WeeFIM). Assessments were made at baseline, the 8th, and the 16th week. Results: At week 16, after incorporating HRS, all MAS parameters demonstrated greater improvements compared to those achieved during the first eight weeks of NDT alone (ES: 0.728-0.931, p RPRO measurements showed a significant reduction in gastrocnemius stiffness (ES = 0.672, p p p p R SBT scores increased following HRS intervention from baseline to week 16 (ES = 0.599-0.602, p Conclusions: HRS integrated with conventional NDT may improve muscle tone, motor function, balance, gait, and functional independence in children with cerebral palsy, representing a valuable adjunct to standard rehabilitation. These findings provide the first evidence that simulator-assisted interventions may benefit daily activities in children with cerebral palsy.

54. **Acute kidney injury in very old patients-incidence, severity, risk factors and short-term outcomes.**

Authors: HergetRosenthal S.;Stille K.;Albrecht K.;Findeisen H.;Scharpenberg M. and Kribben, A.

Publication Date: 2025

Journal: Nephrology Dialysis Transplantation

Abstract: Background and hypothesis. Although old age is a risk factor for acute kidney injury (AKI), data on AKI in individuals >=80 years is limited. We aimed to provide data on AKI incidence, severity and outcomes to identify risk factors for AKI and 30-day mortality in those >=80 years old. Methods. This was a cohort study of 2132 patients admitted to hospital. AKI was defined and classified by extended KDIGO criteria to detect community-acquired AKI, frailty as a clinical frailty score >=5. Primary endpoints were AKI and its stages, secondary endpoints 30-day mortality and major adverse kidney events (MAKE30), a composite of mortality, new renal replacement therapy or serum creatinine values >=200% of baseline, all at 30 days. Results. Median age was 86 years. AKI was frequent (35.3%) and predominately community-acquired (80.2%). The incidence rate of AKI rose with increasing age, reaching the maximum in patients 95 years old. Some 48.9% of AKI patients developed stage 1, while 27.0% and 24.1% reached stages 2 and 3, respectively. Frailty was identified as an independent AKI risk factor {adjusted odds ratio (aOR) 2.42 [95% confidence interval (CI) 1.93-3.03]}. The 30-day mortality rate was significantly higher in AKI compared with non-AKI patients (25.4% vs 7.6%), 44.4% of AKI patients developed MAKE30. Among others, AKI and frailty were risk factors for 30-day mortality [aOR 3.02 (95% CI 2.25-4.07) and 1.53 (95% CI 1.16-2.02)], with frailty exceeding AKI in patients >=90 years. Conclusions. AKI occurs frequently, increases with age, is severe and is predominately community-acquired in individuals >=80 years admitted to hospital. Frailty is a risk factor for AKI besides established factors. Very old patients with AKI more frequently died or developed a high rate of the composite endpoint MAKE30. AKI and frailty are risk factors for 30-day mortality. The effect of frailty on mortality exceeded that of AKI in nonagenarians.

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55. **The association between hunger-coping economic tradeoffs and food insecurity among female recipients of charitable food assistance.**

Authors: Hernandez, Daphne C.;Kim, Bo Ra;Brooks, Fred P. and Gundersen, Craig

Publication Date: 2025

Journal: Appetite

Abstract: Food insecurity is an indicator of well-being in the United States. A high proportion of recipients of charitable food assistance (CFA) are women and are often in charge of specific household managerial responsibilities (e.g., childcare, transportation). Consequently, they frequently face choices between paying for food and paying for other basic need(s). This study aims to examine which hunger-coping economic tradeoffs place females with at least one dependent child in the house and females without a dependent child in the house at risk for

experiencing food insecurity. Data was collected at 10 Houston-area and 10-Atlanta-area food pantries in 2022 (N = 883). Using USDA cutoff criteria, households were considered food insecure based on >=3 affirmative responses to the 18-item Food Security Scale Module. Hunger-coping economic tradeoff experiences were based on affirmative responses to whether anyone in the household ever had to choose between food and six basic needs (i.e. childcare, medicine/medical care, utilities, rent/mortgage, transportation, education). Covariate-adjusted logistic regression models were conducted to understand the relationship between six hunger-coping economic tradeoffs and food insecurity for the entire analytic sample and stratified by whether the female participant had a child in house. Standard errors in all regression models were corrected to account for multiple observations within a pantry. Adults, on average, were 55 years old (58% food insecure; 47% Hispanic; 42% black). Four hunger-coping economic tradeoffs were related to experiencing food insecurity. Economic tradeoffs between food and a) medicine/medical care and b) transportation elevated the likelihood of food insecurity, regardless of child status. Tradeoffs between food and childcare increased the risk for experiencing food insecurity among females with a dependent child. Deciding to pay between food and utilities was related to food insecurity experiences among females without a dependent child. Increases in Supplemental Nutrition Assistance Program (SNAP) benefits and eligibility along with programs to enhance resources related to medical care, transportation, childcare and utilities could help reduce food insecurity, especially among CFA recipients.

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56. **Families' perspectives of transitioning young adults with cerebral palsy to independent living.**

Authors: Hickey L.;Harms L.;Culnane E.;Saunders V.;Imms C.;Ball M. and Reddihough, D.

Publication Date: 2025

Journal: Disability and Rehabilitation

Abstract: Purpose: Adolescents and Young Adults (AYAs) with cerebral palsy (CP) face health and social inequities when transitioning to independent living. This study aimed to 1) understand the meaning of the transition to independent living for family members, and 2) identify barriers and enablers within family, community and service systems that may impact on this transition. Material(s) and Method(s): Exploratory research design. Family members of AYAs with CP were surveyed through two health services. Responses were analysed using reflexive thematic and inductive content analysis and descriptive statistics. Result(s): Thirty-two family members of 31 AYAs with CP took part in the study. Four themes were identified in relation to the meaning of the transition to independent living: 1) the opportunity for AYAs to experience adult life, 2) freedom for all parties, 3) uncertainty and worry about safely transferring care, and 4) future planning for ageing family members. Six themes related to barriers and enablers were [1]: AYAs health and wellbeing [2]; proximity to the AYA [3]; navigating complex service systems [4] timely access to funding and equipment [5], finding suitable accommodation and [6] confidence in care quality. Conclusion(s): Findings provide insights for health and disability services supporting AYAs and families transitioning to independent living. Copyright © 2025 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

57. **Central Blood Pressure and Augmentation Index in Older Adults With Intellectual Disabilities**

Authors: Hilgenkamp, T. I. M.;Oppewal, A.;Bohmer, M. N.;Paul, A.;Ryan, C.;Burke, E.;McCarron, M.;McCallion, P.;Maes-Festen, D. A. M. and O'Brien, F.

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Older adults with intellectual disabilities are at a higher cardiovascular risk than their peers in the general population. Investigating central blood pressure and augmentation index is necessary to better understand the risk of cardiovascular disease, to better identify those individuals at risk and to potentially change pharmacological treatment regimens. We therefore aim to investigate central blood pressure and augmentation index in two large cohorts (total N = 237) of older adults with intellectual disabilities, across different age ranges and sexes. Additionally, we will explore the cross-sectional relationships of central blood pressure and augmentation index with other cardiovascular risk factors and the presence of cardiovascular disease across a broad age range. Method: Collected data of two cohorts of older adults with intellectual disabilities were included: n = 121 individuals with intellectual disabilities of ≥ 60 years from the Healthy Ageing and Intellectual Disabilities (HA-ID) study, and n = 115 individuals with intellectual disabilities ≥ 40 years from The Intellectual Disability Supplement to the Irish Longitudinal Study on Ageing (IDS-TILDA) study. The Mobil-O-Graph was used to measure central blood pressure and augmentation index. The distribution of haemodynamic measures across different sex and age groups was reported, and bivariate correlations were calculated to explore associations between haemodynamic measures, cardiovascular risk factors and history of CVD. Results: Mean brachial pressures for the HA-ID cohort (mean age 71 ± 6 years) was 133/81 mmHg. The slightly younger IDS-TILDA cohort (mean age 60 ± 9 years) had a median brachial blood pressure of 127/81. Mean central SBP (cSBP) in the older HA-ID cohort was 122 mmHg versus 120 mmHg in the younger IDS-TILDA cohort, with a central DBP (cDBP) of 82 mmHg in both cohorts, and a central pulse pressure (cPP, cSBP-cDBP) of 40 mmHg for the HA-ID cohort and 38 mmHg for the IDS-TILDA cohort. Conclusions: Females with intellectual disabilities had higher central blood pressures, augmentation pressure and augmentation index than males, and females showed an age-related increase in central blood pressures.

58. **Association of Glycemic Variability with Mortality among Septic Patients with Coronary Artery Disease: A Multicenter Cohort Study.**

Authors: Hou H.;Guo Z.;Wang X.;Han L.;Wang H. and Chen, B.

Publication Date: 2025

Journal: Journal of Intensive Care Medicine

Abstract: Background: Septic patients with coronary artery disease (CAD) face elevated mortality risks, potentially exacerbated by glycemic variability (GV). This study aimed to investigate the association between GV and in-hospital and 1-year mortality in septic patients with CAD. Method(s): We conducted a retrospective analysis using data from the Medical Information Mart for Intensive Care IV (MIMIC-IV) database as the discovery cohort and the Tianjin Health and Medical Database Platform (THMDP) as the validation cohort. Patients with sepsis and CAD who had at least three blood glucose measurements during their ICU stay were included. Glycemic variability was defined as the coefficient of variation of blood glucose levels, categorized into quartiles (Q1-Q4). The primary outcome was in-hospital mortality, with 1-year mortality as a secondary outcome. Cox proportional hazards models were used to assess the association between GV and mortality. Result(s): Higher GV was significantly associated with increased in-hospital mortality in both cohorts (MIMIC-IV: n = 2599) adjusted Hazard Ratio (HR) 4.06, 95% CI 1.72-9.58, P = 0.001; THMDP: n = 2,797, adjusted HR 1.56, 95% CI 1.25-1.93, P = 0.001). A pooled two-cohort analysis confirmed a significant association with in-hospital mortality (adjusted HR for Q4 vs Q1: 1.65, 95% CI 1.34-2.03, P = 0.001), while the association with 1-year mortality was weaker (adjusted HR 1.24, 95% CI 0.89-1.73, P = 0.204). Restricted cubic spline (RCS) analyses revealed a nonlinear relationship between GV and in-hospital mortality (P for nonlinearity Result(s): Higher GV was significantly associated with increased in-hospital mortality in both cohorts (MIMIC-IV: n = 2599) adjusted Hazard Ratio (HR) 4.06, 95% CI 1.72-9.58, P = 0.001; THMDP: n = 2,797, adjusted HR 1.56, 95% CI 1.25-1.93, P = 0.001). A pooled two-cohort analysis confirmed a significant association with in-hospital mortality (adjusted HR for Q4 vs Q1: 1.65, 95% CI 1.34-2.03, P = 0.001), while the association with 1-year mortality was weaker (adjusted HR 1.24, 95% CI 0.89-1.73, P = 0.204). Restricted cubic spline (RCS) analyses revealed a nonlinear relationship between GV and in-hospital mortality (P for nonlinearity Conclusion(s): Higher GV is independently associated with increased in-hospital mortality among septic patients with CAD, but no significant association was found with 1-year mortality. These findings suggest that stabilizing GV may be a critical area for clinical management and warrants further investigation. Monitoring and managing GV may improve outcomes in this patient population.

59. **Assessing the early sepsis warning system in the emergency department.**

Authors: Hsu S.C.;Hsu C.W.;Chen C.Y.;Lee C.H.;Huang C.C.;Huy L.D.;Shih C.L.;Huang S.K. and Ou, T. Y.

Publication Date: 2025

Journal: International Journal of Infectious Diseases

Abstract: Background Early detection and timely intervention are critical in managing sepsis. To address challenges in sepsis recognition in the emergency department, we implemented a two-stage Early Sepsis Warning System (ESWS) integrated with our electronic medical record (EMR) system. Objective This study aimed to evaluate the clinical impact of the ESWS on sepsis management and patient outcomes in the emergency department. Methods We conducted a retrospective observational study analyzing data from patients admitted with sepsis or septic shock between July 1, 2019, and June 30, 2022. The study period was divided into pre-ESWS and post-ESWS implementation phases. The primary outcome was in-hospital mortality; secondary outcomes included ICU admission rates, length of ICU and hospital stay, and frequency of lactate measurement. Results A total of 4,028 patients were included in the study. There was no significant difference in in-hospital mortality rates between the pre-ESWS and post-ESWS periods, with rates of 8.85% and 8.39%, respectively (P = 0. 599). However, ICU admission rates significantly decreased from 11.87% to 9.31% (P = 0. 008). The proportion of patients undergoing lactate testing increased substantially after the implementation of the ESWS, rising from 10.39% to 38.72% (P Copyright © 2025 The Authors.

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60. **Effect of ultrashort-acting beta-blocker on the mortality of patients with sepsis or septic shock: A systematic review and trial sequential meta-analysis of randomized controlled trials.**

Authors: Huang P.Y.;Liu T.H.;Wu J.Y.;Tsai Y.W.;Hsu W.H.;Chuang M.H.;Tang H.J. and Lai, C. C.

Publication Date: 2025

Journal: Intensive & Critical Care Nursing

Abstract: BACKGROUND: Adrenergic responses, particularly tachycardia, play a role in sepsis-related complications. Ultrashort-acting beta-blockers have been evaluated in randomized controlled trials (RCTs) for their impact on sepsis outcomes, but conflicting results have been reported. This systematic review and meta-analysis aim to provide an updated perspective on the impact of ultrashort-acting beta-blockers on the clinical outcomes of sepsis. METHOD(S): A comprehensive search of PubMed, Embase, Cochrane Library, China National Knowledge Infrastructure, and ClinicalTrials.gov was conducted from inception to January 12, 2024. RCTs investigating the clinical effects and safety of ultrashort-acting beta-blockers in sepsis or septic shock were included. Meta-analyses were performed using random-effects models, and trial sequential analysis (TSA) was conducted to evaluate the reliability of cumulative evidence. The primary outcome was 28-day mortality rate. RESULT(S): A total of

2253 patients involved in 27 RCTs were included. Ultrashort-acting beta-blockers significantly reduced the 28-day mortality rate (31.6% versus 48.4%; risk ratio [RR] 0.66; 95% CI 0.56-0.78). TSA provided robust evidence for the 28-day and in-hospital mortality benefit. The survival benefit remains evident in subgroups of patients with septic tachycardia (RR, 0.66; 95% CI, 0.47-0.93), septic cardiomyopathy (RR, 0.61; 95% CI, 0.44-0.83), Chinese populations (RR, 0.64; 95% CI, 0.54-0.76), and those treated with esmolol (RR, 0.64; 95% CI, 0.56-0.73). For patients with septic shock, only those with tachycardia demonstrated a statistically significant difference in mortality rates (RR, 0.70; 95% CI, 0.55-0.88). CONCLUSION(S): Adjuvant ultrashort-acting beta-blocker therapy demonstrated potential benefits in improving survival for patients with sepsis or septic shock. IMPLICATIONS FOR CLINICAL PRACTICE: This study highlights the potential benefits of adjuvant ultrashort-acting beta-blocker therapy for the treatment of sepsis or septic shock in terms of enhanced survival and other clinical advantages, including reduced heart rate and cardiovascular biomarkers. Furthermore, such therapy did not appear to impair cardiac function and hemodynamic stability.

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61. **Stress-induced hyperglycemia and mortality of non-diabetic patients with sepsis: a meta-analysis.**

Authors: Huang, Jiayang;Li, Junwei;Chen, Xiaowen and Gu, Jiayu

Publication Date: 2025

Journal: Frontiers in Endocrinology

Abstract: Stress-induced hyperglycemia (SIH) is a common metabolic response in critically ill patients, but its prognostic significance in non-diabetic patients with sepsis remains unclear. We conducted a meta-analysis to evaluate the association between SIH and short-term mortality in this population. PubMed, Embase, and Web of Science were searched for relevant observational studies. SIH was defined by study-specific early admission blood glucose cutoffs. Risk ratios (RRs) and 95% confidence intervals (CIs) were pooled using a random-effects model by incorporating the influence of heterogeneity. Thirteen studies encompassing 53,073 non-diabetic septic patients were included. Overall, SIH was associated with significantly increased mortality (RR = 1.75, 95% CI: 1.45-2.11, p post-hoc studies (RR: 2.01 vs. 1.63, p = 0.29), different sepsis severities (RR: 1.60 vs. 2.26, p = 0.12), diagnostic criteria (Sepsis-2.0: 1.84 vs. Sepsis-3.0: 1.73, p = 0.80), timing of SIH assessment (at admission, within 24 h, or 48 h; p = 0.16), and glucose cutoffs (7.8, 11.1, 16.7 mmol/L; p = 0.34). Notably, SIH showed a stronger association with ICU/in-hospital mortality (RR = 2.25) compared with 1-month (1.63) or 3-12-month mortality (1.35; p = 0.001). Meta-regression showed no significant effect of study characteristics (p all > 0.05). In conclusion, SIH defined by early admission blood glucose is significantly associated with increased short-term mortality in non-diabetic septic patients. These findings highlight the importance of early recognition and monitoring of SIH in this high-risk population. Systematic review registration: https://www.crd.york.ac.uk/PROSPERO/, identifier CRD42024587545.

62. **Sex-specific AKI risk in acute myocardial infarction patients with type 2 diabetes mellitus.**

Authors: Huang, Xiaorui;Wang, Haichen and Yuan, Wei

Publication Date: 2025

Journal: Frontiers in Endocrinology

Abstract: Background/objectives: While sex differences in cardiovascular outcomes are recognized, their role in the risk and clinical outcomes of acute kidney injury (AKI) among acute myocardial infarction (AMI) comorbid with type 2 diabetes mellitus (T2DM) remains unstratified in clinical guidelines. The aim of this study is to explore the sex differences in the occurrence of AKI among AMI-T2DM patients, so as to provide ideas for the precision management of these patients. Methods: This retrospective cohort study enrolled AMI patients with T2DM from The First Affiliated Hospital of Xi'an Jiaotong University from 2018 to 2022. Clinical data and medication information were collected through the hospital's biospecimen information resource center. Patients enrolled were divided into male group and female group. The primary outcome is AKI during hospitalization. Results: Among 2,631 AMI patients complicated with T2DM (76.1% male, median age 67.0 years (55.9-78.1), acute kidney injury occurred in 13.3% (n = 351) of the cohort. It shows higher AKI incidence in females (17.2% vs. 12.1%, P = 0.026) with distinct sex-specific risks: Higher HbA1c was paradoxically protective in both sexes (female OR = 0.73; male OR = 0.81), hyperkalemia impact (OR = 5.88 vs. 4.02), and HDL protection (OR = 0.16); males exhibited hyperphosphatemia hazard(OR = 14.32). STEMI unexpectedly reduced AKI risk in both sexes (female OR = 0.36; male OR = 0.64). Univariate regression analysis shows the association between electrolyte imbalances, particularly hyperphosphatemia, and AKI risk was significantly stronger in males (OR = 14.3) than in females (OR = 5.2). Conversely, abnormalities in lipid metabolism demonstrated a significant protective effect against AKI exclusively in females. Additionally, advanced age, higher Killip class, hypoalbuminemia, and elevated fibrinogen were significant predictors of AKI development in both sexes. Conclusions: This study reveals significant sex disparities in AKI risk among T2DM-AMI patients: females show higher incidence, while hyperphosphatemia strongly predicts risk in males and hyperkalemia/Killip class in females. Elevated HbA1c paradoxically reduced risk in both. We recommend sex-specific management: monitor phosphorus in males and potassium with hemodynamics in females. Future work should develop sex-stratified risk models and clarify mechanisms.

63. **A Retrospective cohort study: Epidemiology of maternal sepsis in secondary care in the UK.**

Authors: Hussain T.Z.;Rana S. and Naseem, A.

Publication Date: 2025

Journal: International Journal of Clinical Obstetrics and Gynaecology

Abstract: Maternal sepsis is a cause of maternal morbidity and mortality, and it is associated with adverse neonatal outcomes. The burden of disease continues to increase. Its clinical presentation varies, and diagnostic uncertainty requires clinicians to maintain a high index of suspicion and consider sepsis earlier. This study presents the epidemiology of sepsis in a British hospital, with a review of risk factors and outcomes in both culture-positive and culture-negative sepsis groups. The most common risk factor is cesarean delivery, while the most frequent source of infection is chorioamnionitis. Antenatal sepsis is linked to preterm birth and suspicion of sepsis in the newborn. No maternal or neonatal mortality was recorded in this study.Copyright © Gynaecology Journal.

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64. **The Implementation of Community Engagement Models Amongst People With Learning Disabilities in the Context of Health and Social Care: A Systematic Review**

Authors: Iqbal, Syka;Ahmed, Farah;Uddin, Inayah;Gilchrist, Katie;Juan, Norha Vera San;Motta, Ana;Fatima, Qanita;Arshad, Saeeda and Vindrola-Padros, Cecilia

Publication Date: 2025

Journal: British Journal of Learning Disabilities

Abstract: Background: People with learning disabilities face significant health inequalities, including lower life expectancy and greater physical and mental health challenges. Community engagement approaches are increasingly used in health and social care to address these disparities, yet little is known about their impact. This review explored community engagement models in health and social care for people with learning disabilities. Methods: A search strategy combining 'community engagement' and 'learning disability' was used to identify studies across multiple electronic databases. Studies were included if they provided empirical data on community engagement for people with learning disabilities. Data extraction enabled descriptive analyses, characterising studies in terms of focus, topic area, setting, and factors influencing implementation. Risk of bias was assessed using the MMAT. Findings: Seven papers met the inclusion criteria. Key enablers included embedding approaches within existing services, context-specific model adaptation, recruiting a coordinator to integrate cross-sector working, and supportive state policy encouraging community ownership. Barriers included a lack of standardisation, particularly inconsistent definitions of community engagement, varied approaches across services and the absence of clear outcome measures, making it difficult to assess impact. Additional barriers included cross-sector culture clashes and complex needs prohibiting participation of people with learning disabilities. Conclusion: Community engagement shows promise in addressing health inequalities, but further research is needed to measure its impact on patient outcomes compared to standard care. Findings can guide researchers and policymakers in implementing contextually relevant community engagement

approaches. Clinical Trial Registration: N/A. Summary: People with learning disabilities often have a lot of health problems, have shorter lives and do not always get the same level of care as other people.Involving people with learning disabilities in local activities (known as community engagement) can help them feel more included and can improve their health, but we don't know how well this works.This study looked at how community engagement can be organised by those providing care to people with learning disabilities to see what helps or makes it difficult.It is helpful to include community engagement into existing services that think about local needs, having coordinators to link groups, and supportive government policies.Challenges include unclear ways to measure how well community engagement works, different ways organisations organise and prioritise activities and difficulties involving people with multiple needs regularly.Recommendations include longer-term funding for flexible community engagement activities, to help people with learning disabilities feel included and healthier and more research to find out other ways of improving the health of people with learning disabilities compared to regular care.

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65. **The Impact of Nurse Staffing and Education on 30-Day Mortality Among Patients Hospitalized for Acute Kidney Injury.**

Authors: Iroegbu C.;KutneyLee A.;Chittams J.;Leak S. and BrooksCarthon, M.

Publication Date: 2025

Journal: Research in Nursing & Health

Abstract: Acute kidney injury (AKI) affects approximately 20% of hospitalized patients and is associated with higher mortality, extended hospital stay, and increased costs. While various strategies have been proposed to improve AKI management, the impact of nursing resources on AKI outcomes has not been explored. We sought to examine the association between nursing resources and 30-day mortality among patients hospitalized with AKI. Using a cross-sectional study design, we linked data from the CMS Medicare Provider Analysis and Review file, American Hospital Association Annual Survey, and RN4CAST-NY/IL survey of registered nurses. We identified 24,368 Medicare beneficiaries aged 18-99 years with a primary diagnosis of AKI hospitalized in 155 hospitals in New York and Illinois in 2021. The primary outcome was 30-day mortality. Key independent variables included nurse staffing (patient-to-nurse ratio) and nurse education (proportion of nurses holding a bachelor's degree or higher). Covariates were patient demographics, comorbidities, and hospital characteristics. The 30-day mortality rate was 10.5%. In adjusted logistic regression models, each additional patient per RN increased the odds of 30-day mortality by 7% (OR = 1.07, 95% CI [1.01-1.13], p

66. **Post-operative infection treatment in cardiac surgery: current practices and future directions**

Authors: Jain, Rishab;Yadav, Shikha;Bukke, Sarad Pawar Naik;Chettupalli, Ananda Kumar and Thalluri, Chandrashekar

Publication Date: 2025

Journal: Perioperative Medicine

Abstract: Surgical site infections (SSIs) are a major complication in surgical patients, particularly after cardiac surgeries, where the risk of postoperative infection ranges from 3.5% to 26.8%. Mediastinitis, severe concerns associated with open cardiac surgery, is linked to extreme deaths, increased medical expenses during hospitalization. We investigated the incidence and features of mediastinitis over a twenty-nine-year period as patient demographics and surgical indications evolved. Escherichia coli bloodstream infections (BSIs) contribute to significant mortality (5%-30%), with factors contributing to death remaining unclear, particularly with the rise of ESBL-producing organisms. Infective endocarditis (IE) is an infection that affects the cardiac endocardial layer, may cause valve vegetation, abscesses, and myopericarditis. Postoperative management requires a clinician with a deep understanding of cardiopulmonary function to address complications promptly. Infections of cardiac implanted electronic devices (CIEDs) are catastrophic, causing significant morbidity and mortality. Among CIED complications, infections drastically affect survival rates, require re-intervention, and lengthen hospital stays. Research shows a 1% infection rate within 12 months after CIED surgery. Acute Kidney Injury (AKI) is a common complication following major cardiac surgery, particularly in procedures involving cardiopulmonary bypass (on-pump). AKI significantly increases the risk of chronic kidney disease, cardiovascular complications, and mortality. Advanced age and pre-existing chronic kidney disease are recognized as key risk factors. Sepsis-induced cardiomyopathy (SICM), though primarily a general complication of severe sepsis, can also occur in post-cardiac surgery patients who develop sepsis as a secondary complication. The absence of standardized diagnostic criteria highlights an important knowledge gap and underscores the need for further research to improve recognition and management in this high-risk group.

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67. **A qualitative study of nephrologists' perspectives on implementing a nephrology rapid response model for acute kidney injury.**

Authors: Jawabreh B.;Khatib S. and Hamdan, M.

Publication Date: 2025

Journal: BMC Nephrology

Abstract: Introduction: Acute kidney injury (AKI) poses major health and economic burdens, especially in low-resource settings like Palestine. This study explores nephrologists' perspectives on implementing the Nephrology Rapid Response Team (NRRT) model, highlighting key barriers, facilitators, and strategic priorities to improve AKI care. Study Design:

A qualitative, exploratory study design was employed to gain in-depth nephrologists' perspectives on the feasibility of implementing the Nephrology Rapid Response Team (NRRT) model in Palestinian hospitals. Method(s): Thirteen board-certified nephrologists were recruited using purposive sampling. Semi-structured interviews were conducted between January and May 2024, with data transcribed verbatim and analyzed thematically using MAXQDA Analytics Pro software. Thematic analysis identified key facilitators, barriers, and recommendations. Rigorous methodological strategies ensured the credibility, dependability, and transferability of the findings. Result(s): Five enablers themes emerged that could facilitate integration of the model: strategic backing from the Ministry of Health, a growing orientation toward prevention-driven healthcare policies, enhanced multidisciplinary collaboration with early nephrologist engagement, institutional endorsement through hospital-based systems, and the progressive adoption of technological innovations such as electronic alert systems and novel biomarkers. On the other hand, five dominant barrier themes emerged. These include systemic governance and policy fragmentation, financial and operational limitations, a pronounced shortage of nephrology specialists, insufficient awareness and prevention frameworks, and weak collaboration and surveillance systems-particularly the lack of a national renal registry. Despite these obstacles, nephrologists expressed optimism, offering three central recommendations to support sustainable implementation. These include systemic policy and governance reforms, investments in nephrology education and training programs, and the expansion of public awareness and prevention strategies through primary care engagement. Together, these strategies represent a foundational roadmap for overcoming structural challenges and AKI care delivery through the NRRT model. Conclusion(s): This study highlights the Ministry of Health's critical role in leading reforms for NRRT implementation, emphasizing prevention, technology, and capacity-building as priorities to improve nephrology care. Clinical trial number: Not applicable.

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68. **The effect of robotic assisted gait training on physical activity, motor function, and quality of life in children with spastic cerebral palsy: Exploratory pilot study**

Authors: Jeong, Yeon-Gyu;Kim, Won-Cheol;Jeong, Yeon-Jae;Jang, Ha-Neul;Lee, Joo-Young;Chung, Jae-Soon and Lee, Kyu-Hoon

Publication Date: 2025

Journal: Brain & Development

Abstract: Background: Children with spastic cerebral palsy (CP) experience motor impairments and reduced physical activity, negatively impacting health and quality of life.; Objective: The study aimed to assess the effects of wearable exoskeleton robot-assisted gait training on physical activity, motor function, and quality of life in children with CP.; Methods: Ten children with spastic CP (mean age 9.20 ± 2.57 years; gross motor function classification system levels I-IV) received twelve 30-min sessions of robot-assisted gait training over six weeks at a university hospital rehabilitation center. Physical activity was measured using a tri-axial accelerometer to assess energy expenditure, metabolic equivalents (METs), intensity levels, vector magnitude counts per minute (VM CPM), and step counts. Motor function was evaluated using the Gross Motor Function Measure (GMFM), Timed Up and Go Test (TUG),

and 6-Minute Walk Test (6MWT). Quality of life was assessed with the Cerebral Palsy Quality of Life questionnaire (CP-QOL). Repeated measures MANOVA and Cohen's d were used for statistical analysis.; Results: Significant improvements were observed in METs ($p = 0.02$, $d = 0.38$), light ($p = 0.03$, $d = 0.51$) and moderate physical activity time ($p = 0.01$, $d = 0.42$), and VM CPM ($p = 0.02$, $d = 0.55$), along with reduced sedentary time ($p = 0.02$, $d = -0.49$). Functional outcomes improved in GMFM ($p<0.01$, $d = 0.22$), TUG ($p = 0.03$, $d = -0.33$), and 6MWT ($p = 0.02$, $d = 0.52$). No significant changes were found in CP-QOL scores.; Conclusion: Wearable robot-assisted gait training appears to enhance physical activity and mobility in children with spastic CP and may be considered a promising therapeutic intervention.

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69. **Fracture Characteristics Among Adults With Intellectual Disabilities and Autism Spectrum Disorders to Inform Fracture Prevention Strategies: A Descriptive Study**

Authors: Jha, Sahil A.;Bolde, Shannen M.;Hurvitz, Edward A.;Caird, Michelle S. and Whitney, Daniel G.

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Adults with intellectual disabilities (ID) and autism spectrum disorders (ASD) have a higher risk of fracture; yet little is known about key fracture characteristics that may inform fracture prevention efforts. The objective was to describe the reported activities that lead to a fracture event, the energy of fractures (e.g., low-energy such as fragility fractures and high-energy such as fractures from a motor vehicle accident) and the location of fractures for adults with ID and ASD. Methods: In this retrospective cohort study from the United States, medical records from a single clinical site were abstracted to gather information on fracture characteristics (i.e., fracture location, energy of fracture and activities that lead to the fracture event) from adults ≥ 18 years old with intellectual disabilities (ID) and/or autism spectrum disorders (ASD) that sustained ≥ 1 fracture between 1 November 2012 and 2 November 2021. The fracture characteristics were described for the entire cohort and by the following subgroups: ID only, ASD only and ID + ASD. Results: Of the 126 adults with ID and/or ASD, there were a total of 147 fractures for analysis: 84.9% had one fracture, 13.5% had two fractures and 1.6% had three fractures. For the entire cohort, 32.0% were defined as high-energy fractures, but this varied by subgroup: 24.1% for ID only (n = 69 participants, n = 87 fractures), 50.0% for ASD only (n = 35 participants, n = 36 fractures) and 33.3% for ID + ASD (n = 22 participants, n = 24 fractures). The remaining fractures were defined as low-energy or unknown energy. The most common activities that lead to a fracture event were broadly categorised as 'low-impact falls, unwitnessed falls, transfers' for ID only (47.1%), ASD only (27.8%) and ID + ASD (41.7%). The most common skeletal region of fractures occurred in the lower extremities for ID only (42.5%) and ID + ASD (50.0%) and in the upper extremities for ASD only (33.3%). Conclusions: Despite the age being 18 years and older (i.e., not exclusively elderly), most fractures were considered to be low-energy and occurred in the extremities, but this varied by subgroup. This study identified the activities that led to a fracture event, which may inform fracture prevention efforts such as adjunct therapies.

70. **A Review of Support Staff Perception of and Training on Psychotropic Medication and Challenging Behavior in Adults With Intellectual and Developmental Disabilities**

Authors: Johnson, Carissa;Epperson, Claire;White, Odessa;Butterworth, August;Lowe, Sarah;Smith, Grace and Valdovinos, Maria G.

Publication Date: 2025

Journal: Behavioral Interventions

Abstract: Psychotropic medications are commonly prescribed to address challenging behavior of adults with intellectual and developmental disabilities. This paper provides a topical review of the literature examining support staff's perception of both their knowledge of psychotropic medication effects and the role they play (or lack thereof) when it comes to decision-making and patient advocacy regarding psychotropic medication use. Also reviewed was the literature regarding the training support staff receive on psychotropic medication effectiveness and their side effects. Although training on psychotropic medication has enhanced support staff knowledge and awareness of medication effects, it is unclear if the training has impacted the overall use of psychotropic medication within this population. Existing gaps in the literature and recommendations for future research are discussed.

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71. **Effect of Pilates exercise on balance in adults with cerebral palsy**

Authors: Joung, Hee Joung;Kwon, Soon-Sun and Park, Moon Seok

Publication Date: 2025

Journal: Journal of Bodywork and Movement Therapies

Abstract: Competing Interests: Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.; Introduction: Adults with cerebral palsy (CP) experience a progressive decline in balance, which leads to reduced mobility and quality of life. Despite the importance of health management, few studies have examined exercise interventions in adults with CP. Although Pilates exercises have been shown to improve balance in neurological populations, their effects on adults with CP remain unclear. This feasibility study investigated the effects of Pilates on balance in adults with CP.; Method: This feasibility study employed a non-randomized controlled design with a pre-post comparison. Seventeen adults with CP voluntarily chose either the Pilates group (PG; n = 10, mean age 51.4 ± 3.40 years) or the control group (CG; n = 7, mean age 51.57 ± 3.82 years). The PG completed a 12-week Pilates intervention (90-min sessions, twice weekly, 24 sessions), whereas the CG maintained their usual activities without intervention.; Results: Balance was assessed using the center of pressure displacement with eyes open (CoP_EO), and eyes closed (CoP_EC), the Berg Balance Scale (BBS), and the Timed Up and Go test (TUG). The PG showed significant improvements compared with the CG in CoP_EO (p = 0.025), CoP_EC

(p = 0.013), BBS (p = 0.002), and TUG (p = 0.006).; Conclusion: These findings suggest that Pilates may be a feasible intervention for improving balance in adults with CP. (Copyright © 2025. Published by Elsevier Ltd.)

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72. **Effect of Virtual Reality Therapy on Balance and Walking Speed in Children with Spastic Cerebral Palsy: A Randomized Controlled Trial.**

Authors: Kalantari M.;Naderi M.;Beheshti S.Z. and Askary Kachoosangy, R.

Publication Date: 2025

Journal: Journal of Iranian Medical Council

Abstract: Background: Children with spastic cerebral palsy have some limitations in their functional mobility and also problems with their balance and postural control. The purpose of this study was to examine the effect of virtual reality training on balance and walking speed in children with spastic Cerebral Palsy (CP). Method(s): This is a single blinded randomized controlled trial. According to the preliminary data obtained from the pilot study, the total sample size was determined, and 30 children with spastic CP (5-12 years) were randomly allocated into the intervention (n: 15) and control groups (n: 15). Both groups received the treatment with conventional occupational therapy for 30-min sessions three times per week. The intervention group also received supervised therapy using Xbox Kinect games in each session for 6 weeks. Balance by TUG test and Pediatric Balance Scale (PBS), and walking speed by 10-meter walking test were measured in pretest, post-test, and follow-up. Additionally, repeated measures analysis of variance (ANOVA) was used to examine the interaction effects of time and group. Result(s): Thirty children with spastic CP (mean age: 8.5 years; Gross Motor Function Classification System: level I, 23.3%, level II,) were analyzed. The results showed that there was a statistically significant difference between the two groups only in the PBS score (p=0.013). Additionally, the interaction effect of time and group was significant for both TUG and PBS scores (pResult(s): Thirty children with spastic CP (mean age: 8.5 years; Gross Motor Function Classification System: level I, 23.3%, level II,) were analyzed. The results showed that there was a statistically significant difference between the two groups only in the PBS score (p=0.013). Additionally, the interaction effect of time and group was significant for both TUG and PBS scores (pConclusion(s): Using V.R therapy along with routine occupational therapy can be effective for improving balance and walking speed in. Copyright © 2025, Journal of Iranian Medical Council.

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73. **Spinal cord injury is an independent risk factor for acute kidney injury in traumatic spine-injured patients in the National Trauma Data Bank.**

Authors: Kanter J.H.;Raja V.;Bonney P.A.;Gumbel J.H.;Tarapore P.E.;Huang M.C.;Manley G.T. and DiGiorgio, A. M.

Publication Date: 2025

Journal: Journal of Spinal Cord Medicine

Abstract: Introduction: Patients with spine injuries are at risk of acute kidney injury (AKI)

through several mechanisms. Objective(s): This study aims to assess the rate of severe AKI in a nationally representative sample of patients with spine injuries and determine whether SCI is an independent risk factor. Method(s): We conducted a cohort study utilizing the National Trauma Databank (NTDB) Patients included were 18 years or older with cervical or thoracic spine injuries (spine fractures and/or spinal cord injury) based on International Classification of Disease (ICD) codes from 2017 to 2022. Patients with pre-existing renal impairment were excluded. Logistic regression was used to determine the association between demographic and injury variables with incident AKI. Result(s): 313,838 spinal injury patients were analyzed, of which 3,288 (1.05%) developed AKI. Patients with AKI were older (61 +/- 19 vs. 55 +/- 21 years, P Result(s): 313,838 spinal injury patients were analyzed, of which 3,288 (1.05%) developed AKI. Patients with AKI were older (61 +/- 19 vs. 55 +/- 21 years, P Result(s): 313,838 spinal injury patients were analyzed, of which 3,288 (1.05%) developed AKI. Patients with AKI were older (61 +/- 19 vs. 55 +/- 21 years, P Result(s): 313,838 spinal injury patients were analyzed, of which 3,288 (1.05%) developed AKI. Patients with AKI were older (61 +/- 19 vs. 55 +/- 21 years, P Result(s): 313,838 spinal injury patients were analyzed, of which 3,288 (1.05%) developed AKI. Patients with AKI were older (61 +/- 19 vs. 55 +/- 21 years, P Conclusion(s): AKI is associated with morbidity and mortality in patients with spine injuries. Comorbidities and more severe injuries, including the presence of SCI, are associated with AKI. More work is warranted to understand mechanisms of AKI in these patients.

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74. **Dementia in Intellectual Disability: An Exploratory Investigation of Comorbidity Patterns and Diagnostic Outcomes**

Authors: Keller, Peer C. and Sappok, Tanja

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Dementia is more prevalent and tends to manifest earlier in individuals with intellectual disabilities (ID) compared to the general population. Acquiring specific knowledge about comorbidities and diagnostic findings in individuals with ID who have dementia, as opposed to those with ID without dementia, is essential. Such insights are crucial for enhancing the quality of care. Methods: The study was applied in a German outpatient clinic for people with ID and mental illnesses from February 2018 to September 2022. An exploratory comparison was conducted to identify differences in somatic and psychiatric comorbidities, laboratory results, cerebrospinal fluid results, neuroimaging, medication and challenging behaviour in people with ID with (n = 13, mean age: 54 years, 69% female) and without dementia (n = 73, mean age: 53 years, 48% female). Results: In this sample, persons with ID who have dementia are more likely to have Down syndrome and less likely to have affective disorders. They received antidementia drugs more often and atypical high-potency antipsychotics less often compared to persons with ID without dementia. All other clinical data showed no differences. Conclusions: Interestingly, no differences in somatic diseases (except Down syndrome) or laboratory and neuroimaging results could be found between people with ID with and without dementia. However, the diagnosis of dementia was associated with a reduced frequency of affective disorders and a reduced prescription of antipsychotics compared to the clinical sample without dementia. Due to the exploratory character of the study, replication in a much larger sample is necessary.

75. **Relationship between sensory profile, balance, and trunk control in children with cerebral palsy.**

Authors: Kemerden B.B.;Cokar D. and Kavrik, Z.

Publication Date: 2025

Journal: Journal of Bodywork and Movement Therapies

Abstract: Aim Cerebral Palsy (CP) is a neurodevelopmental disorder that affects sensory processing, balance, and trunk control. This study aimed to examine in detail the relationship between sensory profiles, balance, and trunk control in children with quadriparetic CP, in order to provide evidence for integrating sensory-targeted strategies into rehabilitation. Method The study included 32 children diagnosed with spastic quadriparesis. Sensory processing was assessed using the Dunn Sensory Profile, balance was evaluated with the Pediatric Balance Scale (PBS), and trunk control was measured using the Trunk Control Measurement Scale (TCMS). Results A total of 32 children were assessed. Sensory processing disorders were identified in 81.5 % of the assessed parameters. Balance scores showed significant positive correlations with vestibular processing ($p = 0.014$, $r = 0.429$), proprioception ($p = 0.017$, $r = 0.417$), endurance and tone regulation ($p = 0.036$, $r = 0.372$), sensitivity to stimuli ($p = 0.011$, $r = 0.444$), and sensory seeking ($p = 0.039$, $r = 0.366$). Similarly, trunk control was positively correlated with stimuli perception ($p = 0.014$, $r = 0.430$), vestibular processing ($p = 0.034$, $r = 0.377$), oral sensory processing ($p = 0.008$, $r = 0.463$), and sensitivity to stimuli ($p = 0.039$, $r = 0.367$). Conclusion Difficulties in sensory processing, particularly in the vestibular, proprioceptive, somatosensory, and oral domains, were associated with impairments in balance and trunk control. These findings highlight the importance of evaluating sensory profiles in children with CP and support the inclusion of sensory-focused assessments and interventions in rehabilitation programs to improve motor and functional outcomes.

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76. **Admission blood gas variables and electrolytes in predicting significant endpoints in ICU patients with emerging acute kidney injury.**

Authors: Khader B.;Lehmann R.;Marahrens B.;Ritter O. and Patschan, D.

Publication Date: 2025

Journal: Kidney & Blood Pressure Research

Abstract: Introduction Acute kidney injury (AKI) is a prevalent issue in intensive care units (ICUs). There is a paucity of data regarding the use of blood gas and electrolyte measurements in predicting the risk of significant endpoints (kidney replacement therapy, death) in emerging, yet undiagnosed AKI. Methods Retrospective, observational, single-center study. The study documented 4 admission electrolytes (serum sodium, potassium, ionized calcium, and phosphate) and 3 admission blood gas variables (arterial pH, actual bicarbonate, pCO_2). The endpoints of the study were the need for kidney replacement therapy (KRT) and

death in the ICU. Results A total of 213 patients were included in the study. The ICU mortality rate was 31%, and 22.5% of all subjects required at least one individual KRT session. There were significant differences in admission serum sodium and phosphate levels between survivors and non-survivors (both lower in survivors), and in arterial pH and actual bicarbonate levels (both higher in survivors). The majority of all tested variables were identified as independent predictors of either the need for KRT or ICU death. Conclusions Integrating admission electrolytes and blood gas variables may potentially aid in identifying subsets of acute kidney injury (AKI) patients at risk of death.

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77. **Age-related differences in sepsis outcomes: A comparative analysis of elderly and very elderly ICU patients.**

Authors: Kilic, Ozgur and Demircan, Enver

Publication Date: 2025

Journal: The Journal of Critical Care Medicine

Abstract: Background: The rapid aging of the global population has amplified the clinical and economic burden of sepsis, a leading cause of morbidity and mortality in the elderly. Within this demographic, the "very elderly" (>=80 years) represent a particularly vulnerable subgroup. This study evaluates and compares the outcomes and prognostic factors of elderly (65-79 years) and very elderly ICU patients with sepsis or septic shock. Methods: A retrospective observational study was conducted in a single-center ICU, including 251 patients aged >=65 years diagnosed with sepsis or septic shock. Patients were categorized as elderly (65-79 years, N=162) or very elderly (>=80 years, N=89). Data on demographics, comorbidities, laboratory results, infection sources, treatments, and outcomes were collected. Prognostic factors for mortality were analyzed using binary logistic regression. Results: The very elderly group exhibited higher rates of dementia, immobility, and fungal infections, while malignancy was more prevalent in the elderly group. ICU length of stay was longer in the very elderly group (median 8 vs. 6 days, P=0.027). ICU mortality was lower in the very elderly group, showing a trend toward significance but not reaching statistical significance (70.8% vs. 82.1%, P=0.056). Shared predictors of mortality included higher SOFA scores, malignancy, hospital-acquired sepsis, invasive mechanical ventilation, and acute kidney injury. Conclusion: This study highlights differences in sepsis outcomes between elderly and very elderly patients. The findings underscore the importance of developing and implementing age-specific management strategies to improve outcomes in these high-risk populations. These insights contribute to a more tailored and effective approach to geriatric critical care. Copyright © 2025 Ozgur Kilic et al., published by University of Medicine, Pharmacy, Science and Technology of Targu Mures.

78. **Determinants and comorbidities: Studying the context of psychiatric symptoms**

Authors: Kisely, Steve

Publication Date: 2025

Journal: Australian & New Zealand Journal of Psychiatry

Abstract: The article emphasizes the significance of contextual factors in understanding psychiatric symptoms, particularly during critical life stages, natural disasters, and adverse situations. It highlights the under-addressed issue of eating disorders in the perinatal period, advocating for routine screening and tailored interventions for pregnant individuals. Additionally, it discusses the prevalence of personality disorders in secondary care settings, the psychological impact of bushfires on adolescents, and the consequences of interpersonal trauma, revealing the need for nuanced approaches in mental health care. Lastly, it identifies risk factors for mental illness in individuals with intellectual disabilities, underscoring the influence of socioeconomic and geographic factors.

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79. **Comparison of balance, foot posture, functionality, and gait speed of children with spastic cerebral palsy according to gross motor function levels, and typically developing children: a randomized controlled study.**

Authors: Korkem Yorulmaz D.;Turker D.;Aksu B.;Unver B. and Yildirim Sahan, T.

Publication Date: 2025

Journal: Egyptian Pediatric Association Gazette

Abstract: Background: Cerebral palsy (CP), a prevalent motor disorder in children, is characterized by movement and posture issues due to non-progressive brain damage. Spastic CP, the most prevalent subtype, significantly impacts gross motor functions and independence in daily life. The foot, which we stand on the ground with, contributes to maintaining our balance and initiating the stance phase of gait. Therefore, examining abnormalities and functionality in foot posture in CP is important to better understand the possible effects on balance and gait while standing. This study compares balance, foot posture, functionality, and gait speed of spastic CP across Gross Motor Function Classification System (GMFCS) levels, providing insights into rehabilitation strategies. Material(s) and Method(s): Eighty children (40 with spastic CP and 40 typically developing peers) were included, aged between 7 and 16 years. Participants were assessed for gross motor functions (GMFM), balance, foot posture, functionality, and gait speed (10-m walk test). Randomization ensured equal distribution across GMFCS levels I-III for the CP group. Sociodemographic data and clinical measures were recorded. Result(s): Children with CP exhibited significantly lower gross motor function, balance, and foot functionality scores than their typically developing peers. However, no significant difference was noted in foot posture. Across GMFCS levels, increasing severity correlated with worsened motor functions, balance, and gait speed. Level III showed the most pronounced impairments. Conclusion(s): Spastic CP adversely impacts gross motor function, balance, and gait, which worsens with increasing GMFCS levels. Early and comprehensive

evaluations of motor functions and related parameters are critical for tailored interventions. Further studies are recommended to enhance therapeutic strategies and outcomes.

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80. **Comparison of the Effects of Elastic and Rigid Taping on Gross Motor Function, Balance, and Functional Capacity in Children with Hemiplegic Cerebral Palsy: A Randomized, Single-Blinded Trial**

Authors: Korkem Yorulmaz, Duygu;Gök, Rıdvan;Tüzün, Emine Handan;Türker, Duygu;Birbir, Buse and Yıldırım Şahan, Tezel

Publication Date: 2025

Journal: Children

Abstract: Background/Objectives: This randomized, single-blinded trial compared the effects of Kinesio taping (KT) and rigid taping (RT) on gross motor function, balance, and functional capacity in children with hemiplegic cerebral palsy (HCP). Methods: Fifty-two children (aged 7-16) were assessed using the Gross Motor Function Measure (GMFM), Pediatric Berg Balance Scale (PBBS), Time-Up-and-Go (TUG), and 2-Minute Walk Test (2-MWT). Results: Both KT and RT produced significant intra-group improvements in GMFM, PBBS, TUG, and 2-MWT scores ($p \leq 0.001$). Although nonparametric analysis suggested greater changes for KT in TUG and 2-MWT ($p < 0.001$; $p = 0.036$), no significant inter-group differences were found when baseline scores were adjusted using the General Linear Model (GLM) (2-MWT: $p = 0.29$; TUG: $p = 0.087$). Conclusions: KT and RT are similarly effective adjuncts to physiotherapy, improving gross motor function, balance, and functional capacity in children with HCP. Therefore, the choice between KT and RT may be guided by clinical preference, child tolerance, and therapeutic goals rather than superiority of effect.

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81. **Active Participation-Neuro-Developmental Therapy on Gross Motor Function in Low Functioning Children with Cerebral Palsy: A Single-Blinded Randomized Controlled Study**

Authors: Kumar, Vinay;Padhan, Ashish;Mohanty, Patitapaban;Gupta, Saumen and Agarwal, Shagun

Publication Date: 2025

Journal: Journal of Health & Allied Sciences NU

82. **Healthy Food Voucher Programs: Global Evidence on Structure, Implementation, and Nutrition-Related Outcomes**

Authors: Lara-Arevalo, Jonathan;Corvalan, Camila;Pemjean, Isabel;Montes de Oca, Daniela;Ng, Shu Wen and Taillie, Lindsey Smith

Publication Date: 2025

Journal: Advances in Nutrition

Abstract: Healthy food voucher programs (HFVPs) provide lower-income participants with benefits to purchase healthy, nutrient-dense foods and are a promising strategy for improving dietary and nutritional outcomes. HFVPs can complement policies aimed at reducing unhealthy food consumption, contributing to improved food security, dietary outcomes, and reducing nutritional disparities. Understanding the structural factors that make these programs acceptable and effective in improving dietary patterns is essential for designing impactful HFVPs. However, updated evidence on these components is limited. This narrative review focuses on incentive programs that provide voucher benefits for healthy foods, synthesizing global evidence on program structure components (i.e., participant eligibility and enrollment, benefit delivery and timing, eligible products, benefit value, program duration, retail venues, and inclusion of nutrition education) that may influence program impact. It also summarizes diet and nutrition-related outcomes by country's income level, when possible. Key determinants of program acceptability included positive interactions with program and retail staff, available multilingual information, electronic benefits over physical ones, a variety of eligible healthy foods, and including local markets as participating venues. Additionally, offering remote enrollment options, using mail delivery or electronic benefits to avoid transportation costs, adjusting benefits for inflation and household size, allowing redemption in various retail venues, and coupling benefits with engaging nutrition education activities were factors influencing program effectiveness. Most evidence indicates that HFVPs increase the purchase and consumption of healthy foods, improve food security, and enhance nutrition knowledge. However, mixed results were found regarding diet quality indicators, physical health outcomes, and mental health. Factors such as insufficient benefit size, inflation, and rising food prices, as well as short intervention lengths, contributed to null results. Our findings underscore the potential of HFVPs to improve diets and reduce nutritional disparities; however, addressing identified barriers during program design and implementation is essential to ensure that these programs achieve their goals.

83. **The Psychometric Properties of Emotional Development Assessment tools in Intellectual Disabilities: A Systematic Review**

Authors: Leal, Bethany and Hudson, Mark

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: People with intellectual disabilities can experience psychological distress and show behaviours of concern, such as self-injurious behaviour or physical aggression. One contributing factor is the degree to which their emotional needs are understood by those in their environment. This paper aims to review the psychometric properties of assessment tools measuring emotional development in individuals with intellectual disabilities. Methods: A systematic literature review was conducted, which included 5 databases and followed the PRISMA guidance (registration number: CRD42024553322). Seven assessment tools were included in this review: the SAED, SED-S, Brief SED-S, SED-R, and SED-R2, SEO-Lukas and the Frankish model, and the psychometric properties were assessed in accordance with the COSMIN good measurement properties checklist. Results: Sixteen studies were included in this review. Internal consistency was assessed in six of the seven measures; validity was only assessed in the SAED and SED-S. Whilst both of these measures were considered reliable and valid, studies on the SAED had greater methodological quality, and the SED-S had a larger quantity of evidence. Conclusions: Both the SAED and the SED-S are psychometrically sound tools, based on the overall quality and sufficiency of the evidence. Further research should consider the usability, sensitivity and cross-cultural use, especially in UK populations. Summary: Most assessment tools in this review were considered reliable, except for the Frankish model.The SAED and SED-S tools were the most reliable and valid based on quality, the amount of evidence, and thorough evaluation.Having a valid and reliable tool is important to ensure accurate assessments and provide the best support for people with intellectual disabilities.More studies should look at how these tools work in different cultures to make sure they can be used worldwide.

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84. **Outcomes of Hospitalized Liver Cirrhosis Patients With COVID-19 Infection: A Retrospective Analysis.**

Authors: Lee, Ki Jung;Patel, Parth and Karagozian, Raffi

Publication Date: 2025

Journal: Cureus

Abstract: Background Patients with liver cirrhosis (LC) are at an increased risk of adverse outcomes associated with coronavirus disease 2019 (COVID-19). Existing studies have demonstrated a higher prevalence of malnutrition among COVID-19 patients. However, there is limited research assessing the impact of malnutrition on COVID-19 patients hospitalized with cirrhosis. Methodology We conducted a retrospective analysis of patients with LC admitted to hospitals in the United States in 2020 using the National Inpatient Sample (NIS) database. We

compared in-hospital mortality, the risk for acute kidney injury (AKI), and length of stay (LOS) between malnourished and non-malnourished LC patients with COVID-19. Multivariable logistic regression analysis assessed the independent association between malnutrition in these patients and the outcomes of interest. Results Among 5,192 LC patients with COVID-19 and LC identified in the NIS database, 4,593 (88.5%) were not malnourished, and 599 (11.5%) were malnourished. The median age of non-malnourished patients was 63 (interquartile range (IQR) = 54-72) years, and that of malnourished patients was 64 (IQR = 56-72) years. Examining the baseline characteristics, the following did not have statistically significant differences: sex (male: non-malnourished: 60.4% vs. malnourished: 61.6%) and race (White: 50.5% vs. 49.9%). Malnourished patients with LC and COVID-19 were more likely to have hyponatremia (217; 36.2% vs. 1,200; 26.1%) and chronic kidney disease (CKD) (146; 24.4% vs. 928; 20.2%) but less likely to have hypertension (149; 24.9% vs. 1484; 32.3%), hyperlipidemia (141; 23.5% vs. 1441; 31.3%), obesity (75; 12.5% vs. 1010; 22.0%), and diabetes (53; 8.8% vs. 718; 15.6%). Malnourished patients had a significantly higher in-hospital mortality rate (171; 28.5%) compared to non-malnourished patients (836; 18.2%) (p

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85. **Roles and responsibilities of registered nurses in the early recognition and management of sepsis in acute hospital settings: a scoping review.**

Authors: Lemoh A.Y.;Rashidzada Z.;Krishnasamy M.;Wilkinson A.;Blackwood R.;Rivalland A.;Ierano C.;Thursky K.A. and Guccione, L.

Publication Date: 2025

Journal: BMJ Open Quality

Abstract: Introduction Sepsis causes over 20% of deaths annually, with early recognition and management being key strategies to preventing patient deterioration. Despite being the largest group of hospital-based clinicians, the role of registered nurses (RNs) in sepsis remains poorly defined. Objective To describe the roles and responsibilities of RNs in early recognition and management of sepsis in acute hospital settings, applying the Action, Actor, Context, Target and Time (AACTT) Implementation Science Framework to specify nursing behaviours across domains, and identify evidence gaps to inform future research and practice. Methods The review was conducted using the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) checklist. We searched Medline, EMBASE, CINAHL and PubMed for studies discussing the contribution of RNs in acute hospital-based sepsis care. Data were extracted and mapped to the AACTT framework domains. Results 27 (90%) of 30 included studies described RNs as the actor responsible for the action of sepsis screening. 26 studies (87%) described RN actions relating to timely care escalation and sepsis management. A broader range of actions was identified in resource-restricted contexts, with three (10%) studies reporting RN-initiated blood tests, chest X-rays, intravenous fluids and antimicrobials. Across 16 studies (53%), eight roles with dedicated focus on sepsis identification and management were identified; only one study outlined formal training requirements. Nurse practitioners were excluded here given their credentialed role and scope. Conclusion Nurses perform essential actions in early sepsis recognition and management, with several RN roles focused on sepsis care identified. A broader scope of

nurse-initiated actions was identified in resource-restricted contexts to meet clinical demand. There is potential for a greater scope of nursing actions in sepsis care for the benefit of patients and health services, but to achieve this, standardised training requirements need to be developed, and scope of practice defined.

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86. **Intellectual disability and ageing**

Authors: Lewis, Fergus and Bench, Claudia

Publication Date: 2025

Journal: InnovAiT

Abstract: Over the past few decades, healthcare of people with an intellectual disability (ID) has drastically improved. Unfortunately, their average life expectancy is still substantially lower than the general population. Ageing in this vulnerable group is complex and can be accelerated depending on the underlying genetic condition associated with their disability. Despite this, they still experience the same age-related chronic diseases as the general population, but their health needs can go unidentified and unmet. This can lead to delayed diagnosis and poorer outcomes. The importance of identifying illness early and involving specialist ID teams to address their unique needs is key to improving management and prognosis.

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87. **Effects of Virtual Reality Intervention on Motor Function and Activities of Daily Living of Children and Adolescents With Cerebral Palsy: A Systematic Review and Meta-analysis of Randomized Controlled Trials.**

Authors: Li F.;Pan W.;Huang J.;Zhu L. and Li, X.

Publication Date: 2025

Journal: Archives of Physical Medicine and Rehabilitation

Abstract: Objectives: To explore the impact of virtual reality (VR) intervention on motor function (MF) and activities of daily living (ADL) in children and adolescents with cerebral palsy (CP), and to identify effective VR intervention strategies. Data Sources: Searches were conducted in PubMed, Wiley Online Library, Embase, Cochrane Library, and Web of Science (all collections). Study Selection: All randomized controlled trials (RCTs) of VR intervention on MF and ADL in children and adolescents with CP. Data Extraction: We conducted dual data abstraction, quality assessment, and strength of evidence. Outcomes include gait, balance, gross MF (GMF), ADL, and hand function. Data Synthesis: This review encompassed 41 RCTs focusing on the use of VR intervention for children and adolescents with CP. The effect of VR intervention on gait (standardized mean difference [SMD]=0.52; 95% confidence interval [CI], 0.18-0.85) and GMF (SMD=0.76; 95% CI: 0.17, 1.34) has a moderate effect, while

balance (SMD=1.1; 95% CI, 0.61-1.59), ADL (SMD=1.46; 95% CI, 0.71-2.2), and hand function (SMD=1.08; 95% CI, 0.17-2) have a great effect. Subgroup analysis reveals the influence of different intervention parameters on different functions. For example, balance is related to the intervention duration of >10 weeks, the frequency of 1-2 times per week, the Nintendo Wii platform, and nonimmersive VR. Conclusion(s): Although the results show that VR intervention has a positive impact on MF and ADL, the high heterogeneity limits the stability of the conclusion. Future research needs to further explore the mechanism of VR intervention and try to set a reliable personalized intervention model.

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88. **Effects of Higher Versus Lower Protein Intake in Critically Ill Patients: A Systematic Review and Meta-Analysis.**

Authors: Li S.;Hou Y.;Jin H.;Fu L.;Wang S.;Li X.;Sun M.;Hou H.;Song D.;Dai B.;Wang W.;Zhao H.;Kang J. and Tan, W.

Publication Date: 2025

Journal: SSRN

Abstract: Objectives: The impact of higher-dose protein during critical illness remains unclear; our study evaluated its clinical effects, including in patient subgroups. Method(s): We systematically searched PubMed, Embase, Web of Science, Scopus, and Cochrane Central Register of Controlled Trials for randomized controlled trials (RCTs) evaluating protein delivery in critically ill patients (published up to June 2025). Primary outcome was cumulative mortality. Secondary outcomes included mechanical ventilation (MV) duration, ICU length of stay (LOS), muscle outcomes, quality of life, biochemical markers, and adverse events. Finding(s): Thirty-six RCTs (11,335 patients) were included, with higher-protein groups receiving 1.2-2.2 g/kg/day and controls 0.2-1.5 g/kg/day. No significant differences founded between the higher- and lower-protein groups in cumulative mortality (RR 1.02, 95% CI 0.97 to 1.08); 30-, 60-, 90-, or 180-day mortality; MV duration; or ICU LOS. Subgroup analyses showed higher protein + physical rehabilitation linked to lower mortality (RR 0.68, 95% CI 0.50-0.93) and shorter MV duration (MD -0.23, 95% CI -0.76-0.31); higher intake did not improve mortality but shortened MV duration in the trauma, burn, and overweight subgroups(MD -0.90, 95% CI -1.64 to -0.15); conversely, it increased mortality in acute kidney injury (AKI) patients (RR 1.45, 95% CI 1.10-1.90). Higher protein increased adverse events, except in the trauma, burn, and overweight subgroups. Interpretation(s): Higher-dose protein did not significantly improve most outcomes in general critically ill patients. However, it reduced mortality when combined with rehabilitation; trauma, burn, and overweight subgroups experienced shorter MV duration, while AKI patients showed higher mortality. These subgroup-specific effects warrant targeted RCTs for further study.

89. **Effectiveness of massage therapy for constipation in children with cerebral palsy: A systematic review and meta-analysis**

Authors: Li, Mengqi;Ding, Guorui;Lan, Ruobing;Li, Yu;Guan, Shuying;Lu, Xiaolei;Zhang, Yuxing and Zhao, Duo

Publication Date: 2025

Journal: Complementary Therapies in Medicine

Abstract: BACKGROUND: Constipation affects 75% of children with cerebral palsy (CP). While massage is a safe non-invasive intervention, its clinical adoption remains limited due to insufficient evidence of its efficacy. OBJECTIVE: To evaluate the efficacy and safety of massage for CP-related constipation through meta-analysis. METHODS: Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, we searched seven databases for randomised controlled trials (RCTs) on pediatric CP-related constipation treated with massage. Eligible RCTs underwent Cochrane risk-of-bias assessment. Meta-analysis using Stata evaluated the overall efficacy, defecation parameters, and heterogeneity sources. RESULTS: A total of 11 RCTs involving 728 patients were included. The results of the meta-analysis showed that, compared with traditional therapy alone, massage was more effective in treating constipation in children with CP. This difference was statistically significant (p0.05). The baseline patient characteristics, duration and techniques of the massage, and efficacy of the control group intervention may be the sources of heterogeneity. CONCLUSION: Massage therapy improves constipation symptoms in children with CP. These results require validation through larger, high-quality RCTs given the sample size limitations of the current study.

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90. **Leveraging artificial intelligence for early detection and prediction of acute kidney injury in clinical practice.**

Authors: Liang B.;Ma C. and Lei, M.

Publication Date: 2025

Journal: Frontiers in Physiology

Abstract: Introduction: Acute kidney injury (AKI) is a severe and rapidly developing condition characterized by a sudden deterioration in renal function, impairing the kidneys' ability to excrete metabolic waste and regulate fluid balance. Timely detection of AKI poses a significant challenge, largely due to the reliance on retrospective biomarkers such as elevated serum creatinine, which often manifest after substantial physiological damage has occurred. The deployment of AI technologies in healthcare has advanced early diagnostic capabilities for AKI, supported by the predictive power of modern machine learning frameworks. Nevertheless, many traditional approaches struggle to effectively model the temporal dynamics and evolving nature of kidney impairment, limiting their capacity to deliver accurate

early predictions. Method(s): To overcome these challenges, we propose an innovative framework that fuses static clinical variables with temporally evolving patient information through a Long Short-Term Memory (LSTM)-based deep learning architecture. This model is specifically designed to learn the progression patterns of kidney injury from sequential clinical data-such as serum creatinine trajectories, urine output, and blood pressure readings. To further enhance the model's temporal sensitivity, we incorporate an attention mechanism into the LSTM structure, allowing the network to prioritize critical time segments that carry higher predictive value for AKI onset. Result(s): Empirical evaluations confirm that our approach surpasses conventional prediction methods, offering improved accuracy and earlier detection. Discussion(s): This makes it a valuable tool for enabling proactive clinical interventions. The proposed model contributes to the expanding landscape of AI-enabled healthcare solutions for AKI, supporting the broader initiative to incorporate intelligent systems into clinical workflows to improve patient care and outcomes.

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91. **Acute Kidney Injury Among Patients Undergoing Orthopedic Surgery and Admitted to the ICU: A Retrospective Analysis of Nonoperative Risk Factors.**

Authors: Lin, Xuezhen;Zhang, Xiaobo;Zhang, Yunli;Duan, Yuchen;Qin, Wenbo and Huang, Zhai

Publication Date: 2025

Journal: Medical Science Monitor

Abstract: BACKGROUND Acute kidney injury (AKI) is a critical complication following orthopedic surgery, yet patient-specific and perioperative non-surgical risk factors remain insufficiently characterized. We hypothesized that AKI is primarily influenced by pre-existing conditions interacting with perioperative stressors. This study aimed to evaluate AKI incidence and identify its clinical and laboratory predictors in post-orthopedic ICU patients. MATERIAL AND METHODS We conducted a retrospective cohort study using the Medical Information Mart for Intensive Care IV database (2008-2019), including 1791 orthopedic patients admitted to the ICU of a tertiary hospital in the United States. Multivariable logistic regression, Kaplan-Meier analysis, and ROC curves were used to assess risk factors and predictive performance. RESULTS AKI incidence was 71.0%. Kaplan-Meier analysis showed significantly worse survival in AKI patients compared with non-AKI patients. The AKI group had higher illness severity scores and longer ICU and hospital stays. Multivariate analysis identified 7 independent risk factors: weight (OR=1.03), ICU stay (OR=1.42), OASIS (OR=1.05), SOFA (OR=1.13), SAPS II (OR=1.03), and age (OR=1.02). ROC analysis showed SOFA score (AUC=0.764) and ICU stay (AUC=0.764) had the highest predictive value, followed by OASIS (AUC=0.707), SAPS II (AUC=0.709), and weight (AUC=0.635). Optimal thresholds were 3.5 points for SOFA (sensitivity=0.670, specificity=0.726) and 2.77 days for ICU stay (sensitivity=0.540, specificity=0.838). CONCLUSIONS AKI is common in postoperative orthopedic surgery ICU patients and associated with worse outcomes. Key predictors include illness severity, ICU stay length, and patient-specific factors. Early risk stratification may improve postoperative care and patient outcomes.

92. **The association between coding for chronic kidney disease and kidney replacement therapy incidence at CCG-level in England: an ecological study.**

Authors: Lindemann C.H.;Medcalf J.;Hollinshead J. and Nitsch, D.

Publication Date: 2025

Journal: BJGP Open

Abstract: Background: With ageing of the population, both prevalence of chronic kidney disease (CKD) and incidence of kidney replacement therapy (KRT) are rising. Existing research suggests that Read-coding for CKD in those affected is associated with better implementation of recommended care and fewer hospitalisations for heart failure. Aim(s): To investigate whether coding for CKD is associated with regional KRT incidence in England. Design & setting: This is an ecological study using the clinical commissioning groups (CCGs) in England as geographical units. Method(s): KRT incidence rates were calculated using UK Renal Registry (UKRR) data from January 2019-December 2021. Data on the percentage of uncoded CKD patients (PUCP), who had laboratory evidence of CKD but lacked a diagnostic code, were obtained from the CVDPREVENT Audit, a national audit that extracts routinely held GP data. Data on confounders and acute kidney injury (AKI) mortality as a marker for population frailty were obtained from CVDPREVENT and the UKRR, respectively. Poisson models assessed the association between PUCP and KRT incidence. Result(s): After adjusting, the PUCP was non-linearly associated with KRT incidence, with the CCGs in the lowest PUCP quintile having a lower KRT incidence than the others. There was evidence that this association was more pronounced in CCGs with high AKI mortality compared with CCGs with low AKI mortality. Conclusion(s): At the geographical level in England, the data suggest that the prevalence of not having formally diagnosed CKD is non-linearly associated with a higher KRT incidence rate, especially in areas with a high AKI mortality.

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93. **Association between serum potassium and 28-day mortality in elderly patients with sepsis: a multicenter cohort study.**

Authors: Liu X.;Lin Q.;Gao K.;Chen X.;Li S.;Zhu X.;Mou S.;Ni Z. and Jin, H.

Publication Date: 2025

Journal: BMC Geriatrics

Abstract: BACKGROUND: While dyskalemia is known to affect outcomes in critically ill patients, its specific impact on elderly septic patients remains unclear. Previous studies in general intensive care unit (ICU) populations have shown a U-shaped relationship between serum potassium and mortality, but this pattern may differ in elderly patients with sepsis. METHOD(S): This retrospective cohort study analyzed 12,069 patients aged >= 65 years with sepsis from 208 U.S. hospitals using the eICU Collaborative Research Database (2014-2015). Patients were categorized based on their admission serum potassium levels: hypokalemia (5.0 mmol/L). The primary outcome was 28-day mortality. RESULT(S): Among the cohort

(mean age 77.0 [7.6] years; 50.6% women), 16.4% had hypokalemia, 73.2% had normokalemia, and 10.4% had hyperkalemia. In contrast to the U-shaped relationship previously reported in general ICU populations, we observed a significant linear association between serum potassium and 28-day mortality (P = .001). In the unadjusted model, each 1 mmol/L increase in serum potassium was associated with 65% higher odds of mortality (OR, 1.65 [95% CI, 1.54-1.77]). This association was particularly pronounced in patients aged >= 80 years (OR, 1.79 [95% CI, 1.59-2.03]). After comprehensive adjustment for confounders, each 1 mmol/L increase in serum potassium was associated with 23% higher odds of mortality (adjusted OR, 1.23 [95% CI, 1.09-1.39]). Compared to normokalemia, hyperkalemia carried significantly higher mortality risk (adjusted OR, 1.45 [95% CI, 1.11-1.88]). CONCLUSION(S): Our findings challenge the established U-shaped paradigm by demonstrating a linear relationship between serum potassium and mortality in elderly septic patients. This suggests that traditional approaches to potassium management may need modification in this vulnerable population, with greater emphasis on preventing hyperkalemia. These results provide a foundation for developing age-specific potassium management strategies in sepsis care.

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94. **Correlation between stress-induced hyperglycemia and postoperative acute kidney injury in nondiabetic patients who underwent acute type A aortic dissection surgery: A retrospective observational study.**

Authors: Liu, Zhang and Huang, Weiqin

Publication Date: 2025

Journal: Journal of International Medical Research

Abstract: BackgroundAcute type A aortic dissection is more common in acute and severe cases, and hyperglycemia on admission is associated with the risk of adverse outcomes in acute myocardial infarction. However, the impact of admission hyperglycemia on postoperative outcomes in patients who underwent acute type A aortic dissection surgery remains unclear.ObjectiveTo assess the prognostic value of admission hyperglycemia for postoperative outcomes, particularly the development of acute kidney injury, in nondiabetic patients undergoing acute type A aortic dissection surgery. Methods This retrospective study included 322 nondiabetic patients who underwent acute type A aortic dissection surgery at Wuhan Asian Heart Hospital between October 2018 and March 2021. Results There was no significant difference in the incidence of postoperative death between the case and control groups. Sixty-nine patients developed postoperative acute kidney injury, and the incidence of postoperative acute kidney injury was significantly higher in the case group (29.2%) than in the control group (17.2%) (p = 0.012). Univariate analysis suggested statistically significant component differences in preoperative stress-induced hyperglycemia, systolic blood pressure, blood urea nitrogen, and intraoperative aortic cross-clamp time between the two groups. Further screening performed by including the above variables in a multifactorial analysis suggested that stress-induced hyperglycemia and systolic blood pressure might be independent risk factors for postoperative acute kidney injury. Conclusion This study suggests a correlation between preoperative stress-induced hyperglycemia and the incidence of postoperative acute kidney injury in nondiabetic patients who underwent acute type A aortic dissection surgery.

95. **Integrating Pre- and Postoperative Systemic Inflammatory Markers for Acute Kidney Injury Prediction Following Radical Cystectomy: A Multi-Center Retrospective Study.**

Authors: Liu, Zhongqi;Fan, Peng;Lu, Yanan;Cao, Minghui;Yao, Weifeng;Chen, Dongtai and Ji, Fengtao

Publication Date: 2025

Journal: Journal of Inflammation Research

Abstract: Purpose: The present study aimed to investigate the association of perioperative dynamic changes of systemic inflammation markers with AKI after radical cystectomy and their predictive value through machine learning algorithms. Patients and Methods: Patients undergoing radical cystectomy with urinary diversion for bladder cancer from 2013 to 2022 at three university-affiliated tertiary hospitals were gathered. Perioperative dynamic changes of systemic inflammatory markers were calculated based on peripheral blood cell counts from pre- and post-operative values and categorized using restricted cubic splines (RCS). The number of positive changes in these markers was recorded as the perioperative inflammation index. Multivariable logistic regression was utilized to identify risk factors for AKI after radical cystectomy. AKI prediction models were constructed through various supervised machine learning algorithms and evaluated by the area under the receiver operating characteristic curve (AUROC). Results: 727 patients were finally enrolled in the study, with 151 (20.8%) patients experiencing AKI following radical cystectomy. Postoperative hemoglobin (p = 0.003; OR, 0.977; 95% CI, 0.962-0.992), albumin level (p = 0.007; OR, 0.906; 95% CI, 0.843-0.974), intraoperative fluid infusion rate (p : 727 patients were finally enrolled in the study, with 151 (20.8%) patients experiencing AKI following radical cystectomy. Postoperative hemoglobin (p = 0.003; OR, 0.977; 95% CI, 0.962-0.992), albumin level (p = 0.007; OR, 0.906; 95% CI, 0.843-0.974), intraoperative fluid infusion rate (p : 727 patients were finally enrolled in the study, with 151 (20.8%) patients experiencing AKI following radical cystectomy. Postoperative hemoglobin (p = 0.003; OR, 0.977; 95% CI, 0.962-0.992), albumin level (p = 0.007; OR, 0.906; 95% CI, 0.843-0.974), intraoperative fluid infusion rate (p Conclusion: The association between perioperative dynamic changes of inflammatory markers and AKI after radical cystectomy reinforced the necessity of perioperative inflammatory evaluation. AKI predictive models, integrating perioperative metrics, enable early identification and optimize perioperative management for AKI prevention.

96. **Kinematic and dynamic analysis of walking dynamic balance stability in children with spastic cerebral palsy diplegia**

Authors: Ma, Tingting;Zhang, Qi;Zhou, Tiantian;Zhao, Hongbo;He, Yan;Feng, Tianyang;Yue, Qing;Li, Xiaosong and Zhang, Yanqing

Publication Date: 2025

Journal: Frontiers in Bioengineering and Biotechnology

Abstract: Competing Interests: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.; Objective: This study aims to compare biomechanical features during walking between children with spastic cerebral palsy (SCP) and typically developing children, providing evidence to improve walking ability and prevent falls in children with SCP.; Methods: The study included 28 children with SCP from the paediatric physiotherapy department of the China Rehabilitation Research Centre (March 2023 to September 2024) and 28 typically developing children from a Beijing primary school as controls. Participants wore tight-fitting clothing to ensure clear visibility of reflective markers. A Vicon 3D motion capture system and AMTI force plates were used to collect data on temporal-spatial parameters, dynamic balance and kinematic parameters during gait cycles. Measurements included walking speed; step frequency, width and length; single-foot support time; peak displacements of the centre of mass (COM) and the centre of pressure; and joint angles of the pelvis, hip, knee and ankle in multiple planes.; Results: Children with SCP showed significantly lower values in walking speed, stride length, step length and single-foot support time than the controls ($P < 0.05$). Conversely, cadence, stride time and double support time were higher in children with SCP than in the controls. Children with SCP showed greater peak COM displacement in the coronal plane but lower in the sagittal plane than the controls ($P < 0.05$). Significant differences were found in the range of motion of left lower extremity joints across various phases of the gait cycle ($P < 0.05$).; Conclusion: Children with SCP exhibit distinct gait patterns and dynamic balance challenges compared with their typically developing peers, underscoring the importance of personalised rehabilitation treatments to enhance their walking abilities and prevent falls.; Clinical Trial Number: ChiCTR2300071226.

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97. **Factors associated with acute kidney injury in hospitalized elderly: an integrative review.**

Authors: Maciel C.G.;de Vasconcelos E.M.R.;Cavalcanti B.R.V.D.S.;Lins E.N.P. and Borba, A. K. O. T.

Publication Date: 2025

Journal: Ciencia E Saude Coletiva 30(Supplement 2)

Abstract: The scope of this study was to identify factors associated with acute kidney injury (AKI) in hospitalized elderly people. An integrative review was carried out in the PubMed, LILACS, Web of Science, Embase and Scopus databases, with no time or language

restrictions, using the search key "Aged" or "Aged, 80 and over" and "Acute Kidney Injury" and "Hospitalization". A total of 20 articles were selected to make up the final sample, after applying the eligibility criteria. Cohort (n=18) and case-control (n=2) studies with level of evidence IV were predominant. Factors associated with acute kidney injury in hospitalized elderly people included male gender, age group between 70 and 80 years, systemic arterial hypertension, cardiovascular disease/heart failure, estimated blood loss/major bleeding, peri--procedural blood transfusion, estimated glomerular filtration rate

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98. **Tailored hemodynamic management of sepsis in a medical high dependency unit: a case report.**

Authors: Maggi M.;Turcato G.;Zaboli A.;Filippi L.;Lucente F.;Milazzo D. and Wiedermann, C. J.

Publication Date: 2025

Journal: Recenti Progressi in Medicina

Abstract: Sepsis remains a leading cause of in-hospital mortality, requiring rapid intervention and patient-tailored treatment strategies. We report the case of a 70-year-old woman with E. coli pyelonephritis presenting with septic shock. She was admitted to a medical High Dependency Unit (HDU) and managed using non-invasive hemodynamic monitoring with NICaS and bedside ultrasound (POCUS). Treatment was adapted in real time, including targeted fluid resuscitation, vasopressors, and inotropes, with patient improvement and stabilization. This case highlights how integrated non-invasive tools can guide sepsis management within HDUs, supporting the role of intermediate care units in national strategies for acute care system reform and resource optimization.

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99. **Corticosteroids in sepsis**

Authors: Mahmoud, Jihene;Bovy, Marie Alice;Heming, Nicholas and Annane, Djillali

Publication Date: 2025

Journal: Journal of Intensive Medicine

Abstract: Sepsis is a major health and socioeconomic burden worldwide. Although international guidelines have helped reduce crude mortality rates from sepsis by optimizing infection control and support of vital organ function, there are still no specific therapies for sepsis, other than corticosteroids. The aims of this narrative review were to provide readers with the most recent data on corticosteroids, as well as up-to-date evidence regarding their effects in patients with sepsis. Corticosteroids regulate the function of most cell types involved in host response to infections, through both genomic and non-genomic effects, reprogramming immune cells (via regulation of mitochondrial metabolism) toward anti-inflammatory types, restoring endothelial cell function and endothelium integrity, facilitating epithelium repair, and restoring vascular smooth muscle function, as well as organ perfusion. In patients with sepsis, these effects are achieved using supraphysiological doses of corticosteroids, equating to

approximately 200 mg/day of hydrocortisone equivalent for 5-15 days, depending on the clinical context. The molecular and cellular effects of corticosteroids translate into prevention and reversal of the need for vasopressor, respiratory, and renal supportive therapies, as well as acceleration of organ function resolution, shorter intensive care unit (ICU) and hospital stays, and improved short- and mid-term survival. Remaining gaps in knowledge and evidence to inform practice include insufficient data about the effects of corticosteroids in children, a lack of reliable biomarkers to distinguish those patients who can benefit from treatment, and inadequate information about the effects of corticosteroids on the long-term sequelae of sepsis.

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100. **Perioperative acute kidney injury: current prevention, detection, and management strategies.**

Authors: Mangano N.;Nguyen N.;Davis M.;Key B.;Feit A. and Bergese, S. D.

Publication Date: 2025

Journal: Journal of Anesthesia

Abstract: Acute kidney injury (AKI) is a common and serious perioperative complication with several diverse etiologies. Elderly surgical patients are particularly vulnerable, experiencing higher rates of AKI and suffering worse outcomes, including multiorgan dysfunction, elevated mortality rates, and a heightened risk of developing chronic kidney disease (CKD) or end-stage renal disease (ESRD). AKI also imposes a significant economic burden, increasing healthcare costs due to prolonged hospitalizations and increased resource utilization. Given the limited treatment options for AKI, prevention is paramount. This involves identifying and optimizing modifiable patient, surgical, and anesthetic risk factors, implementing evidence-based care bundles in high-risk patients, avoiding potential causes of kidney insult, and employing novel preventive strategies such as remote-ischemic preconditioning. Early diagnosis is crucial when prevention fails, allowing timely intervention before irreversible kidney damage occurs. Novel diagnostic tools show promise in improving the accuracy and timeliness of AKI detection, facilitating prompt management. While renal-replacement therapy (RRT) remains the only definitive treatment for AKI, more refined criteria for its initiation are needed to enhance its delivery and improve patient outcomes.

101. **Scaling success: parental perceptions of the benefits of a 20-week football living-lab approach for children living with cerebral palsy.**

Authors: Martins, Ricardo;Pattison, Will;Vella, Lara;Postlethwaite, Ruth;Broom, David;Africa, Eileen and Duncan, Michael

Publication Date: 2025

Journal: BMJ Paediatrics Open

Abstract: BackgroundLiving-lab approaches have effectively connected academic research with community needs but have not yet been applied to promote physical activity for children with cerebral palsy (CP). This study evaluated a 20-week football-based living-lab programme for children aged 5-10 years with CP, grounded in the principles of Football is Medicine and physical literacy. METHODS: A qualitative design was employed, involving seven one-to-one semistructured interviews with parents or legal guardians of programme participants. A deductive thematic analysis was conducted, and pen profile diagrams were developed to represent key themes related to physical literacy outcomes. RESULTS: Parents reported benefits across multiple dimensions of their children's physical literacy, including improved competence, confidence, motivation and enjoyment. All parents observed enhanced social interaction. Six described the sessions as inclusive and community-oriented, while five felt the programme was personalised to their child's needs. Three parents perceived the football activities as complementary to physical therapy, supporting physical rehabilitation. Participation also enabled parents to exchange strategies and engage more meaningfully in their child's well-being. CONCLUSION: The football-based living-lab supported the holistic development of children with CP, enhancing physical, psychological and social domains of physical literacy. Parental involvement further reinforced perceived therapeutic and community benefits.

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102. **Mobility device use in children with cerebral palsy.**

Authors: Maus E.;Reader B. and Heathcock, J. C.

Publication Date: 2025

Journal: Developmental Medicine and Child Neurology

Abstract: Aims: To quantify the number and types of mobility devices used by children with cerebral palsy (CP) and explore the relationships between Gross Motor Functional Classification System (GMFCS) level, age, insurance, income, and number and types of devices. Method(s): This was a secondary analysis of a cohort from a larger randomized controlled trial. Data from 89 children with CP (56.2% male and 43.8% female; mean = 4 years 11 months; SD = 2 years 0 months; range 2 years 0 months-8 years 10 months) were collected from electronic medical records, parent-completed medical history questionnaires, and the Hollingshead Four-Factor Index. The analysis included quasi-Poisson and logistical regressions. Result(s): Most children had Medicaid insurance (83.2%). All income and GMFCS levels were represented. The most common mobility devices were lower-extremity orthoses

(75.3%). The number of devices used increased by 8.2% for each 1-year increase in age. Children classified in GMFCS level V used 5.1, 2.9, and 1.6 times more mobility devices than children classified in GMFCS levels I, II, and III respectively. GMFCS level also predicted the use of wheelchairs, bath chairs, and standers. Income and insurance were not significant. Interpretation(s): Children used more devices as age and GMFCS level increased. Device access is an important public health initiative.

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103. **Mostly Mothers, Many Others: Comparing Caregiver Attendance and Missed Treatment Hours in Pediatric Physical Therapy for Children With Cerebral Palsy**

Authors: Maus, Elizabeth;Sansuchat, Lee Ann;Tripathi, Tanya and Heathcock, Jill C.

Publication Date: 2025

Journal: Physical Therapy
Abstract: Importance: Cerebral palsy is a prevalent childhood motor disability which necessitates frequent outpatient physical therapy. Medical appointments can be time-consuming and burdensome for families and attendance rates for outpatient pediatric physical therapist visits are seldom reported.; Objective: This study investigates the number and types of caregivers that attend physical therapy sessions with the child and factors influencing attendance.Design: The study is a secondary analysis of a randomized controlled pragmatic clinical trial.; Setting: Intervention occurred in an outpatient hospital-based pediatric clinic.; Participants: The study included 90 children ages 2 to 8 years old with cerebral palsy enrolled in a randomized controlled pragmatic clinical trial (NCT02897024).; Intervention: The study compared two physical therapy schedules, weekly and intensive, both with a total dose of 40 treatment hours. The weekly group received one 1-hour visit per week for 40 weeks. The intensive group repeated 2 bouts of 2-hour visits, 5 days per week for 2 weeks (20 hours, 4-month break, 20 hours). Both groups received 40 hours of physical therapy.; Main Outcomes and Measures: The primary outcomes were 1) number of caregivers accompanying the child to visits throughout the 40-week episode of care; and 2) number of missed treatment hours. Clinic location and accompanying caregiver(s) were collected from the electronic medical record. Prior to treatment, parents self-reported home zip code and income as part of the Hollingshead Four-Factor Socioeconomic Status as well as concurrent school-based therapy. Travel distance was calculated using home zip code and clinic location.; Results: Forty combinations of caregivers accompanied n = 90 children to 1953 treatment sessions. The most common caregivers in attendance were the mother (70.5%) and father (15.0%). A non-parent attended 15.5% of sessions. The number of caregivers, travel distance, income, and concurrent school-based therapy were not significantly related to missed treatment hours. The intensive group missed significantly fewer treatment hours compared to the weekly group.; Conclusions: The findings highlight the heterogeneity of caregivers attending physical therapist visits and that responsibility primarily falls to mothers. Treatment schedule influenced attendance patterns while number of caregivers involved, distance traveled, household income, and concurrent therapies did not.; Relevance: Attendance rates are an important metric for clinics and clinicians. Offering choices of treatment schedules may improve attendance rates. Future research could prospectively investigate caregiver scheduling preferences and their influence on attendance to outpatient pediatric physical therapy. (© 2025 American Physical Therapy Association. All rights reserved. For commercial re-use, please

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104. **Exploring stakeholder perspectives on antipsychotic use for challenging behaviours in intellectual disabilities using a World Café approach**

Authors: McCool, Aoibhin;Brar, Gurjot;Doody, Owen;Sharma, Drona;Kehoe, Marie and Kelly, Dervla

Publication Date: 2025

Journal: Journal of Intellectual & Developmental Disability

Abstract: Aims: Adults with intellectual disability frequently experience challenging behaviours and are prescribed antipsychotics (AP). Management of challenging behaviours remains controversial and AP use is often based on low-quality evidence. Our study explores the development of educational resources with healthcare workers and paid carers regarding the use of AP. Method: A mixed-methods approach utilised a "World Café Event". Thematic analysis and descriptive analysis were conducted. Results: Participants reported the importance of training that explores the balancing of the risks and benefits of AP use and the setting of a pluralistic approach towards treatment. We identified the need for further education of caregivers to improve confidence in AP prescribing to facilitate correct protocols and dose tapering where possible. Clinical implications: Engaging mixed disciplines to discuss medication safety is feasible using a World Café approach and useful to create shared values, identify knowledge gaps and promote change via a social movement.

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105. **Analysis of Pulmonary Functions in Pediatrics With Spastic Cerebral Palsy: A Pediatric Innovative Study.**

Authors: Mehrem E.S.;Kamel R.M.;Sallam M.A.;Shabana M.;Salem S.;Gad Allah M.A. and Yassin, O.

Publication Date: 2025

Journal: Journal of Pediatrics Review

Abstract: Background: Cerebral palsy (CP) is a non-progressive developmental condition that impacts movement and posture. It results from damage to the developing brain and can lead to various motor impairments that limit physical activities. Children with CP may experience respiratory issues, including limited chest wall movement and weakened respiratory muscles, which can cause inadequate alveolar ventilation, difficulty clearing airways, and shortness of breath. Objective(s): This study aimed to evaluate the pulmonary function of children with CP. Additionally, it sought to investigate differences in lung function based on the distribution of paralysis. Method(s): Sixteen children of both genders, aged 3 to 16 years, diagnosed with CP, participated in the study. They were selected from the Pediatric Rehabilitation Center. The

outcomes were assessed using Geratherm Respiratory Blue Cherry software to measure vital capacity (VC), forced expired volume in one second (FEV1), FEV1/FVC, FEV1/VC, and peak expiratory flow (PEF), providing objective information for monitoring lung health. Result(s): An unpaired t-test indicated that there was a significant difference between children with CP and their normative values in terms of VC, FEV1, and PEF, with P of 0.038, 0.044, and 0.00125, respectively. However, there was no significant difference between the groups in terms of FEV1/FVC and FEV1/VC, with P of 0.066 and 0.076, respectively. Regarding PEF, there was a statistically significant difference between patients with diaplegia and normative values for the same age and sex (0.005). In terms of VC and FEV1/VC, the pairwise comparisons revealed statistically significant differences between patients with diplegia and normative values for the same age and sex (P=0.01 and P=0.002, respectively). Conclusion(s): Children with CP exhibit poor PEF and respiratory muscle weakness.

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106. **Fragile balance: Managing bone health in people with intellectual disability and epilepsy, an english multi-site study**

Authors: Menon, Rachel;Young, Charlotte;Dale, Madeline;Allen, Matthew;McCabe, Joanne;Badger, Sarah;Appleyard, Myles;Mousailidis, Georgios;Newman, Rachel;Jory, Caryn;Hammett, Joanne;Swift, Abigail;Jones, Coryn;Sawhney, Indermeet;Winterhalder, Robert;Watkins, Lance and Shankar, Rohit

Publication Date: 2025

Journal: Seizure

Abstract: Competing Interests: Conflicts of interest LW has received honoraria from UCB and Veriton Pharma for work outside of this project. RS has received institutional research, travel support and/or honorarium for talks and expert advisory boards from LivaNova, UCB, Eisai, Veriton Pharma, Bial, Angelini, UnEEG and Jazz/GW pharma outside the submitted work. He holds or has held competitive grants from various national grant bodies including Innovate, Economic and Social Research Council (ESRC), Engineering and Physical Sciences Research Council (ESPRC), National Institute of Health Research (NIHR), NHS Small Business Research Initiative (SBRI) and other funding bodies including charities all outside this work. No other author has any declared conflict of interest.; Background: People with intellectual disability (ID) experience poorer health outcomes than the general population, with epilepsy and polypharmacy contributing to further risks. Bone health is a neglected area, despite the established association between antiseizure medications (ASMs), (especially those cautioned by the UK Medicines and Healthcare products Regulatory Agency (MHRA)), and reduced bone mineral density. We aimed to evaluate prescribing practices, fracture risk, and bone health management in adults with ID and epilepsy attending specialist ID services.; Methods: A cross-sectional study was conducted across three English specialist ID epilepsy services between August 2021-August 2022. Data were collected from case-note review, including ASM prescribing, falls and fracture history, bone health monitoring, and protective treatments. Descriptive statistics, Chi-squared and Mann-Whitney U tests were conducted. Logistic regression was used to examine associations between ASM use and fracture risk.; Results: Of 484 adults analysed almost all (97%) were prescribed ≥1 ASM, with 18% receiving four or more and 63% receiving at least one MHRA-cautioned ASM. Over 25% on MHRA-

cautioned ASMs had a history of fractures, yet 38% received no bone-protective treatment. Patients with severe-profound ID were prescribed significantly more ASMs than those with mild-moderate ID. Each additional ASM increased fracture risk by 37%, and each additional MHRA-cautioned ASM by 43%.; Conclusions: Adults with ID and epilepsy are frequently exposed to polypharmacy, including bone health-compromising ASMs, yet bone health monitoring and treatment remain suboptimal. Targeted strategies and ID-specific guidance are urgently required to reduce fracture risk and improve outcomes in this vulnerable group.

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107. **Effects of Virtual Reality Use on Children with Cerebral Palsy and Its Applications in Health: A Systematic Review**

Authors: Mesa-Burbano, Angie Estefania;Fernandez-Polo, Maria Alejandra;Hurtado-Sanchez, John Steven;Betancur-Bedoya, Silvia Patricia;Quiguanas-Lopez, Diana Maritza and Ordonez-Mora, Leidy Tatiana

Publication Date: 2025

Journal: Healthcare
Abstract: Background/Objectives: This study evaluated the effects of virtual reality (VR) on functionality, quality of life, and motivation in children with cerebral palsy (CP). Methods: The systematic review was registered in PROSPERO (CRD42022321170) and conducted using the keywords physical therapy OR physiotherapy AND "Virtual Reality". Studies were screened based on title, abstract, and full-text review. The PEDro scale was used to assess methodological quality, and the GRADE system was applied to determine the level of certainty of the evidence. Results: A total of 10 studies showed improvements in balance, 6 in gross motor function, and 8 in upper limb coordination. Additional gains were found in daily functioning (6), gait (4), motivation (3), and spasticity (1-2). Overall, virtual reality enhanced motor abilities and engagement compared with conventional therapy, underscoring its value as a playful and motivating tool in rehabilitation. All outcome measures showed positive changes, particularly in functionality and quality of life. The primary outcomes with the most favorable responses to intervention were gross motor function and balance, followed by motivation and adherence. However, the generalities of the findings are limited due to variabilities in outcome reporting and measurement tools. Conclusions: The findings indicated clinical improvements in key outcome measures following VR interventions. Nonetheless, there were significant variabilities in the evaluation instruments used across studies. Despite this, the clinical evidence supported the integration of VR into neurorehabilitation processes for children with CP.

108. **A Systematic Review of the Stigma Experienced by People with Autism Spectrum Disorder Associated with Intellectual Disabilities and by Their Family Caregivers**

Authors: Meulien, Clara and Baghdadli, Amaria

Publication Date: 2025

Journal: Journal of Autism & Developmental Disorders

Abstract: The purpose of this paper was to explore the social stigma experienced by individuals diagnosed with ASD+ID, and to identify knowledge gaps for future studies by conducting a systematic review of peer-reviewed literature. In this systematic review, we included 12 studies exploring the experience of stigma among people with ASD+ID and/or their caregivers. Our aim was to better understand this experience, but also to explore the strategies used to cope with stigma in this population. Our results confirmed that people with ASD+ID and their caregivers experience at least low to moderate levels of stigma, and that this experience is modulated by internal and external factors (such as parental age, mindfulness traits, ASD symptoms...). In addition, our results show the impact of stigma on community integration, psychological well-being and help-seeking behaviour. The role of family, friends and professional support, as well as the formation of networks to share information, appear in our results to be protective factors against stigma. To our knowledge, this study is the first systematic review to examine the stigmatisation of people with ASD+ID and/or their caregivers. Further research is needed to understand the perspective of people with ASD+ID themselves and to explore other factors that modulate this experience, in particular gender and ethnicity.

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109. **Critical care nephrology: opportunities for implementing green practices**

Authors: Molano-Trivino, Alejandra;Rizo-Topete, Lilia Maria;Zuniga, Eduardo;Castellanos-De la Hoz, Juan Camilo and Karopadi, Akash Nayak

Publication Date: 2025

Journal: Frontiers in Medicine

Abstract: The intersection between climate change, healthcare, and nephrology is becoming increasingly evident. Globally, healthcare systems contribute approximately 4.4% of greenhouse gas emissions, with intensive care units (ICUs) representing some of the most resource-intensive hospital areas. Within this environment, critical care nephrology plays a central role, particularly in managing acute kidney injury (AKI) and delivering renal replacement therapies (RRT) such as hemodialysis, continuous renal replacement therapy (CRRT), and peritoneal dialysis. Nephrology interventions in the ICU, while life-saving, are associated with high environmental costs, including significant water consumption, energy use, and the production of large volumes of medical waste For instance, a single hemodialysis session can consume over 500 liters of water, while CRRT in critically ill patients may require 10 to 15 large plastic bags daily, most of which are incinerated as hazardous waste Nephrology has pioneered "Green Nephrology" initiatives focused on reducing the ecological

footprint of chronic dialysis through water reuse, optimized dialysis fluid flows, and material recycling (8, 11), however, similar structured strategies for sustainability within critical care nephrology remain underdeveloped. This article explores the environmental challenges of nephrology practice in ICUs, highlights existing gaps, and proposes opportunities, including artificial intelligence (AI) to promote sustainable, high-quality kidney care for critically ill patients.

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110. **Associations Between Nurse Staffing Levels and 30- and 60-Day Readmissions for Acute Care Patients With Intellectual and Developmental Disability**

Authors: Moronski, Lynne S.;Lake, Eileen T. and McHugh, Matthew D.

Publication Date: 2025

Journal: Research in Nursing & Health

Abstract: The purpose of this study was to examine the association between hospital nurse staffing levels and 30- and 60-day readmissions among patients with intellectual and/or developmental disabilities (IDD). This cross-sectional correlational study utilized secondary data from 595 acute care, nonfederal hospitals in California, Florida, New Jersey, and Pennsylvania in 2016. Data were obtained from three sources: the American Hospital Association Annual Survey, the RN4CAST-US nurse survey, and state patient hospital discharge summaries. The analytic sample included 39,558 hospital stays for 28,446 adults with IDD aged 18 and older who were discharged alive. In adjusted models, every additional patient added to a nurse's workload was associated with 7% higher odds of 30-day readmission OR = 1.07 (95% CI 1.03, 1.12], p = 0.001) and 9% higher odds of 60-day readmission OR = 1.09 (95% CI 1.04, 1.13], p < 0.001) among patients with IDD. The average nurse staffing level across hospitals was 4.7 patients per nurse (SD = 0.99). Staffing levels varied by hospital characteristics, with large hospitals, major teaching hospitals, and hospitals in California having better staffing ratios. The study population had a 30-day readmission rate of 17.1%, which is 27% higher than the average adult hospital 30-day readmission rate in the US in 2018. This study demonstrates the association of nurse staffing levels with readmission odds for patients with IDD. Improving nurse staffing levels is a system-based solution that can potentially improve outcomes for patients with IDD, who often require intensive nursing care.

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111. **Effect of Upper-Extremity Constraint-Induced Movement Therapy on Gross Motor Outcomes in Children with Cerebral Palsy: Systematic Review**

Authors: Morsy, Sally;Dodds, Cindy and Brinton, Daniel L.

Publication Date: 2025

Journal: Physical & Occupational Therapy in Pediatrics

Abstract: Aims: This study aimed to evaluate the impact of upper-extremity constraint-induced movement therapy (UE-CIMT) on gross motor skills, postural control, and lower extremity

function in children with hemiplegic cerebral palsy (CP). Methods: The electronic databases PubMed, CINAHL, Scopus, and Ovid were searched for eligible articles using the following keywords: "cerebral palsy," "children," "CIMT," "gross motor skills," "postural control," "balance," and "gait." Quality assessment of eligible studies was performed using the PEDro scale. Results: Out of 919 identified papers, nine met the inclusion criteria. Findings suggest potential benefits in improving gross motor skills, postural control, and lower extremity function, as shown by measures such as the Gross Motor Function Measure (GMFM), the Peabody Developmental Motor Scales (PDMS-2), and gait parameters. However, methodological heterogeneity limits the strength of evidence. Conclusion: While CIMT primarily targets UE function, emerging evidence suggests its influence may extend to gross motor skills. This highlights the potential for UE-CIMT to support broader motor improvements beyond the targeted limb. However, the quality of existing evidence is limited due to methodological weaknesses, small sample sizes, and variability in study design. Well-designed trials are needed to validate these findings and contribute to holistic rehabilitation approaches optimizing interventions for children with CP.

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112. **Frequency of acute kidney injury in post-liver transplantation and associated factors: a systematic review.**

Authors: Moura A.F.;Costa A.L.;Evangelista M.T.C.;Guimaraes A.C.L.;Freitas A.G.;Vinhaes G.P.C.;Fernandes M.E.S.M.P.;MouraLandim D.Q.;MouraNeto J.A. and Cruz, C. M. S.

Publication Date: 2025

Journal: Jornal Brasileiro De Nefrologia

Abstract: INTRODUCTION: Acute kidney injury (AKI) is a common complication following liver transplantation (LT). It is associated with factors such as perioperative hemodynamic instability, prolonged surgery, and use of nephrotoxic immunosuppressants, contributing to increased mortality, graft failure, and extended hospital stay. METHOD(S): A systematic search of the databases PubMed, Embase, and the Cochrane Central Register of Controlled Trials was conducted to identify observational studies with samples of at least 50 patients aged 18 years or older who underwent LT and analyzed AKI incidence post-procedure and assess long-term renal outcomes. RESULT(S): A total of 30 studies with a total of 13,653 patients were included. The incidence of AKI post-LT was 46% (95% CI: 45%-47%), with significant variation across studies (24% to 84%) and high heterogeneity (I2 = 97%, p RESULT(S): A total of 30 studies with a total of 13,653 patients were included. The incidence of AKI post-LT was 46% (95% CI: 45%-47%), with significant variation across studies (24% to 84%) and high heterogeneity (I2 = 97%, p RESULT(S): A total of 30 studies with a total of 13,653 patients were included. The incidence of AKI post-LT was 46% (95% CI: 45%-47%), with significant variation across studies (24% to 84%) and high heterogeneity (I2 = 97%, p CONCLUSION(S): AKI and dialysis requirements are frequent complications following LT. Multiple risk factors, including HTN, diabetes, and prolonged hospitalization, are associated with an increased risk of AKI post-LT. The high incidence of AKI underscores the importance of early identification of at-risk patients and multidisciplinary approaches to improve outcomes.

113. **Frequency of acute kidney injury in post-liver transplantation and associated factors: a systematic review.**

Authors: Moura, Ana Flavia;Costa, Alessandra Lima;Evangelista, Maria Theresa Correa;Guimaraes, Ana Clara de Lemos;Freitas, Arthur Guimaraes de;Vinhaes, Gabriel Pla Cid;Fernandes, Maria Eduarda Serravalle Mata Pires;Moura-Landim, Daniela de Queiroz;Moura-Neto, Jose A. and Cruz, Constanca Margarida Sampaio

Publication Date: 2025

Journal: Jornal Brasileiro De Nefrologia

Abstract: INTRODUCTION: Acute kidney injury (AKI) is a common complication following liver transplantation (LT). It is associated with factors such as perioperative hemodynamic instability, prolonged surgery, and use of nephrotoxic immunosuppressants, contributing to increased mortality, graft failure, and extended hospital stay. METHODS: A systematic search of the databases PubMed, Embase, and the Cochrane Central Register of Controlled Trials was conducted to identify observational studies with samples of at least 50 patients aged 18 years or older who underwent LT and analyzed AKI incidence post-procedure and assess long-term renal outcomes. RESULTS: A total of 30 studies with a total of 13,653 patients were included. The incidence of AKI post-LT was 46% (95% CI: 45%-47%), with significant variation across studies (24% to 84%) and high heterogeneity (I2 = 97%, p : A total of 30 studies with a total of 13,653 patients were included. The incidence of AKI post-LT was 46% (95% CI: 45%-47%), with significant variation across studies (24% to 84%) and high heterogeneity (I2 = 97%, p : A total of 30 studies with a total of 13,653 patients were included. The incidence of AKI post-LT was 46% (95% CI: 45%-47%), with significant variation across studies (24% to 84%) and high heterogeneity (I2 = 97%, p CONCLUSION: AKI and dialysis requirements are frequent complications following LT. Multiple risk factors, including HTN, diabetes, and prolonged hospitalization, are associated with an increased risk of AKI post-LT. The high incidence of AKI underscores the importance of early identification of at-risk patients and multidisciplinary approaches to improve outcomes.

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114. **Energy drink-induced acute kidney injury: a case report and review of the literature.**

Authors: Murt, A.

Publication Date: 2025

Journal: Journal of Medical Case Reports

Abstract: Background: Nephrotoxic insults are among the most common causes of acute kidney injuries. The offending drug or agent should be defined swiftly and must be stopped. In some situations, the culprit agent may not be obvious. Energy drink consumption has reportedly increased in recent years, with ads claiming that energy drinks strengthen physical and mental performance. However, when consumed in uncontrolled amounts, they may have

negative effects on health. An energy drink-induced acute kidney injury is reported in this case presentation. There have been only four similar cases in the literature. Case presentation: A 21-year-old male patient of Turkish origin applied to the emergency department with nausea, vomiting, and malaise. He was admitted, because the laboratory values revealed that he had stage 3 acute kidney injury. He did not have any medical or surgical histories. He did not use any drugs, but he stated that he has consumed 2 L of an energy drink product per day for the past month. Differential diagnosis work-up pointed to an energy drink-induced acute kidney injury. His serum creatinine increased to a level as high as 10.32 mg/dL, but he did not need any renal replacement therapy. Creatinine levels normalized in about 2 weeks after withholding energy drinks. Conclusion(s): Depending on their content and consumption amount, energy drinks may cause acute kidney injury. There have been four previous cases in the literature and they were reviewed for a comparison with this case.Copyright © The Author(s) 2025.

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115. **Role of procalcitonin in identifying systemic inflammatory response syndrome and sepsis in acute-on-chronic liver failure and its impact on survival.**

Authors: Nedunchezhian S.;Shetty A.;Bhat G.;Shetty S.;Musunuri B.;Pai C.G. and Rajpurohit, S.

Publication Date: 2025

Journal: BMC Gastroenterology

Abstract: Background: Systemic inflammatory response syndrome (SIRS) and sepsis are commonly observed in patients with acute-on-chronic liver failure (ACLF). This study aimed to identify the presence of SIRS and sepsis in ACLF patients to assess their impact on patient survival and the role of procalcitonin (PCT) in identifying SIRS and sepsis. Methodology: This prospective study was performed at a tertiary hospital in India from August 2023 to August 2024. Patients with ACLF according to the APASL classification were included in the study. These patients were assessed for the presence or absence of SIRS or sepsis at baseline and monitored until day 7, and clinical outcome was evaluated on day 28. Result(s): A total of 135 patients with a median age of 44 years (IQR: 38-51) and a male predominance (98.5%, 133/135) were included in the study. Alcohol was the primary cause of ACLF in 88.1% of patients. Among these patients, SIRS was present in 59.2% of patients, while sepsis was present in 42.2%. Patients with SIRS and sepsis had significantly higher median MELD-Na, AARC, and CLIF-SOFA scores than those without SIRS and sepsis (p Result(s): A total of 135 patients with a median age of 44 years (IQR: 38-51) and a male predominance (98.5%, 133/135) were included in the study. Alcohol was the primary cause of ACLF in 88.1% of patients. Among these patients, SIRS was present in 59.2% of patients, while sepsis was present in 42.2%. Patients with SIRS and sepsis had significantly higher median MELD-Na, AARC, and CLIF-SOFA scores than those without SIRS and sepsis (p Result(s): A total of 135 patients with a median age of 44 years (IQR: 38-51) and a male predominance (98.5%, 133/135) were included in the study. Alcohol was the primary cause of ACLF in 88.1% of patients. Among these patients, SIRS was present in 59.2% of patients, while sepsis was present in 42.2%. Patients with SIRS and sepsis had significantly higher median MELD-Na, AARC, and CLIF-SOFA scores than those without SIRS and sepsis (p Conclusion(s): Sepsis

and SIRS are common in ACLF patients and carry a high mortality risk. PCT measurement may be used to detect SIRS and sepsis in these patients early and can be used to guide prompt intervention to improve the outcome of these patients.Copyright © The Author(s) 2025.

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116. **The role of osteopathic manipulative medicine in cerebral palsy: bridging treatment gaps and enhancing care.**

Authors: Ngo A.L.;Gharavi Alkhansari N.;Tadakamalla R.;Hess M.;Nguyen U.T.;Yazji J. and Rogers, R. S.

Publication Date: 2025

Journal: Journal of Osteopathic Medicine

Abstract: Osteopathic manipulative medicine (OMM) is a hands-on approach utilized by physicians to diagnose, treat, and prevent various conditions through the application of muscle manipulation techniques. It has been applied in managing chronic musculoskeletal (MSK) pain, headaches, migraines, Parkinsonian gait, and psychological conditions such as stress, anxiety, and depression. In our narrative review, we aim to integrate both direct clinical studies of OMM in cerebral palsy (CP) and supportive literature on mechanisms and related conditions. A comprehensive literature search was conducted utilizing PubMed and Google Scholar to identify relevant studies on OMM in CP management. Search strategies were intentionally broad to capture mechanistic, supportive, and clinical evidence. Representative terms included "osteopathic manipulative medicine and cerebral palsy," "osteopathic treatment and neurological disorders," and "manual therapy and cerebral palsy." Additionally, reference lists of relevant articles were manually reviewed to identify additional studies. Overall, we found that integrating OMM into CP management may offer a noninvasive approach to improving MSK function and neuromuscular control while alleviating the emotional and physical challenges, as well as increasing movement to reduce joint contractures associated with the condition. OMM techniques may also help reduce stress, anxiety, and constipation, which are prevalent among CP patients due to the psychological and physiological burdens of the disorder. OMM's holistic approach has the potential to enhance outcomes for individuals with CP by addressing their multifaceted needs. While further research and advocacy are necessary to fully integrate OMM into mainstream CP management, existing evidence suggests that OMM may improve patient outcomes and quality of life. However, the current evidence has remained somewhat limited. Copyright © 2025 the author(s), published by De Gruyter, Berlin/Boston.

117. **Specialist Psychiatric Bed Utilisation by People With Intellectual Disabilities and Autistic People: A Time-Series Analysis Using the English Assuring Transformation Dataset**

Authors: Nisar, Atiyya;Thompson, Paul A.;Boer, Harm;Al-Delfi, Haider and Langdon, Peter E.

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Using nationally available anonymised and aggregated English data, we examined specialist and nonspecialist psychiatric bed utilisation by people with intellectual disabilities and/or autism. Methods: Using data about specialist psychiatric bed utilisation from the Assuring Transformation Dataset, from March 2015 to January 2024, we applied linear regression (with moving average or autoregressive errors) to explore the relationships between a set of outcome variables (e.g., number of inpatients and length of stay) and a set of sociodemographic, clinical and service-related predictor variables (e.g., age, ethnicity, admission source, legal status, admission source, discharge destination, Care (Education) and Treatment Reviews) over time. Comparisons were made with data from the Mental Health Services Data Set about nonspecialist psychiatric bed utilisation. Results: Over time, there was an average reduction of 8.07 inpatients per month. This reduction was due to a reduction in the number with a length of stay longer than 2 years, and fewer inpatients with intellectual disabilities without autism over time, rather than fewer autistic inpatients without intellectual disabilities; instead, the number of autistic inpatients increased by 6.02 per month. However, overall, there were fewer inpatients in specialist psychiatric beds than in nonspecialist beds by an average of 877 patients, and the number in specialist beds reduced faster than the number in nonspecialist beds over time. We found that more hospital spells were associated with more inpatients older than 18, more detentions under Part III of the Mental Health Act, more inpatients not known to the local authority, and an increased number of White inpatients. More admissions were associated with fewer discharges, while those with a hospital stay longer than 2 years were less likely to have had a postadmission Care (Education) and Treatment Reviews and were more likely to use advocacy. Conclusions: The number of inpatients with intellectual disabilities in specialist psychiatric beds continues to decline over time, while the number of autistic inpatients without intellectual disabilities is increasing. Future research should utilise participant-level data to explore patient long-term trajectories.

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118. **Factors Affecting Psychiatric Bed Utilisation by People With Intellectual Disabilities: A Time Series Analysis Using the English National Mental Health Services Data Set**

Authors: Nisar, Atiyya;Thompson, Paul A.;Boer, Harm;Al-Delfi, Haider and Langdon, Peter E.

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: In 2015, the Building the Right Support programme was launched for England in an attempt to reduce the number of psychiatric inpatients with intellectual

disabilities and/or autism by 35%–50%. This target, and subsequent targets, were missed, and for 2025–2026, the government further committed to reducing numbers by 10%. Considering these continued targets, we aimed to investigate psychiatric bed utilisation over time, and to further understand factors that may influence psychiatric admissions and discharges of people with intellectual disabilities and/or autism, by utilising time series modelling with national English data to explore the relationship between a set of chosen sociodemographic, clinical and service-related predictor variables and the following outcome variables: (1) total monthly number of hospital spells, (2) total monthly number of discharges, (3) total monthly number of admissions, (4) ratio of community to non-community discharges, (5) number of inpatients with a length of stay under 2 years, (6) number of patients with a length of stay over 2 years and (7) total number of distinct individuals who had been subjected to restraints. Methods: Using data from the publicly available Mental Health Services Data set, we utilised linear regression (with moving average or auto-regressive errors) to examine the relationships between variables over time, from February 2013 to January 2024. Results: Over time, the number of inpatients decreased by an average of 4.55 patients per month. The number of inpatients with a length of stay greater than 2 years reduced over time. Periods of time when the number of inpatients was greater were associated with more inpatients under the age of 18 years. Periods of time when hospital stays, admissions and discharges were higher were associated with fewer White inpatients relative to non-White inpatients. Periods of time with more patients detained under Part II of the Mental Health Act were associated with more admissions and the increased use of restraint. Conclusions: Over the last 11 years, the planned closure of psychiatric inpatient beds has been unsuccessful. Our findings indicated that periods of increased psychiatric bed utilisation were associated with more admissions of younger people, non-White inpatients and those likely to be experiencing a crisis. Future research should explore how psychiatric beds can be utilised more effectively alongside community-based services and long-term trajectories using participant level data.

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119. **Aquatic Treadmill Walking Lowers Pelvic Motion Irregularity in Typically Developing and Children With Cerebral Palsy**

Authors: Odanye, Oluwaseye P.;Harrington, Joseph W.;Likens, Aaron D.;Knarr, Brian A. and Kingston, David C.

Publication Date: 2025

Journal: American Journal of Physical Medicine & Rehabilitation 104(11), pp. 976–982

Abstract: Objective: The aim of the study is to evaluate the impact of aquatic treadmill walking on the pelvic dynamics of children with cerebral palsy. Design: The study is a block-randomized cross-over design with 8 children with cerebral palsy and 15 typically developing children. All participants walked at fast, normal, and slow speeds on an aquatic (WET) treadmill and conventional (DRY) treadmill. Inertial measurement units recorded the participants' pelvic angles in the mediolateral, anteroposterior, and axial angles from which sample entropy values were determined. Results: A multilevel model showed decreased irregularity in the pelvic dynamics of both cerebral palsy and typically developing groups in WET conditions compared with DRY and at slower compared with higher speeds in the mediolateral and axial planes. For the anteroposterior plane, the irregularity of the pelvic motion decreased at the slow speed–WET condition compared with the fast trial. Conclusions:

The study shows the potential of the aquatic treadmill environment to induce more typical postural dynamics for children with cerebral palsy compared with conventional dry treadmills. Postural dynamics also had decreased irregularity at slower walking speeds. A longitudinal study would show the retention tendencies of observed impacts on children with cerebral palsy.

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120. **Prevention and Management of Perioperative Acute Kidney Injury: A Narrative Review.**

Authors: O'Dell Duplechin M.;Folds G.T.;Duplechin D.P.;Ahmadzadeh S.;Myers S.H.;Shekoohi S. and Kaye, A. D.

Publication Date: 2025

Journal: Diseases

Abstract: Acute kidney injury is a common complication in the perioperative setting, especially among patients undergoing high-risk surgeries such as cardiac, abdominal, or orthopedic procedures. Characterized by a sudden decline in renal function, perioperative acute kidney injury is typically diagnosed based on rising serum creatinine or reduced urine output. Its incidence varies depending on the surgical type and patient risk factors, but even mild cases are linked to significant consequences, including prolonged hospital stays, enhanced healthcare costs, and higher mortality rates. Despite advances in surgical and anesthetic care, acute kidney injury remains a major cause of morbidity. The development of acute kidney injury in the perioperative period often results from a complex interplay of hypoperfusion, ischemia-reperfusion injury, inflammation, and exposure to nephrotoxic agents. While some predictive models and biomarkers, such as neutrophil gelatinase-associated lipocalin (NGAL), have shown promise in identifying patients at risk, widespread adoption remains inconsistent, and standardized prevention protocols are lacking. This narrative review synthesizes current evidence on the pathophysiology, risk factors, and prevention strategies for perioperative acute kidney injury. It explores emerging tools for risk stratification and early diagnosis, including novel biomarkers and learning-based models. Additionally, it highlights pharmacologic and non-pharmacologic measures to reduce acute kidney injury incidence, such as balanced fluid management, renal-protective anesthetic strategies, and bundle-based care approaches. Emphasizing a multidisciplinary and personalized model of care, this review highlights the need for coordinated efforts between anesthesiologists, surgeons, and nephrologists to identify modifiable risks and improve outcomes. Reducing the incidence of perioperative acute kidney injury has the potential to enhance recovery, preserve long-term kidney function, and ultimately improve surgical safety.

121. **Intraoperative albumin use and postoperative acute kidney injury in patients undergoing noncardiac surgery.**

Authors: Oh, Ah Ran;Park, Jungchan and Lee, Suhyun

Publication Date: 2025

Journal: Scientific Reports

Abstract: The beneficial effects of albumin use have been suggested in various clinical settings including critically ill patients. However, the association between intraoperative albumin administration and acute kidney injury (AKI) after noncardiac surgery is unclear. This is a retrospective, hospital registry-based study including 39,336 adult patients who underwent intermediate to high risk noncardiac surgery between January 2011 and June 2019 at single tertiary hospital. The patients were divided into two groups based on exposure to 5% albumin during intraoperative period. The primary outcome was the incidence of AKI within seven days after surgery. Among 39,336 patients, 1725 (4.4%) patients were administered 5% albumin during the intraoperative period. The incidence of AKI was 3.4% (1285/37,611) in the albumin non-exposure group and 13.0% (225/1725) in the albumin exposure group. After 1:3 propensity score matching, 5221 patients (albumin non-exposures 3697; albumin exposures 1524) were included in the analysis. After propensity score matching and adjustment for residual confounders, albumin exposure was associated with higher risk of postoperative AKI (odds ratio = 1.82; 95% confidence interval, 1.41-2.34; p

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122. **Arterial Stiffness and Acute Kidney Injury in the Atherosclerosis Risk in Communities (ARIC) Study.**

Authors: Oh, Ester S.;Surapaneni, Aditya L.;Kendrick, Jessica B.;Tanaka, Hirofumi;Grams, Morgan E.;Jovanovich, Anna J. and Nowak, Kristen L.

Publication Date: 2025

Journal: Kidney Medicine

Abstract: Rationale & Objective: Acute kidney injury (AKI) is associated with prolonged hospitalization and increased in-hospital mortality risk. However, the prediction of incident AKI is inaccurate, and additional predictors of AKI are strongly needed. Arterial stiffness, as measured using carotid-femoral pulse wave velocity (cfPWV), is associated with kidney function decline and may serve as a plausible predictor of AKI. We hypothesized a higher cfPWV at baseline would be independently associated with AKI risk in community-dwelling older adults who participated in the Atherosclerosis Risk in Communities study. Study Design: Observational cohort study. Setting & Participants: Community-dwelling older adults from the Atherosclerosis Risk in Communities study. Predictors: The primary predictor was cfPWV and secondary predictors were heart-femoral pulse wave velocity (PWV), heart-carotid PWV, heart-ankle PWV, and brachial-ankle PWV, and femoral-ankle PWV. Outcomes: Time to AKI, defined by International Classification of Diseases (ICD) codes. Analytical Approach: Cox proportional hazard models were used to examine the association between PWV measures and time to AKI. Given its J-shaped relation with AKI, PWV was modeled as a categorical

variable in quartiles (Q), with Q2 serving as the reference category. Results: A total of 4,245 participants (44% male; 77% White; mean +/- SD age 75 +/- 5 years; cfPWV 11.9 +/- 3.9 m/s) were included. There was a J-shaped association between cfPWV and AKI risk (Q1, hazard ratio 1.15 [95% confidence interval 0.90-1.46]; Q4, 1.38 [1.08-1.77] vs Q2 reference) after fully adjusting for demographics, cardiovascular disease risk factors, and markers for kidney function and peripheral artery disease. Limitations: Most of the participants were White; and AKI was defined based on ICD codes. Conclusions: Higher arterial stiffness, measured by cfPWV, may potentially serve as a predictor of AKI risk in community-dwelling older adults. Copyright © 2025 The Authors.; plain-language-summary The prediction of incident acute kidney injury (AKI) is inaccurate, and additional predictors of AKI are strongly needed. This study investigated the association of arterial stiffness, assessed using carotid-femoral pulse wave velocity, and AKI risk in community-dwelling older adults who participated in the Atherosclerosis Risk in Communities study. We found that higher cfPWV was associated with a higher risk of AKI, suggesting higher arterial stiffness may possibly serve as a predictor of AKI in older adults. Language: English

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123. **Dexmedetomidine reduces the inflammation level and morality in adult sepsis: a systemic review and meta-analysis based on randomized controlled trials.**

Authors: Peng B.;Huang X.;Xue Q.;Tang J.;Wan F.;Peng Y.;Jiang G. and Zhou, B.

Publication Date: 2025

Journal: Frontiers in Medicine

Abstract: Background: Sepsis is a systemic inflammatory response syndrome characterized by an inflammatory cytokine storm and immune dysregulation. The clinical benefits of dexmedetomidine in patients with sepsis remain unclear. This study aimed to explore the effects of dexmedetomidine on the inflammatory status and clinical outcomes of patients with sepsis. Method(s): This study searched PubMed, Embase, and the Cochrane Library for records from the setup day of each database up to August 1, 2025. The search strategy was as follows: (Dexmedetomidine OR Dexmedetomidine Hydrochloride OR Precedex OR Igami) AND (Sepsis OR Bloodstream Infection OR Bloodstream Infections OR Septicemia OR Septicemias). The primary outcomes included interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-alpha), and C-reactive protein (CRP). The secondary outcome measures included in-hospital mortality, ICU mortality, 28-day mortality, length of ICU stay, ventilator-free days at day 28, Sequential Organ Failure Assessment (SOFA) score, and Acute Physiology and Chronic Health Evaluation II (APACHE II) score. Stata 14.0 was used for data analysis. Result(s): A total of 1,550 sepsis patients were included in this study, among whom 759 received dexmedetomidine treatment. Regarding inflammatory factors, the analysis results showed that dexmedetomidine significantly reduced interleukin-6 (IL-6) [standardized mean difference (SMD) = 0.04, 95% confidence interval (95%CI) = (-0.11, 0.19), p = 0.574] and tumor necrosis factor-alpha (TNF-alpha) levels [SMD = -2.39, 95, 95%CI = (-3.52, -1.27), p Result(s): A total of 1,550 sepsis patients were included in this study, among whom 759 received dexmedetomidine treatment. Regarding inflammatory factors, the analysis results showed that dexmedetomidine significantly reduced interleukin-6 (IL-6) [standardized mean difference (SMD) = 0.04, 95% confidence interval (95%CI) = (-0.11, 0.19), p = 0.574] and

tumor necrosis factor-alpha (TNF-alpha) levels [SMD = -2.39, 95, 95%CI = (-3.52, -1.27), p Result(s): A total of 1,550 sepsis patients were included in this study, among whom 759 received dexmedetomidine treatment. Regarding inflammatory factors, the analysis results showed that dexmedetomidine significantly reduced interleukin-6 (IL-6) [standardized mean difference (SMD) = 0.04, 95% confidence interval (95%CI) = (-0.11, 0.19), p = 0.574] and tumor necrosis factor-alpha (TNF-alpha) levels [SMD = -2.39, 95, 95%CI = (-3.52, -1.27), p Conclusion(s): Dexmedetomidine can reduce the levels of IL-6 and TNF-alphain patients with sepsis, while also decreasing in-hospital mortality and 28-day mortality. Furthermore, early identification of sepsis and subsequent administration of dexmedetomidine for sedation and anti-inflammatory therapy may yield more pronounced clinical benefits.

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124. **Risk factors for postoperative acute kidney injury after cardiac surgery.**

Authors: Piaggio, Ignacio M.;Furmento, Juan F.;Costabel, Juan P.;Navia, Daniel;Olivares, Francisco A.;Sigal, Alan;Vrancic, Mariano;Piccinini, Fernando and Seoane, Leonardo A.

Publication Date: 2025

Journal: Archivos Peruanos De Cardiologia Y Cirugia Cardiovascular

Abstract: Objectives: To describe the frequency of postoperative acute kidney injury (AKI) following cardiac surgery and to analyse risk factors for its development. Materials and Methods: We conducted an observational analytical cohort study using prospective data from adult patients who underwent cardiac surgery between 2003 and 2023 at a high-complexity centre in Argentina. AKI was defined according to KDIGO criteria. Risk factors were assessed using logistic regression. Results: A total of 13,215 patients were analysed, with a mean age of 64 years; most were men (75.7%). The frequency of AKI was 7.3%, with an in-hospital mortality of 4.7%. Independent risk factors included advanced age (OR: 1.05, p: A total of 13,215 patients were analysed, with a mean age of 64 years; most were men (75.7%). The frequency of AKI was 7.3%, with an in-hospital mortality of 4.7%. Independent risk factors included advanced age (OR: 1.05, p: A total of 13,215 patients were analysed, with a mean age of 64 years; most were men (75.7%). The frequency of AKI was 7.3%, with an in-hospital mortality of 4.7%. Independent risk factors included advanced age (OR: 1.05, p: A total of 13,215 patients were analysed, with a mean age of 64 years; most were men (75.7%). The frequency of AKI was 7.3%, with an in-hospital mortality of 4.7%. Independent risk factors included advanced age (OR: 1.05, pConclusions: The frequency of postoperative AKI is comparable to international registries. The main predictors of risk were age, surgical urgency, and use of cardiopulmonary bypass. Identifying risk factors can improve perioperative prevention and management in cardiac surgery.; Publisher Objetivos: Describir la frecuencia de insuficiencia renal aguda (IRA) posoperatoria en cirugia cardiaca y analizar los factores de riesgo para su desarrollo. Materiales y metodos: Se realizo un estudio de cohorte observacional y analitico, utilizando datos prospectivos de pacientes adultos sometidos a cirugia cardiaca entre 2003 y 2023 en un centro argentino de alta complejidad. La IRA se definio segun criterios KDIGO. Los factores de riesgo se evaluaron mediante regresion logistica. Resultados: Se analizaron 13 215 pacientes con una edad promedio de 64 anos, predominando varones (75,7%). La frecuencia de IRA fue del 7,3%, con una mortalidad intrahospitalaria del 4,7%. Los factores de riesgo independientes incluyeron edad avanzada

(OR: 1,05, p<0,001), cirugia de urgencia (OR: 2,87, p<0,001), circulacion extracorporea (OR: 1,41, p<0,001) y comorbilidades como enfermedad pulmonar obstructiva cronica y anemia preoperatoria. Como factor protector se observo el estado asintomatico previo a la cirugia. Conclusiones: La frecuencia de IRA posoperatoria es similar a los registros internacionales. Los principales factores predictores de riesgo fueron la edad, la electividad de la cirugia y el uso de bomba de circulacion extracorporea. La identificacion de factores de riesgo permite mejorar la prevencion y manejo perioperatorio en cirugia cardiaca. Language: Spanish

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125. **Perceptions of occupational therapists and physiotherapists of early intervention therapy services for infants with or at risk of cerebral palsy: A qualitative interview study**

Authors: Poulsen, Helle Sneftrup;Hansen, Alice Ørts;Laulund, Lone Walentin;Ytterberg, Charlotte and Minet, Lisbeth Rosenbek

Publication Date: 2025

Journal: Journal of Pediatric Rehabilitation Medicine

Abstract: Purpose: This study aimed to explore therapists' experiences of providing early intervention therapy services for infants with or at risk of cerebral palsy (CP), and, in particular, therapy services that promote infants' hand function. Methods: Eleven semi-structured small group interviews and one individual interview were conducted with 26 therapists working with infants, either in hospital or in the municipality. Interview transcripts were analyzed using qualitative content analysis. Results: Providing early intervention therapy services for infants with or at risk of CP was influenced by factors such as inadequate coordination and communication between hospital and municipalities, varying use of motor assessment tools to detect risk of CP, more focus on gross motor function than hand function in early age, impact of usual clinical practice, requirements for acting in a variable therapeutic role when providing guidance for parents, and challenges obtaining therapeutic training and specialization in a decentralized organization. Conclusion: Challenges caused by a complex practice and a high level of requirement for therapeutic skill may have an impact on evidence-based practice and need to be addressed when incorporating new research knowledge about early CP-specific interventions into a family-centered clinical practice.

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126. **Abiraterone-Associated Renal Damage in Patients with Advanced Prostate Cancer as a Risk Factor for Mortality and Chronic Kidney Disease.**

Authors: Pujol-Pujol, Marina;Rivero-Martinez, Marta;Puente, Javier;Vidal, Natalia;Calvo, Marta;Riaza, Cristina;Alvarez-Nadal, Marta;Rodriguez-Moreno, Antolina;Sanchez-Fructuoso, Ana I. and Garcia-Carro, Clara

Publication Date: 2025

Journal: Journal of Clinical Medicine

Abstract: Background: Prostate cancer is the most frequent malignancy in men, with an incidence of 21% of all diagnosed tumors in this population in Spain. Between 10 and 20% of

patients with prostate cancer develop castration-resistant prostate cancer (CRPC). Abiraterone is widely used in CRPC and metastatic prostate cancer, but data on its renal safety are limited. Methods: We performed a single-center, retrospective observational study including patients with advanced prostate cancer who initiated abiraterone between January 2013 and July 2024 at Hospital Clinico San Carlos (Madrid, Spain). Patients were followed until December 2024. Renal events were defined as acute kidney injury (AKI), electrolyte imbalance, new onset or worsening hypertension (HTN), and/or volume overload. Risk factors and associations with mortality were analyzed using multivariate models. Results: Seventy-nine patients were included (mean age 76 +/- 9.5 years; 70.9% CRPC; 89.9% metastatic disease). Median follow-up was 17 months. Renal events occurred in 63.3% of patients. Independent risk factors were metastatic disease (OR 13.335; 95% CI 1.418-124.444; p p p = 0.05]. Conclusions: Renal events are common in patients treated with abiraterone, especially in those with metastatic disease and hypertension. AKI independently predicted mortality. Close monitoring of renal function and blood pressure is essential in this population.

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127. **Chest CT-derived body composition parameters for outcome prediction in sepsis patients with pneumonia.**

Authors: Qiao X.;Li X.;Wang Q. and Zheng, R.

Publication Date: 2025

Journal: Annals of Medicine

Abstract: Objective: We aim to evaluate the potential contribution of chest computed tomography (CT)-derived body composition parameters in predicting adverse events in sepsis patients with pneumonia. Method(s): A retrospective study was conducted on sepsis with pneumonia cases who visited Shengjing Hospital of China Medical University from January 2023 to September 2024. We used chest CT scans to quantify skeletal muscle area (SMA) at the fourth thoracic vertebra (T4) and the first lumbar vertebra (L1) levels, as well as abdominal circumference (AC), subcutaneous adipose tissue (SAT), and intramuscular adipose tissue (IMAT) at the L1 level. Result(s): A total of 303 patients (203 men; median age 70 years, interquartile range 63-79) were included in the study. Fully adjusted models identified low SMAT4, low SATL1, and high ACL1 as independent risk factors for medical intensive care unit (MICU) admission, with odds ratios (ORs) of 0.795, 0.897, and 2.095, respectively. Low SMAT4 (OR 0.880, 95% confidence interval [CI] 0.800-0.967, p = 0.008) and high ACL1 (OR 1.527, 95% CI 1.122-2.079, p = 0.007) were both independently associated with in-hospital mortality. High IMATL1 (beta: -2.360, p = 0.003) was associated with a greater decrease in the PaO2/FiO2 ratio during hospitalization. Models using chest CT-derived body composition parameters to predict MICU admission, septic shock, and in-hospital mortality in patients with sepsis were as effective as sequential organ failure assessment scores. Conclusion(s): The assessment of frailty status and visceral obesity, determined by chest CT measurements of low thoracic muscle mass and elevated AC, is independently correlated with an increased risk of admission to the MICU and mortality among sepsis patients with pneumonia. This underscores the significance of CT-derived body composition as a critical imaging biomarker that reflects the physiological reserve of sepsis patients and their associated risk of adverse events.

128. **Stage prediction of acute kidney injury in sepsis patients using explainable machine learning approaches.**

Authors: Quan, Zhen;Han, Zheng;Zeng, Siyao;Wen, Lianghe;Wang, Jingkai;Li, Yue and Wang, Hongliang

Publication Date: 2025

Journal: Frontiers in Medicine

Abstract: Background: Acute kidney injury (AKI) is a prevalent and serious complication among sepsis patients, closely associated with high mortality rates and substantial disease burden. Early prediction of AKI is vital for prompt and effective intervention and improved prognosis. This research seeks to construct and assess forecasting frameworks that leverage advanced machine learning algorithms to anticipate AKI progression in high-risk sepsis patients. Methods: This study utilized the MIMIC-IV database, a large, publicly available critical care dataset containing comprehensive, de-identified electronic health records of over 70,000 ICU admissions at Beth Israel Deaconess Medical Center, to extract sepsis patient data for model training and test. Following feature selection, various machine learning algorithms were employed, including Decision Tree (DT), Efficient Neural Network (ENet), k-Nearest Neighbor (KNN), Light Gradient Boosting Machine (LightGBM), Multi-Layer Perceptron (MLP), Multinomial Mixture Model (Multinom), Random Forest (RF), and eXtreme Gradient Boosting (XGBoost). A five-fold cross-test strategy was implemented to minimize bias and assess model performance. SHapley Additive exPlanations (SHAP) was used to interpret the results. Results: A total of 6,866 critically ill sepsis patients were analyzed, of whom 5,896 developed AKI during hospitalization The RF model demonstrated superior performance, attaining an average AUC score of 0.89 on the ROC curve. SHAP analysis provided detailed insights into feature importance, including urine output, BMI, SOFA score, and maximum blood urea nitrogen, enhancing the clinical applicability of the model. Conclusion: The machine learning models developed in this study effectively predicted the stages of AKI in severely ill sepsis patients, with the Random Forest model demonstrating optimal performance. SHAP analysis offered crucial insights into the risk factors, facilitating timely and personalized interventions within a clinical setting. Additional multi-center research is essential to confirm the validity of these findings and to ultimately improve patient outcomes and quality of life.

129. **Task-Specific Training to Improve Sitting in a Child With Severe Postural Impairments: A Single-Subject Design**

Authors: Rachwani, Jaya and Santamaria, Victor

Publication Date: 2025

Journal: Pediatric Physical Therapy

Abstract: Purpose: To evaluate the potential of a task-specific training model to improve sitting through tailored trunk support and incrementally challenging reaching. Methods: A single-subject AB design with follow-up was conducted with a 20-month-old child with severe postural impairments due to 16p11.2 deletion syndrome and multiple comorbidities. Phase A included 6 baseline assessments during 2 weeks, followed by 15 intervention sessions (Phase B) during 5 weeks, and 4 post-intervention assessments during follow-up. Outcomes included the Segmental Assessment of Trunk Control (SATCo) and the Gross Motor Function Measure (GMFM) sitting dimension. Visual analysis, the 2 standard deviation band method, and C-statistics evaluated change. Results: SATCo and GMFM scores were stable during baseline but had significant trend changes from baseline to intervention and follow-up phases. Independent sitting skills emerged after the intervention. Conclusions: Task-specific training tailored to the child's ability by systematically progressing trunk support and reaching practice may promote long-lasting sitting function.

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130. **Reported Barriers and Facilitators for Autistic Individuals, Persons with Other Intellectual and Developmental Disabilities, and Their Caregivers to Receive the COVID-19 Vaccine: A Pilot Study**

Authors: Resnikoff, Annie W.;Colantuono, Valerie;Wieckowski, Andrea Trubanova;Chernak, Esther;Plumb, Jennifer;Baynard, Maurice;Sheridan, Elisabeth and Robins, Diana L.

Publication Date: 2025

Journal: Journal of Autism & Developmental Disorders

Abstract: Autistic individuals and persons with other intellectual or developmental disabilities (IDD) may experience challenges in social engagement, sensory processing, and behavior rigidity. This population is more likely to face barriers to successful preventative healthcare, including vaccines, compared to neurotypical peers. Autistic individuals and persons with other IDD may be at greater risk for COVID-19 infection due to sensory dysregulation that interferes with mitigation such as wearing masks, and challenges in social communication that impose difficulties in understanding and adhering to prevention measures. Adaptations are needed to make vaccine opportunities more accessible for neurodivergent individuals. A series of seven Sensory-Friendly COVID-19 Vaccine Clinics (SFVCs) were conducted between December 2021 and August 2022 in collaboration with the A.J. Drexel Autism Institute and the Academy of Natural Sciences of Drexel University. SFVCs examined perceived barriers and facilitators to vaccine experiences, based on feedback from autistic individual/persons with IDD and their caregivers. Surveys were administered to autistic individuals/persons with IDD or their

caregivers (n = 35) from the larger sample who attended the clinic; 18 participants also complete a supplemental interview. Scaled survey questions were analyzed to determine the acceptability of the SFVCs. Open-ended survey questions and interview responses were coded thematically to identify barriers, facilitators, and areas of improvement. All individuals who came to a SFVC with intent to be vaccinated were successfully administered a COVID-19 vaccine. More than 90% of participants reported that experiences at the SFVCs were positive, promoted retention, and they would recommend clinics to others. Staff clinical expertise, sensory-friendly elements, and hosting clinics at a neutral location (free from past medical history) served as facilitators to successful vaccine administration, whereas factors such as ill-equipped pharmacy staff, behavioral challenges, and logistical issues may serve as barriers. Incorporating reported barriers, facilitators, and accommodations of SFVC experiences may lead to more successful preventative healthcare processes for neurodivergent individuals.

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131. **Severe acute kidney injury in the intensive care unit: step-to-step management.**

Authors: Riccardi M.;Pagnesi M.;Lombardi C.M. and Metra, M.

Publication Date: 2025

Journal: European Heart Journal: Acute Cardiovascular Care

Abstract: Acute kidney injury (AKI) is a sudden loss of renal function limited to 7 days with increased basal serum creatinine levels and/or decreased urinary production. AKI is a frequent condition in the intensive care unit (ICU) ranging from 13% to 36% in patients hospitalized with acute heart failure, up to 80% in patients with cardiogenic shock (CS). AKI requiring dialysis is also common (5% to 8%) and can exceed 13% in patients with CS. AKI is consistently associated with increased mortality in both the short-term, especially when dialysis is needed, and the long-term. The aim of this review is to provide an update on step-by-step management, from pharmacological treatment to renal replacement therapy, in patients with severe AKI in ICU patients with fluid overload.

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132. **PTSD Symptoms After Traumatic Versus Stressful Life Events in People With Mild Intellectual Disabilities: Proving the Null**

Authors: Rouleaux, Mariëlle;Peters-Scheffer, Nienke;Bouwmeester, Samantha;Lindauer, Ramón;Mevissen, Liesbeth and Didden, Robert

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Research in people without ID suggests that both traumatic events (i.e., A criterion events) and stressful life events (i.e., non-A criterion events) can produce PTSD symptoms. However, research on this subject in ID populations is limited. The discussion about the usefulness of Criterion A (i.e., the stressor criterion) as a gate criterion for PTSD in the DSM-5-TR is particularly important for people with mild intellectual disabilities (MID) or borderline intellectual functioning (BIF) because of their vulnerability to stressors. This

study aimed to compare PTSD symptoms and impairment of daily life functioning (IDLF) score following traumatic versus stressful index events in people with MID-BIF. Methods: The Diagnostic Interview Trauma and Stressors–Intellectual Disability (DITS-ID) was administered to 54 participants with MID-BIF. Two groups were generated based on the type of index event (i.e., traumatic or stressful). Bayesian equivalence testing was used to assess whether the two groups differed in terms of PTSD symptoms and IDLF score. Results: Data were more consistent with either a small difference or no difference at all between the traumatic (N = 22) and stressful group (N = 32) regarding the mean number of PTSD symptoms and the mean IDLF score. Differences in PTSD symptoms and IDLF scores ranged from 0.00 to 0.87. Conclusion: No clinically relevant differences were found between the traumatic and stressful groups in terms of mean number of PTSD symptoms and IDLF score. Stressful life events might produce PTSD symptoms in people with MID-BIF.

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133. **Dyskinetic Cerebral Palsy in Children: Clinical Perspectives on Common Comorbidities and Health-Related Quality of Life.**

Authors: Saini A.G.;Sankhyan N.;Malhi P.;Ahuja C.;Khandelwal N. and Singhi, P.

Publication Date: 2025

Journal: Journal of Autism and Developmental Disorders

Abstract: Background: The data on specific comorbidities in children with dyskinetic cerebral palsy (DCP) is limited. We evaluated the pattern of comorbidities and health related quality of life (HRQOL) in these children and compared them between etiological and motor impairment subgroups. Methodology: This cross-sectional study was conducted over 18 months in children with DCP of both sex, and age between one and 14 years. Comorbidities were assessed using standardized scales such as gross motor functioning scale (GMFCS), developmental profile-3 (DP-3), developmental behaviour checklist, sleep behaviour questionnaire (SBQ), and caregiver questionnaire. Result(s): Sixty-five children with DCP were evaluated (hyperbilirubinemia n = 43, 66% and perinatal asphyxia n = 19, 29%). The majority of children were severely affected in gross motor functioning (level IV 29.2% and level V 53.8%). Epilepsy was seen in 21.5% of cases (19% in hyperbilirubinemia and 32% in asphyxia, p = 0.4). The mean age of onset of seizures was 15.4 + 20.6 months (range 2-72). Visual problems were seen in 54% of cases and included upgaze palsy, squint, refractive error, optic atrophy and cortical blindness. A significant proportion of children with hyperbilirubinemia had upgaze palsy as compared to those with perinatal asphyxia (70% vs. 32%, p 0.01). Rest of the visual problems were not significantly different between the two etiological subgroups. Drooling (87.6%), protein-energy malnutrition (66.6%), and reflux (57%) were the most common gastrointestinal problems in children with DCP. Children with DCP showed problems in social relating (33.8%), anxiety (26.2%), and self-absorbed behaviour (7.7%). However, there were no statistically significant differences between the etiological, motor impairment and age-based subgroups. Children with DCP had high scores on SBQ, suggesting sleep problems. Sleep scores were similar in the hyperbilirubinemia and perinatal asphyxia subgroups. Greater sleep problems were noted in children aged Result(s): Sixty-five children with DCP were evaluated (hyperbilirubinemia n = 43, 66% and perinatal asphyxia n =

19, 29%). The majority of children were severely affected in gross motor functioning (level IV 29.2% and level V 53.8%). Epilepsy was seen in 21.5% of cases (19% in hyperbilirubinemia and 32% in asphyxia, p = 0.4). The mean age of onset of seizures was 15.4 + 20.6 months (range 2-72). Visual problems were seen in 54% of cases and included upgaze palsy, squint, refractive error, optic atrophy and cortical blindness. A significant proportion of children with hyperbilirubinemia had upgaze palsy as compared to those with perinatal asphyxia (70% vs. 32%, p 0.01). Rest of the visual problems were not significantly different between the two etiological subgroups. Drooling (87.6%), protein-energy malnutrition (66.6%), and reflux (57%) were the most common gastrointestinal problems in children with DCP. Children with DCP showed problems in social relating (33.8%), anxiety (26.2%), and self-absorbed behaviour (7.7%). However, there were no statistically significant differences between the etiological, motor impairment and age-based subgroups. Children with DCP had high scores on SBQ, suggesting sleep problems. Sleep scores were similar in the hyperbilirubinemia and perinatal asphyxia subgroups. Greater sleep problems were noted in children aged Result(s): Sixty-five children with DCP were evaluated (hyperbilirubinemia n = 43, 66% and perinatal asphyxia n = 19, 29%). The majority of children were severely affected in gross motor functioning (level IV 29.2% and level V 53.8%). Epilepsy was seen in 21.5% of cases (19% in hyperbilirubinemia and 32% in asphyxia, p = 0.4). The mean age of onset of seizures was 15.4 + 20.6 months (range 2-72). Visual problems were seen in 54% of cases and included upgaze palsy, squint, refractive error, optic atrophy and cortical blindness. A significant proportion of children with hyperbilirubinemia had upgaze palsy as compared to those with perinatal asphyxia (70% vs. 32%, p 0.01). Rest of the visual problems were not significantly different between the two etiological subgroups. Drooling (87.6%), protein-energy malnutrition (66.6%), and reflux (57%) were the most common gastrointestinal problems in children with DCP. Children with DCP showed problems in social relating (33.8%), anxiety (26.2%), and self-absorbed behaviour (7.7%). However, there were no statistically significant differences between the etiological, motor impairment and age-based subgroups. Children with DCP had high scores on SBQ, suggesting sleep problems. Sleep scores were similar in the hyperbilirubinemia and perinatal asphyxia subgroups. Greater sleep problems were noted in children aged Conclusion(s): Children with DCP demonstrate several comorbidities and impaired quality of life. These are similar in hyperbilirubinemia and perinatal asphyxia cohorts, expect for significant proportion of upgaze palsy in DCP secondary to hyperbilirubinemia. Younger children have more problematic behaviour and impaired sleep quality. Severe motor disability influences the developmental outcomes, cognition, sleep and HRQOL in children with DCP.

134. **Diagnostic Accuracy of Procalcitonin in the Diagnosis of Sepsis in Cancer Patients Hospitalized for Infection.**

Authors: Salvatore V.;Viola A.;Spezzano A.;Aquilino A.;Barili L.;Caprino M.;Floresta M.;Momoli G.;Romiti A.;Scurria G.;Sirna M.;Paccapelo A.;Nannini M.;Ardizzoni A. and Giostra, F.

Publication Date: 2025

Journal: Cancer Reports

Abstract: Objectives: Sepsis is defined as a life-threatening, dysfunctional body-response to infection. Procalcitonin (PCT) is considered a marker of sepsis due to bacterial infections and it has been extensively used as a guide to antimicrobial management in the general population. The clinical role of PCT in cancer patients admitted to the Emergency Department (ED) for infection is still little researched. Method(s): A prospective observational study enrolling all adult patients hospitalized for infection referred to the ED of IRCCS Azienda Ospedaliero-Universitaria di Bologna between February 1st, 2023 and July 31st, 2023 was conducted. The primary endpoint was to evaluate the accuracy of PCT in the diagnosis of sepsis (defined according to the latest guidelines) in patients with cancer in comparison to non-cancer patients. Result(s): 1041 out of 1125 eligible patients were enrolled (559 males and 482 females), out of whom 289 (27.8%) had active cancer. PCT levels differed between cancer and non-cancer patients (1 ng/mL with IQR 5.85 vs. 0.6 ng/mL with IQR 2.7; p = 0.5 ng/mL) confirmed its accuracy for predicting sepsis in non-cancer patients (sensitivity 71.5%, specificity 64.1%) but the specificity fell to 44.7% in cancer patients, although sensitivity remained good (sensitivity 78.9%). Conversely, a higher PCT cut-off of 1 ng/mL, as the most accurate threshold identified in the present study in the cancer population, showed a sensitivity of 66.9% and specificity of 61.2% in predicting sepsis in cancer patients. Conclusion(s): Our study confirms the clinical role of PCT as a part of the diagnostic algorithm for sepsis but its diagnostic role is sub optimal in cancer patients.

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135. **Discriminatory Characteristics of Responders and Nonresponders of Patients With Sepsis to Neuromuscular Electrical Stimulation: A Subanalysis of a Randomized Controlled Double-Blinded Trial.**

Authors: Saraiva L.T.;da Silva Costa W.N.;Grams S.T.;Salles I.C.D.;Amano M.T. and Yamaguti, W. P.

Publication Date: 2025

Journal: Archives of Physical Medicine and Rehabilitation

Abstract: Objective: To define the discriminatory characteristics of patients with sepsis or septic shock, as well as responders and nonresponders to the neuromuscular electrical

stimulation (NMES) protocol. Design(s): This was a subanalysis of a randomized, controlled, double-blind clinical trial. Setting(s): An intensive care unit (ICU) at a private hospital. Participant(s): Fifteen adult patients diagnosed with sepsis or septic shock underwent NMES sessions (N=15), among whom 8 were classified as the responder group (RG) and 7 were classified as the nonresponder group (NRG). Intervention(s): The NMES protocol was initiated at 24 hours after admission with daily sessions. Assessments were performed through ultrasound measurements of the quadriceps femoris muscle and physical function scales. Main Outcome Measure(s): Ultrasonographic muscle characteristics and physical function variables. Result(s): The rectus femoris thickness was maintained for RG from day 1 to day 4 and reduced by more than 10% for NRG. The Surgical ICU Optimal Mobilization Score (SOMS) statistically differed (p=.04) between RG (2 points; IQR, 0.25-3.5) and NRG (score=0) in the initial assessment. De Morton Mobility Index (DEMMI) in RG increased from 19+/-20 points to 33+/-30 points at the final evaluation (p=.04), suggesting higher levels of mobility. There was a strong correlation between the initial SOMS (r=0.72, p=.04), DEMMI (r=0.77, p=.02), and muscle thickness in RG. The NRG exhibited a strong negative correlation between the Sepsis-related Organ Failure Assessment (SOFA) score and rectus femoris thickness at baseline (r=-0.82, p=.04). Conclusion(s): The SOMS and DEMMI could characterize responders in the NMES protocol, whereas the SOFA score did not correlate with responders.

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136. **Hearing Threshold Estimation With Distortion Product Otoacoustic Emission Growth Functions in People With Intellectual Disabilities in an Outreach Setting**

Authors: Savvas, Eleftherios;Dimitrakopoulou, Emmanouela;Euler, Harald A.;Coninx, Frans;Bluemel, Felix;Krieger, Anne;Schaefer, Karolin;Mathmann, Philipp;Gietmann, Corinna and Neumann, Katrin

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: People with intellectual disabilities often have undetected hearing loss. Methods: In this prospective observational study featuring 110 adults with intellectual disabilities, hearing evaluations based on objective hearing threshold estimation using distortion-product otoacoustic emission growth functions (DPOAEgfs) were performed in a sheltered workshop. Results were compared with thresholds obtained by conventional subjective pure-tone audiometry (cPTA) and the adaptive self-test PTA Multiple-Choice-Auditory-Graphical-Interactive-Check (MAGIC). Results: The differences between the lowest thresholds obtained by cPTA and MAGIC for the frequencies 1, 2, 4 and 6 kHz (LPTATs) and the estimated distortion-product thresholds (EDPTs) were calculated. Four hundred twenty-seven of 880 (48.5%) pairs of measurements did not differ by any more than 5 dB. With LPTATs as reference criterion, for a favourable four-frequency average over 1.0, 2.0, 4.0 and 6.0 kHz with a cutoff of 20 dB HL, the sensitivity of the EDPTs was 92% and the specificity 62%; a cutoff of 30 dB HL increased the respective values to 98% and 77%. Conclusions: DPOAEgfs are acceptable for estimating hearing thresholds in individuals with intellectual disability who may have limitations in performing conventional audiometry.

137. **Macrophage Activation-Like Syndrome in critically ill patients with sepsis: high risk patients with high mortality.**

Authors: Schuster F.S.;von Haefen C.;Ihlow J.;Mittermaier M.;Spies C.;Nyvlt P.;Heeren P.;Schenk T.;Janka G.;Brunkhorst F.M.;La Rosee P.;Lachmann G. and Lachmann, C.

Publication Date: 2025

Journal: Anaesthesia, Critical Care & Pain Medicine

Abstract: BACKGROUND: Even though tremendous effort has been undertaken within the past 40 years, both sepsis incidence and mortality remain high. The concept of various immune responses in sepsis, ranging from immune paralysis to severe hyperinflammation, has gained more and more attention. As such, the hyperinflammatory phenotype macrophage activation-like syndrome (MALS) became the cornerstone in the latest intervention trials. Our study sought to systematically investigate MALS patients, including their definitions, respective bone marrow markers and monocytic HLA-DR expressions. METHOD(S): In this secondary analysis of a retrospective observational study, we included all patients aged >=18 years and admitted to any adult ICU at Charite - Universitatsmedizin Berlin between January 2006 and August 2018, who had hyperferritinemia (>=500 mug/L) and sepsis, but no diagnosis of hemophagocytic lymphohistiocytosis. For diagnosis of MALS, we used the latest definition of ferritin >=4420 microg/L. RESULT(S): 1629 patients were included, of whom 322 were diagnosed with MALS (19.8 %). In-hospital mortality was 62.4 % in MALS patients compared to 30.5 % in those without MALS. MALS patients had increased macrophage counts and higher rates of activated macrophages in bone marrow biopsies. HLA-DR expression did not differ significantly between the groups. In multivariable logistic regression analysis, MALS showed the highest odds ratio associated with in-hospital mortality. Different definitions of MALS identified largely distinct patient populations. CONCLUSION(S): MALS increased in-hospital mortality in sepsis patients. Our results underscore the urgent need for targeted research and therapeutic strategies. While promising insights into immune modulation have emerged, further studies are essential to refine treatment approaches and improve outcomes in this vulnerable patient population.

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138. **The outcome and accuracy of doctors' decisions for patients referred to the fast-track pathway: a UK single-center retrospective audit.**

Authors: Shah, Rishi;Summerbell, Alex;Tariq, Munim;Hayes, Charlotte;Foo, Yee;Hendry, Fiona and Abdelhafiz, Ahmed H.

Publication Date: 2025

Journal: Hospital Practice (1995) Hospital Practice

Abstract: BACKGROUND: There is a growing need to provide care for people approaching their end-of-life phase. A fast-track pathway was developed in the UK to speed up funding of

care for people expected to die within 3 months. However, the accuracy of doctors' prediction of death is variable. AIM: To investigate the accuracy of doctors' prediction of death for patients referred to the fast-track pathway and explore clinical criteria predicting early death. METHODS: A retrospective audit of hospitalized patients referred to the fast-track pathway was conducted. Patients were followed up from the date of referral to the date of death. The percentage of patients who died within 3 months was calculated. We compared clinical criteria for patients who died within the first 2 weeks to patients who died later. Multiple logistic regression analysis was performed to identify predictors of death : A retrospective audit of hospitalized patients referred to the fast-track pathway was conducted. Patients were followed up from the date of referral to the date of death. The percentage of patients who died within 3 months was calculated. We compared clinical criteria for patients who died within the first 2 weeks to patients who died later. Multiple logistic regression analysis was performed to identify predictors of death : A retrospective audit of hospitalized patients referred to the fast-track pathway was conducted. Patients were followed up from the date of referral to the date of death. The percentage of patients who died within 3 months was calculated. We compared clinical criteria for patients who died within the first 2 weeks to patients who died later. Multiple logistic regression analysis was performed to identify predictors of death RESULTS: A total of 185 patients were referred to the fast-track pathway. Mean (SD) age was 81.1 (10.2) years, and the majority were females (n = 101; 54.6%). Most patients (n = 169; 91.4%) died within 3 months. Almost half of the patients (n = 84; 46%) died within 2 weeks. For death 85 years, odds ratio (OR) 1.9, 95% confidence interval (CI) 1.1 to 3.6, p = 0.004, and admission with sepsis or acute organ failure, 2.8 (1.2 to 5.7), p = 0.03 and 2.6 (1.1 to 8.1), p = 0.03, respectively. For death 85 years, 2.4 (1.3 to 4.5), p = 0.006, living in care home, 2.7 (1.3 to 5.8), p = 0.01, diagnosis of dementia, 1.7 (1.1 to 3.9), p = 0.04, and admission with sepsis or acute organ failure, 2.1 (1.2 to 5.6), p = 0.03 and 2.1 (1.0 to 8.9), p = 0.01, respectively. CONCLUSION: Doctors' prediction of death was good. Significant number of patients died early, especially very old patients with dementia, care home residents, and those presenting with sepsis or acute organ failure.

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139. **Prevalence and prognostic significance of malnutrition in critically ill patients with acute kidney injury.**

Authors: Shi Y.;Duan H.;Liu J.;Shi X.;Zhao M.;Fang Y. and Zhang, Y.

Publication Date: 2025

Journal: Journal of Renal Nutrition : The Official Journal of the Council on Renal Nutrition of the National Kidney Foundation

Abstract: BACKGROUND: Malnutrition is a significant factor associated with adverse outcomes in various diseases. However, the prevalence of malnutrition among critically ill patients with acute kidney injury (AKI) and its impact on outcomes have not been thoroughly investigated. The purpose of this study was to investigate the prevalence and prognostic significance of malnutrition in critically ill patients with AKI. METHOD(S): Critically ill patients with AKI were selected from the Medical Information Mart for Intensive Care IV through a retrospective cohort study. The nutritional status of these patients was assessed using Prognostic Nutrition Index (PNI), Geriatric Nutritional Risk Index (GNRI), and Controlled Nutritional Status (CONUT). Cox proportional hazard model, Kaplan-Meier analysis and limited

cubic spline were used to evaluate the association between malnutrition risk and 28-day mortality. Additionally, logistic regression, Cox regression and linear regression utilized to assess the correlation between malnutrition risk and in-hospital mortality, 90-day mortality and hospital length of stay, respectively. RESULT(S): Of the 1129 patients enrolled, 49.6%, 80.0%, and 57.7% were found to have moderate to severe malnutrition based on PNI, GNRI, and CONUT scores, respectively. Higher risk of malnutrition was associated with lower hemoglobin, lymphocytes, serum albumin, total cholesterol, higher creatinine,BUN, SOFA, SAPS II, higher mortality, and longer hospital stay. Among the patients, 215 (19.04%) patients died within 28 days of ICU admission. Malnutrition was significantly associated with 28-day mortality risk compared with good nutrition (adjusted hazard ratio for severe malnutrition: PNI:HR 1.57, 95% CI 1.15-2.14; GNRI:HR 1.62, 95% CI 1.01-2.55; CONUT:HR 2.51, 95% CI 1.31-4.80). These nutritional measures further enhanced the predictive accuracy of 28-day mortality, with the CONUT score demonstrating the strongest association. Furthermore, logistic regression, Cox regression, and linear regression models respectively revealed that malnutrition risk was significantly associated with in-hospital mortality, 90-day mortality, and hospital length of stay. CONCLUSION(S): Malnutrition is prevalent among critically ill patients with AKI and significantly correlates with 28-day mortality, in-hospital mortality, 90-day mortality and hospital length of stay. Further research is necessary to evaluate the impact of malnutrition screening and nutritional interventions on improving adverse outcomes.

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140. **Discharge From the Acute Hospital Setting on Postoperative Day One Following Selective Dorsal Rhizotomy: An Illustrative Pediatric Case and Literature Review.**

Authors: Shields, Lisa B. and Mutchnick, Ian S.

Publication Date: 2025

Journal: Cureus

Abstract: A selective dorsal rhizotomy (SDR) is a neurosurgical procedure aimed at improving lower extremity spasticity in children. The traditional postoperative course involves strict bed rest for 24-48 hours and an acute hospital length of stay usually ranging between three and five days. We present the case of a seven-year-old male with cerebral palsy and right-sided spasticity secondary to a perinatal ischemic infarction in the left hemisphere. The patient underwent a right-sided SDR consisting of a one-level laminectomy at the conus medullaris. The medium-sized Anastoclip GC Closure System was used to close the dura. The patient was admitted to the intensive care unit postoperatively for one night and was not required to lie flat postoperatively. He was out of bed on postoperative day (POD) zero and engaged in physical therapy on POD one. This patient is the first post-SDR reported to be discharged from the acute hospital setting on POD one to inpatient rehabilitation. The patient was able to stand flat-footed bilaterally within four weeks of the SDR, although he reported continued balance issues with running and jumping. This case illustrates the potential to minimize the postoperative stay of SDR patients safely using Anastoclips, repleting the cerebrospinal fluid volume after rhizotomy with lactated Ringer's, and eliminating the postoperative bed rest.

141. **Symptoms of Catatonia Observed in Down Syndrome Regressive Disorder: A Retrospective Analysis**

Authors: Smith, Joshua R.;Baldwin, Isaac;Lim, Seri and Luccarelli, James

Publication Date: 2025

Journal: Journal of Autism & Developmental Disorders

Abstract: Purpose: Down Syndrome Regressive Disorder (DSRD) is a neuropsychiatric condition associated with severe symptomology and a negative impact on quality of life. DSRD frequently presents with catatonic symptoms. However, few studies have reported the specific catatonic symptoms that occur in DSRD. Methods: We conducted a retrospective analysis of medical records in a large health system in the southern United States to identify patients with diagnoses of DS with catatonic symptoms who presented for clinical care between 1/1/2018 and 12/1/2023. Patients were included in the study if they had a diagnosis of DSRD or met the criteria for DSRD using consensus guidelines on retrospective chart review, and catatonia as confirmed in clinical documentation and had a full Bush Francis Catatonia Rating Scale (BFCRS) documented at the time of initial catatonia diagnosis. Results: A total of nine patients who met the criteria for DSRD and catatonia using the BFCRS were identified. The average age of patients at the time of DSRD diagnosis was 21.1 years (SD = 13.87). The mean BFCRS score on initial evaluation was 17.3 (SD = 7.0) and the mean number of positive catatonia signs was 11.1 (SD = 1.5). Staring was present in all cases (n = 9, 100%), followed by mutism, grimacing, and rigidity (n = 7, 77.9%). Conclusions: In a sample of nine patients with DSRD, all patients were diagnosed with catatonia. Catatonia is severe if undiagnosed and untreated. Future research is needed to assess specific symptoms of catatonia in DSRD, and longitudinal outcomes to assess optimal means of treatment.

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142. **Surgical Reconstruction of the Upper Extremity in Patients With Cerebral Palsy: Indication, Techniques, and Rehabilitation Considerations.**

Authors: Soh E.Z.F. and Gong, H. S.

Publication Date: 2025

Journal: Annals of Rehabilitation Medicine

Abstract: Management of upper limb deformities in patients with cerebral palsy is crucial, given its impact on activities of daily living, social interaction, and self-esteem. While medical management and rehabilitative therapy-including the use of assistive devices-remain the foundation of treatment, significant advancements have been made in surgical reconstruction techniques aimed at enhancing functional outcomes. Despite this, many eligible patients may miss the opportunity for surgical intervention due to limited awareness of appropriate indications, candidate selection criteria, and the availability of specialized expertise. This article provides an overview intended to guide pediatric rehabilitation physicians in recognizing common upper limb presentations in cerebral palsy, conducting appropriate assessments, selecting candidates, and understanding available surgical reconstructive options. Copyright © 2025 by Korean Academy of Rehabilitation Medicine.

143. **Factors affecting response to furosemide stress test among critically ill hypoalbuminemic patients with AKI without prior albumin infusion.**

Authors: Soliman, Amin Roshdy;Yousry, Ahmed and Maamoun, Hoda Abdelhamid

Publication Date: 2025

Journal: BMC Nephrology

Abstract: BACKGROUND: Acute kidney injury (AKI) is a common and serious condition often associated with hypoalbuminemia, which can influence the pharmacokinetics and efficacy of diuretics like furosemide. In critically ill patients, sepsis is the major cause of AKI, accounting for nearly 50% of cases. OBJECTIVE: To evaluate whether AKI patients with hypoalbuminemia can respond to FST without albumin supplementation. METHODS: This is a prospective quasi-experimental study. Patients were obtained from the intensive care unit of Cairo University Hospital with AKI stages 1 and 2 with hypoalbuminemia. A bolus of furosemide was administered at a dose calculated to be 1-1.5 mg/kg in a single dose to patients without a prior diagnosis of kidney disease and clinical signs of hypovolemia. RESULTS: A total of 41 critically ill patients with AKI were enrolled, aged between 18 and 80 years, of whom 56.10% had diabetes mellitus, 53.70% were on at least one nephrotoxic medication, and 56.10% had sepsis as the cause of AKI. The median (IQR) albumin level was 1.9 g/dL (1.4-2.7). Among 41 hypoalbuminemic AKI patients included, 80.50% responded to FST without prior albumin infusion. Non-responders had significantly lower baseline serum albumin levels, median (IQR) 1(1-2) vs. 2 (1-3) g/dL, p : A total of 41 critically ill patients with AKI were enrolled, aged between 18 and 80 years, of whom 56.10% had diabetes mellitus, 53.70% were on at least one nephrotoxic medication, and 56.10% had sepsis as the cause of AKI. The median (IQR) albumin level was 1.9 g/dL (1.4-2.7). Among 41 hypoalbuminemic AKI patients included, 80.50% responded to FST without prior albumin infusion. Non-responders had significantly lower baseline serum albumin levels, median (IQR) 1(1-2) vs. 2 (1-3) g/dL, p CONCLUSION: AKI patients with mild-to-moderate hypoalbuminemia may still respond to FST without albumin infusion, although response rates decline with the increasing severity of hypoalbuminemia. The FST remains a valuable predictive tool in hypoalbuminemic AKI patients but warrants further investigation to optimize its utility in this population. CLINICAL TRIAL NUMBER: Not applicable. Copyright © 2025. The Author(s).

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144. **Trazodone for the pharmacological management of aggressive challenging behaviour in people with intellectual disabilities: a rapid review**

Authors: Sterritt, James Michael and Whight, Alison

Publication Date: 2025

Journal: Advances in Mental Health & Intellectual Disabilities

Abstract: Purpose: Pharmacological management of aggressive challenging behaviour (ACB) in people with intellectual disabilities ordinarily prioritises the use of antipsychotics, which have

significant adverse effects. Antidepressant prescribing for this indication is increasing, with relatively favourable side effect profiles, but without evidential support of efficacy. Trazodone is used in the evidence-based management of aggression in other populations and typically lacks the side effects of commonly prescribed antidepressants. This study aims to review the evidence of trazodone for managing ACB in people with intellectual disabilities. Design/methodology/approach: A rapid review methodology was used to report findings following PRISMA guidance. The search strategy was carried out in Embase, MEDLINE and PsycInfo for articles reporting primary data on trazodone to manage ACB in people with intellectual disabilities. It was run twice in November 2023 and April 2024. Additional articles were identified from references of articles retrieved by the search strategy. Inclusion and exclusion criteria were designed to screen articles. Findings: A total of 174 papers were identified, and four met full inclusion criteria. Three were case studies, and one was a single arm, open label trial. Trazodone was generally effective and well-tolerated in the management of aggressive and challenging behaviour. Limitations included small sample sizes, lack of controls and blinding, lack of subgroup analysis, varied and subjective outcome reporting, dual diagnosis and treatment resistance, little consideration of underlying causes of aggression and wide dose ranges. Originality/value: This rapid review presents preliminary evidence of an effective, tolerable and safe alternative to usual pharmacotherapies in the management of ACB.

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145. **Quantifying the impact of clinical coding in chronic kidney disease on risk of death and COVID-19 death.**

Authors: Stewart, Stuart;Kalra, Philip A.;Kontopantelis, Evangelos;Blakeman, Tom;Tilston, George and Sinha, Smeeta

Publication Date: 2025

Journal: PLoS ONE

Abstract: BACKGROUND: Patients with biochemical evidence of chronic kidney disease (CKD) without a diagnostic code (uncoded CKD) in primary care are at increased risk of death, acute kidney injury (AKI), and unplanned hospital care. Uncoded CKD is highly prevalent and there is no data to evaluate whether patients with uncoded CKD were at an increased risk of COVID-19 death. Aim: to assess whether patients with uncoded CKD stages 3-5 were at increased risk of death and COVID-19 deaths. METHODS: Descriptive and inferential analyses to measure adjusted hazard of death, and COVID-19 death in patients with CKD stages 3-5 from 2.85 million primary care patients in Greater Manchester, England. Sensitivity analyses using propensity score matching and competing risk regression. RESULTS: Coded CKD stages 3 and 4 (versus uncoded) were associated with significantly lower adjusted hazards of death (HR 0.81, CIs 0.77-0.86, p=: Coded CKD stages 3 and 4 (versus uncoded) were associated with significantly lower adjusted hazards of death (HR 0.81, CIs 0.77-0.86, p=: Coded CKD stages 3 and 4 (versus uncoded) were associated with significantly lower adjusted hazards of death (HR 0.81, CIs 0.77-0.86, p=CONCLUSION: Our retrospective cohort study suggests that clinical coding is a digital intervention associated with a lower adjusted hazard of death and COVID-19 death in patients with CKD stages 3 and 4, and should be considered a key element in the organisation and delivery of care for people with CKD. Copyright: © 2025 Stewart et al. This is an open access article distributed under the

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146. **Client and Pantry Factors Influencing Transportation-Related Barriers Among Users of Food Pantries: A Cross-Sectional Analysis.**

Authors: Stone, Jackson F.;Bales, John R.;Harris, Jonathan D.;Harper, Claire E.;Scott, Joshua J.;Kotva, Joseph J. and Lassen, David S.

Publication Date: 2025

Journal: Foods

Abstract: Food insecurity is a pervasive public health issue in the United States. While food pantries attempt to alleviate this issue, their effectiveness is limited by structural and logistical barriers that affect service accessibility. Transportation is a frequently underexamined barrier for individuals trying to access food aid. The purpose of this study is to assess the interplay of client- and pantry-level characteristics and their influence on food aid accessibility across several transportation modalities. This cross-sectional survey study collected data from 430 food pantry clients concerning their demographics, transportation methods, and perceptions of transportation barriers. Pantry characteristics were also collected focusing on transportation infrastructure and operational policies. Individual and grouped comparisons were made between transportation methods in relation to pantry visitation, with those walking, biking, and taking a bus to the pantry grouped to compare to those taking a car. Higher food insecurity score, smaller household size, single relationship status, and race were independently associated with increased odds of walking, biking, or taking a bus to the pantry. Having closer bus stops, more bus lines, and no monthly use limits were independently associated with increased odds of walking, biking, or taking a bus to the pantry. Several characteristics were associated with specific transportation modalities when accessing food aid. Our results are particularly concerning given the increased food insecurity and additional vulnerabilities seen in those who walk, bike, or take the bus to the pantry. Transportation disadvantage may be ameliorated by less restrictive pantry use policies and more robust public transit.

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147. **Social determinants of youth with mild intellectual disability in outpatient care for mental health disorders: a case–control study**

Authors: Storm, M. M. C.;Giltay, E. J.;van Eldik, W. M.;Palstra, E. C.;van Duin, E. D. A.;van den Berg, D. and Vermeiren, R. R. J. M.

Publication Date: 2025

Journal: European Child & Adolescent Psychiatry

Abstract: This study examined the unique role of multiple social determinants of mental health (SDOMH) associated with mental health disorders (MHD) for children with mild intellectual disability (MID), advancing understanding in a fragmented research area. Using a population-based case–control study design, four groups aged 0–17 years (Mage = 10.6, 35.6% female)

were studied: children receiving outpatient mental health care for MHD with MID (n = 505) and without MID (n = 2767), each with a matched control group from the general population (n = 2525 and n = 13,835, respectively). Through multivariate logistic regression analyses, both MHD groups were compared to their control group and each other to examine the likelihood of a SDOMH associated with receiving mental health care for MHD in children with and without MID. Children with MID receiving mental health care showed significant differences in multiple domains compared to their control group and to children receiving mental health care without MID. They were less likely to have European-born mothers, more likely to have parents with moderate or low education levels, and tended to live in smaller, single-parent, lower-income households. Similar, though less deviant, patterns were observed for children receiving mental health care without MID compared to the general population, except for parental education. Our study highlights that SDOMH are associated with the likelihood of receiving care for MHD in children. Moreover, children with MID face disproportionate disadvantages, particularly regarding low parental education and household income. Thus, interventions should not only target the child but also their family and environmental context.

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148. **Risk factors, outcomes, and early prediction of cardiac surgery-associated acute kidney injury: a post hoc subgroup analysis of the Epidemiology of Surgery Associated Acute Kidney Injury study.**

Authors: Strauss C.;Albert F.;Bormann E.;Engelman D.T.;Bellomo R. and Zarbock, A.

Publication Date: 2025

Journal: British Journal of Anaesthesia

Abstract: Background: Cardiac surgery-associated acute kidney injury (CSA-AKI) is a common and important complication. The risk factors for CSA-AKI remain poorly described. We aimed to identify risk factors for CSA-AKI and develop a risk score for persistent CSA-AKI. Method(s): We performed a post hoc subgroup analysis restricted to patients who underwent cardiac surgery within the Epidemiology of Surgery Associated Acute Kidney Injury (EPIS-AKI) study. CSA-AKI was defined as AKI (according to the Kidney Disease: Improving Global Outcomes criteria) within 72 h after surgery. Persistent CSA-AKI was defined as CSA-AKI lasting >48 h. We performed multivariable logistic regression analyses to identify risk factors for CSA-AKI and related outcomes. Result(s): The original EPIS-AKI study included 3101 cardiac surgery patients. Of these, 802 (25.9%) developed CSA-AKI. On follow-up, 279 of the 802 patients (34.8%) developed persistent CSA-AKI. We identified independent risk factors for CSA-AKI, moderate/severe CSA-AKI, and persistent CSA-AKI. Patients with persistent CSA-AKI had a higher ICU and hospital mortality compared with patients with transient CSA-AKI. We developed a risk score for predicting persistent CSA-AKI with an area under the receiver operating characteristic curve of 0.79 (95% confidence interval, 0.7355-0.8457). Conclusion(s): Overall, 25% of cardiac surgery patients developed CSA-AKI, and 33% of these patients experienced persistent CSA-AKI, which was associated with poor outcomes. We developed a risk score for predicting persistent CSA-AKI, the 'EPIS CSA-AKI risk score'. Pending further external validation, the score might be used to identify patients who have a high risk for developing persistent CSA-AKI.

149. **Postoperative Sepsis: A Clinical Audit of Obstetrics and Gynecological Cases.**

Authors: Sushma Rachel S. and D'almeida, J. D.

Publication Date: 2025

Journal: International Journal of Pharmacy Research and Technology

Abstract: Background: Postoperative sepsis is a major cause of illness and death after major surgeries, especially gynecological procedures, even with improvements in cleanliness and antibiotic use. This audit aimed to assess how often postoperative sepsis occurs, the types of microbes involved, and the risk factors linked to it in a tertiary care hospital. Method(s): We conducted a retrospective audit from July 2017 to September 2017, including all patients who underwent obstetric or gynecological surgeries. We collected data on the type of procedure, occurrence of sepsis, results from microbiological tests, and risk factors. Sepsis was defined as an infection related to systemic inflammatory response syndrome (SIRS) criteria. Result(s): A total of 528 patients underwent surgery; 307 cesarean sections and 221 gynecological surgeries. Postoperative sepsis occurred in 105 cases, with an incidence of 19.8%. The highest rates were seen in abdominal hysterectomy cases (26%) and vaginal hysterectomy cases at (31.5%). The lowest rates were in laparoscopic surgeries (12%). Catheter-associated urinary tract infection (CAUTI) was the most common postoperative infection (64%), followed by surgical site infection (SSI) with an incidence of 26%. The main microorganisms found were Klebsiella species, Escherichia coli, Enterococcus and MRSA. Conclusion(s): Postoperative sepsis was more commonly seen in gynecological surgeries, especially open procedures. The high rate of CAUTI emphasizes the need for careful catheter care, proper use of antibiotics during surgery, and ongoing infection monitoring to decrease sepsis cases.

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150. **Effect of introducing a pharmacist-led support system on the administration rate of vancomycin loading dose and the 0-24-hour area under the concentration-time curve.**

Authors: Tai, Tatsuya;Motoki, Takahiro;Watanabe, Masahiro;Kurokawa, Naohiro;Yamashita, Sayaka;Yamaguchi, Kazunori;Tanaka, Hiroaki;Muraki, Yuichi and Kosaka, Shinji

Publication Date: 2025

Journal: Antimicrobial Stewardship & Healthcare Epidemiology

Abstract: Objective: This study aimed to evaluate the impact of a pharmacist-led support system on the administration rate of vancomycin (VCM) loading dose, 0-24-hour area under the concentration-time curve (AUC0-24), incidence of acute kidney injury (AKI), and all-cause mortality in hospitalized patients. Design: This retrospective study with interrupted time series analysis was conducted from January 2021 to May 2024. Setting: A public tertiary referral center providing acute and specialized inpatient care in Japan. Patients: Among the 587 hospitalized patients who received VCM during the study period, 326 were evaluated. Intervention: The intervention comprised implementation of a pharmacist-led support system

involving prospective prescription review and direct intervention when a VCM loading dose (25-30 mg/kg) was not prescribed. Results: The loading dose administration rate increased significantly by 43.2% immediately introducing the support system (95% confidence interval: 8.40-77.90; P = 0.0156), without significant trend change thereafter. AUC0-24 also increased significantly (241.0 vs 307.0; P Conclusions: The support system improved the loading dose administration rate and AUC0-24 without significantly increasing AKI or mortality. The improvement was immediate and sustained over 122 weeks, supporting its use in institutions aiming to optimize VCM loading doses where evidence remains limited. Copyright © The Author(s) 2025.

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151. **Proactive Telehealth-Based Sepsis Transition and Recovery Support, Hospital Readmission, and Mortality: A Randomized Clinical Trial.**

Authors: Taylor S.P.;Eaton T.;Rios A.;Boyd D.;Tapp H.;McWilliams A.;Chou S.H.;Halpern S.;Angus D.C.;McCurdy L.;Ganesan A.;Nguyen H.;Connor C.D. and Kowalkowski, M.

Publication Date: 2025

Journal: JAMA Internal Medicine

Abstract: IMPORTANCE Sepsis survivors experience high morbidity and mortality after discharge, but health systems lack effective approaches to improve recovery. OBJECTIVE To evaluate the effect of a sepsis transition and recovery (STAR) program compared with usual care on postdischarge outcomes. DESIGN, SETTING, AND PARTICIPANTS The ENCOMPASS (Engagement and Collaborative Management to Proactively Advance Sepsis Survivorship) stepped-wedge cluster randomized clinical trial was conducted among adults hospitalized with sepsis at 7 US hospitals in a single health care system from July 2020 to June 2023. Each hospital was a cluster, with 1 randomly transitioning to STAR every 4 months. Follow-up ended in December 2023. INTERVENTIONS The STAR program was a navigator-led, telehealth-based strategy to proactively deliver evidence-driven postsepsis care to high-risk patients for 90 days after discharge. MAIN OUTCOMES AND MEASURES The primary outcome was the composite of all-cause hospital readmission or mortality within 90 days of discharge. RESULTS Of 3548 patients enrolled, 1843 (52%) were women, and the median (IQR) age was 68 (57-77) years; 1160 (33%) were admitted to the intensive care unit. A total of 1426 patients were randomized to the usual care group and 2122 patients were randomized to the STAR group. In the STAR group, 1393 patients (66%) engaged with the STAR program at least once after discharge. The composite all-cause readmission or mortality at 90 days did not differ between the STAR and usual care groups (1023 [48.2%] vs 684 [48.0%]; adjusted odds ratio, 1.05; 95% CI, 0.90-1.24; P = .53). Analysis of the outcomes separately demonstrated a lower frequency of death among patients in the STAR group compared with those in the usual care group (367 [17.3%] vs 292 [20.5%]; adjusted odds ratio, 0.88; 95% CI, 0.77-0.99; P = .04) and a higher frequency of readmission among patients in the STAR group (763 [35.9%] vs 478 [33.5%]; adjusted odds ratio, 1.13; 95% CI, 0.92-1.38; P = .24). CONCLUSIONS AND RELEVANCE In this randomized clinical trial, a multicomponent, navigator-led STAR program did not reduce the composite of all-cause readmission and mortality at 90 days after discharge.

152. **Factors and outcomes associated with acute kidney injury in brain tumor resection patients: insights from a large US database (2010-2019).**

Authors: Tian, Binbin;Chen, Mingdi;Cheng, Junfen;Wang, Jian;Geng, Boqi;Mo, Junde;Zhong, Guorong and Chen, Zhugui

Publication Date: 2025

Journal: Renal Failure

Abstract: Acute kidney injury (AKI) is a major perioperative complication following brain tumor resection, yet multi-center studies on this topic remain scarce. This study aimed to determine the incidence, risk factors, and clinical outcomes associated with AKI in patients undergoing brain tumor resection, utilizing a nationally representative dataset. We analyzed brain tumor resection admissions from the United States' National Inpatient Sample database (2010-2019), identifying hospitalizations with and without AKI using International Classification of Diseases, Ninth Revision, Clinical Modification and International Classification of Diseases, Tenth Revision, Clinical Modification codes. Multivariable logistic regression analyses were performed to evaluate the associations between patient/hospital characteristics, comorbidities, complications and AKI. Among more than 40,000 brain tumor resection admissions, AKI occurred in 3.1% of hospitalizations, with prevalence rising from 1.8% in 2010 to 4.4% in 2019. AKI-associated admissions had higher costs (median $171,904 vs. $99,821, p p p p =65 years, Black/Hispanic race, congestive heart failure, diabetes, fluid and electrolyte disorders, other neurological disorders, obesity, and chronic kidney disease excluding end-stage renal disease. Medical complications associated with increased AKI risk included septicemia, deep vein thrombosis, urinary tract infection, pneumonia, and cerebral edema. Female sex and elective admission were protective factors. Prompt identification of these risk factors is crucial for optimizing perioperative management and improving clinical outcomes.

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153. **Association between oxycodone-acetaminophen use and acute kidney injury in patients with lower extremity fractures: A retrospective cohort study.**

Authors: Tian, Congli;Zhang, Pengju;Niu, Guoyan and Zheng, Jianlong

Publication Date: 2025

Journal: Medicine

Abstract: Mortality rates in individuals suffering from acute kidney injury (AKI) are notably high. The association between the administration of oxycodone-acetaminophen and the onset of AKI remains elusive. We explored the connection between the use of oxycodone-acetaminophen and the development of AKI among hospitalized patients with fractures in the lower limbs. We employed the Critical Care Medical Information Mart (Simulation) IV database and studied the occurrence of AKI in individuals with fractures of the lower extremities. Information on the administration of oxycodone and acetaminophen during the 48 hours following hospitalization was collected. The logistic regression approach was used to analyze

the outcomes between the 2 groups, with several models adjusted simultaneously. The reliability of the results was evaluated by conducting both stratified and sensitivity analyses. We conducted a retrospective cohort study involving 2801 patients with lower extremity fractures, including 339 oxycodone-acetaminophen users and 2462 non-users. The overall rate of AKI was 65.6% (1844/2801). The rate for non-users was 64.6% (1591/2462), whereas it was 74.6% (253/339) for non-users. After controlling for confounding variables, the use of oxycodone-acetaminophen was linked to a 38% increased risk of AKI (hazard ratio = 1.38, 95% confidence interval = 1.02-1.87, P .05. The use of oxycodone-acetaminophen within 48 hours of hospitalization may increase the risk of AKI in patients with lower extremity fractures. However, further randomized controlled trials are needed to elucidate this relationship.

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154. **Occurrence and overlap of physical and mental health conditions in autistic adults**

Authors: Torenvliet, Carolien;Radhoe, Tulsi A. and Geurts, Hilde M.

Publication Date: 2025

Journal: Autism: The International Journal of Research & Practice

Abstract: Mental and physical health conditions are a major topic of concern in autistic adults, but studies rarely consider their overlap. Therefore, this study assessed physical health conditions and mental health conditions in autistic adults in the Netherlands and potential associations between them. Using questionnaires, we compared autistic (n = 327) and non-autistic (n = 274) adults (30–90 years) on mental health conditions, physical health conditions, and health-related quality of life. Autistic adults reported lower health-related quality of life than non-autistic adults. Logistic regressions indicated significantly higher rates of all mental health conditions reported by autistic adults, most common being mood (45%), anxiety (22%), and personality disorders (21%), with odds ratios ranging from six to 34. Regarding physical health conditions, autistic adults reported significantly higher rates of bowel conditions (27%), allergies (48%), and hypothyroid conditions (6%), with odds ratios ranging from two to four. Psychometric network analysis of autism and the most frequently occurring mental health conditions and physical health conditions highlighted autism as a central node, followed by mood and personality disorders, bowel and respiratory conditions, and allergies. Mental health conditions were tightly clustered, indicating high comorbidity. While no single condition connected physical and mental health in particular, we found several links between the two. These findings emphasize the need for improved healthcare and broader societal changes to enhance the well-being of autistic individuals. Autistic adults often face a range of physical and mental health conditions, but the relationship between these two types of health issues is not well understood. Our study looked at how often physical and mental health conditions in autistic adults occurred. We also studied the connections between these conditions, using a method called psychometric network analysis. We surveyed 327 autistic and 274 non-autistic adults, aged 30–90 years, about potential health conditions they faced and the perception of the quality of their health, also known as health-related quality of life. We found that autistic adults had a lower health-related quality of life and reported higher rates of all mental health conditions. Mood (45%), anxiety (22%), and personality disorders (21%) were most common. Autistic adults were between six and 34 times more likely to have these mental health conditions compared to non-autistic adults. In terms of physical health, autistic adults reported

higher rates of bowel conditions (27%), allergies (48%), hypothyroid conditions (6%), and less robustly of strokes (CVA/TIAs; 3%), and rheumatic conditions (31%)— and a two- to four-times higher risk than non-autistic adults. Using psychometric network analysis, we found that mental health conditions in autistic adults are closely linked, showing how complex their health challenges are. While there was no single condition that connected physical and mental health in particular, we found several links between the two. These findings emphasize the need for improved healthcare and broader societal changes to enhance the well-being of autistic individuals.

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155. **Current Variation in the Postoperative Management of Patients With Cerebral Palsy Undergoing Lower Extremity Surgery: A Survey of Surgeon Practices.**

Authors: Trionfo, Arianna;Herrero, Christina;Howard, Jason J. and Wade Shrader, M.

Publication Date: Nov ,2025

Journal: Journal of the Pediatric Orthopaedic Society of North America

Abstract: Background: Children with cerebral palsy (CP) often develop lower limb deformities requiring surgical management. However, optimal postoperative management strategies-including weight-bearing progression, immobilization, and rehabilitation protocols-remain unclear. The purpose of this study was to evaluate current postoperative practices following lower extremity surgery in youth with CP. Methods: A 42-question electronic survey was sent to 114 practicing orthopaedic surgeons in the American Academy for Cerebral Palsy and Developmental Medicine. Six questions regarding seven surgical procedures (pelvic osteotomy, proximal femoral osteotomy, tibial osteotomy, isolated soft-tissue procedures, foot osteotomies, and foot fusions) were presented. Surgeons were asked about weight bearing, immobilization, initiation of physical therapy, standardized protocols, evaluation for inpatient rehabilitation, and educational sessions. Consensus was defined as >75% agreement for a given response (based on Delphi methodology). Results: Sixty-five surgeons from North America responded (57% response rate), with predominantly neuromuscular practices. Consensus was reached on only four of 42 questions (9.5%). Regarding weight bearing, 87.7% of surgeons allowed immediate weight bearing after isolated soft-tissue procedures. For immobilization, cast use reached consensus only for distal lower extremity surgeries including tibial osteotomy (95%), foot osteotomy (98%), and foot fusion (100%). Concerning rehabilitation and planning, no consensus was reached for any item. Conclusions: There was substantial heterogeneity in postoperative practices for children with CP undergoing lower extremity surgery. Other than immediate weight bearing after soft-tissue procedures and casting after distal bony procedures, no clear consensus emerged for weight-bearing progression, immobilization method, or rehabilitation planning. This variability may influence functional outcomes and patient satisfaction. Future studies regarding postoperative practices are warranted. Key Concepts: (1)Postoperative management varies widely for cerebral palsy (CP) patients after lower extremity surgery.(2)Weight-bearing protocols vary: some allow early weight bearing, while others restrict for 8 weeks.(3)No standardized guidelines exist for rehab after lower extremity surgery in CP. Level of Evidence: IV.

156. **A Systematic Review and Meta-Analysis to Study the Effectiveness of Hand-Arm Bimanual Intensive Therapy Including Lower Extremities in Children with Cerebral Palsy.**

Authors: Tyagi D. and Begum, R.

Publication Date: 2025

Journal: Indian Journal of Physiotherapy and Occupational Therapy

Abstract: Background: Cerebral palsy (CP) is the most common pediatric motor disorder caused by atypical brain development, especially affecting pathways controlling skilled movements. Motor impairments in CP significantly impact daily activities due to reduced manual abilities and gross motor function, affecting quality of life and participation. Hand-arm bimanual intensive therapy with lower extremity (HABIT-ILE) is an intensive intervention designed for children with unilateral CP. It integrates bimanual training with postural control and lower-extremity function, based on motor learning principles to induce practice-driven brain changes. Objective(s): To evaluate the effectiveness of HABIT-ILE in improving upper and lower extremity motor functions in children with CP. Method(s): A systematic review and meta-analysis were conducted following PRISMA-2020 guidelines. Four databases were searched for studies involving children aged 1-18 years. Risk of bias was assessed using Cochrane tools. Effect sizes were analyzed using forest plots, with heterogeneity assessed by tau-squared, chi-square, and I-squared statistics. Result(s): Six studies (3 RCTs, 3 non-randomized) met criteria. Meta-analysis revealed significant heterogeneity. Overall effect sizes favored conventional treatments over HABIT-ILE for both upper and lower extremities. Subgroup analyses showed consistent results. Conclusion(s): Despite heterogeneity, findings favor conventional treatments. Further research is needed to explore heterogeneity and validate HABIT-ILE's effectiveness.

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157. **Evaluation of wrist and finger function in healthy children through music-based video game therapy.**

Authors: UrbinaAlarcon J.;Angulo A.;Abarca V.E. and Elias, D. A.

Publication Date: 2025

Journal: Journal of NeuroEngineering and Rehabilitation

Abstract: Background: The loss of hand and wrist function significantly impairs an individual's ability to perform everyday tasks, resulting in reduced independence and a lower quality of life. Neurological disorders, such as cerebral palsy, are among the leading causes of such impairments. These conditions often lead to difficulties with muscle strength, coordination, and motor control, impacting an individual's ability to manipulate objects. Cerebral palsy is a prevalent neurological disorder in children that often causes severe impairments in hand and wrist function. Traditional rehabilitation methods, such as physiotherapy, are effective but often suffer from poor adherence, especially in pediatric populations. Therefore, the use of engaging interventions, such as music-based and game-based therapies, holds significant promise for improving therapy adherence and effectiveness in children with cerebral palsy. Method(s): The

proposed rehabilitation system integrates a wearable data glove with a music-based serious game to promote hand and wrist function in children with neurological impairments. The data glove, equipped with two inertial measurement unit sensors, detects hand and wrist movements, serving as the primary input device for the game. The game design incorporates music therapy elements, including metronome-based rhythms and volume feedback to motivate movement and enhance neuroplasticity. Three distinct games are designed to target wrist flexion and extension, ulnar and radial deviation, and gross motor grip. Result(s): Ten healthy pediatric participants completed all sessions under both music and no-music conditions. As the data were non-normal, the Wilcoxon signed-rank test was used. Statistically significant differences were found in all games, although effect sizes were small. These results suggest that music may subtly modulate motor performance. For example, in the Rocket game, music reduced variability and range of motion, suggesting more controlled wrist flexion/extension. In the Squirrel and Bubble games, music contributed to smoother movements and greater consistency in pinch grip, respectively. Usability survey data revealed high levels of user satisfaction and enjoyment, with items related to clarity, comfort, engagement, and particularly relaxation showing significant differences above neutral (). Conclusion(s): This study provides exploratory evidence supporting the feasibility of music-based, game-driven rehabilitation tools in pediatric populations. Although the observed effects were modest, the system demonstrated high usability and acceptability. Future studies should include clinical populations, assess longer-term retention effects, and further investigate how music-induced relaxation may support engagement and treatment adherence in rehabilitation contexts.

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158. **Experiences of pediatric physiotherapists on the use of walking orthoses in children with cerebral palsy: A quantitative examination.**

Authors: Uysal, Halil Hakan;Ozel, Cemile Bozdemir;Sel, Sinem Asena;Fidan, Hande;Burc, Eda;Erdem, Sabri and Gunel, Mintaze Kerem

Publication Date: 2025

Journal: Medicine

Abstract: Orthoses play an important therapeutic role in the rehabilitation of children with cerebral palsy (CP). Studies examining the factors that physiotherapists consider when prescribing orthotics are limited in the literature. This study aimed to examine physiotherapists' perspectives and experiences with using walking orthoses in patients with CP. A total of 207 physiotherapists working with children with CP were included in this online cross-sectional study. The questionnaire consisted of examining the knowledge of the physiotherapist about walking orthoses, such as the types of orthoses that are preferred in clinical decision-making, which evaluation methods are used in the decision-making process in orthosis selection, and changes in orthosis usage based on International Classification of Functioning. Less than half of physiotherapists rated their knowledge of orthotics as "good" (n = 102, 49.3%). The most commonly used clinical methods to recommend orthoses are gait pattern, muscle tone, observational gait analysis, and activity targets. Physiotherapists reported a decrease in the severity of the structural disorder in the legs and feet and improvement in participation in daily life and activities after using orthoses. In contrast, social policies and health services pose a major barrier to children's use of orthoses. According to the International Classification of Functioning Framework analysis, mobilization was related to activities of daily living, family and

technology use, movement functions, social support and health, and sleep-mood-pain (P

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159. **Improving neuroplasticity and Quality of Life in children with Cerebral Palsy: a customized intensive motor training protocol integrating the HABIT-ILE approach.**

Authors: Vacchini, Valeria;Brafa, Benedetta;Nicotra, Roberta;Capelli, Elena;Signorini, Sabrina;Gasparroni, Verusca;Michelutti, Arianna;Oldrati, Viola;Galli, Jessica;Urgesi, Cosimo;Cattaneo, Zaira;Fazzi, Elisa Maria;Borgatti, Renato;Finisguerra, Alessandra and Orcesi, Simona

Publication Date: 2025

Journal: Frontiers in Rehabilitation Sciences

Abstract: Introduction: Cerebral Palsy (CP) refers to a heterogeneous group of disorders resulting from early brain injury during development. The clinical and functional consequences are variable, but primarily characterized by motor and postural deficits that limit independence in activities of daily living, impacting child's and family's quality of life. There is consensus on the effectiveness of rehabilitative interventions when started early and administered intensively, leveraging neuronal plasticity. The Hand-Arm Bimanual Intensive Training Including Lower Extremities (HABIT-ILE) rehabilitation approach was developed to improve motor skills in children with CP, focusing on bimanual activities with integration of the lower limbs. The aim of this study is to present an intensive, individualized motor training protocol, based on HABIT-ILE principles, tailored for children and adolescents with CP. Methods: To develop the protocol, we conducted a review of literature on HABIT-ILE applications. Additionally, we carried out multidisciplinary focus groups with professionals from three Italian Centers. These discussions focused on therapeutic setting, identifying materials, structuring play activities, to define strategies to enhance applicability and impact of the protocol. Results: An intensive intervention protocol based on HABIT-ILE was developed. It consists of 30 h over 10 consecutive days, with daily sessions of 3 h. The intervention, structured around bimanual activities and lower limb involvement, was personalized according to clinical and motivational profile and conceived to be administered in pairs to children aged 6-17 years with CP and upper limb asymmetry. Sessions are divided into three components: bimanual tasks, occupational activities, and gross-motor activities, ensuring a global approach and enhancing neuroplasticity. Daily activities are selected by patients from a predetermined pool chosen by therapists, based on individual profiles and adapted progressively. Discussion: The HABIT-ILE model represents an intensive and individualized approach for improving motor abilities in these patients. Our protocol, including personalization in an ecological context and pairwork, could increase motivation, adherence, and ultimately therapy effectiveness. We plan to verify feasibility, clinical effectiveness and sustainability of this model in multicenter contexts. Ongoing trials will provide evidence of applicability and efficacy, combined with non-invasive brain stimulation (NIBS) techniques such as transcutaneous vagus nerve stimulation or transcranial alternating current stimulation. Clinical Trial Registration: ClinicalTrials.gov, Identifiers NCT06372028 and NCT06372041. Copyright © 2025 Vacchini, Brafa, Nicotra, Capelli, Signorini, Gasparroni, Michelutti, Oldrati, Galli, Urgesi, Cattaneo, Fazzi, Borgatti, Finisguerra, Orcesi and Boost Working Group.

160. **Estimating the contribution of musculoskeletal impairments to altered gait kinematics in children with cerebral palsy using predictive simulations.**

Authors: Van Den Bosch, Bram;D'Hondt, Lars;Jonkers, Ilse;Desloovere, Kaat;Van Campenhout, Anja and De Groote, Friedl

Publication Date: 2025

Journal: Journal of Neuroengineering & Rehabilitation

Abstract: BACKGROUND: Cerebral palsy (CP) is caused by a brain lesion around birth leading to impaired motor control, bony deformities, muscle contractures, and weakness resulting in altered gait. Since the brain lesion cannot be cured, treatment aims at improving mobility. Multilevel surgery targets muscle and bony impairments but the outcome of multilevel surgery is variable and unpredictable due to our limited insight in the contribution of musculoskeletal impairments to gait alterations. METHODS: Here, we used predictive simulations based on personalized musculoskeletal models to identify the contribution of musculoskeletal impairments to altered gait in eight individuals with CP scheduled for multilevel surgery. For each individual, we generated gait patterns based on eight models with different levels of personalization. We modeled muscle weakness, muscle contractures, and/or bony deformities of hip and knee and evaluated the contribution of these impairments to deviations in kinematics by comparing simulated and experimental kinematics. RESULTS: The contribution of modeled musculoskeletal impairments to kinematic deficits was on average 17% and never more than 39%, in line with the limited and variable effect of multilevel surgery targeting musculoskeletal impairments. Muscle contractures had the largest effect on the predicted kinematics and their effect was magnified by bony deformities and weakness. CONCLUSION: Our results suggest an important contribution of motor control and unmodeled musculoskeletal impairments (e.g. shank and foot deformities) to alterations in the gait pattern. Model-based simulations are a promising tool to determine the contribution of musculoskeletal impairments to alterations in gait kinematics in individuals with CP.

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161. **A novel, standardised approach to balancing effectiveness, efficiency and utility of surveillance AI prediction models for hospitalised patients using sepsis prediction as an exemplar**

Authors: van der Vegt A.H.;Campbell V.K.;Webb R.;Venkatesh B.;Lane P.J.;Wilks K.;McPhail S.;Rice M.;Isaacs T.;AbdelHafez A.;Whebell S.;Irwin A.;Schnetler R.J.;Shetty A. and Scott, I. A.

Publication Date: 2025

Journal: Journal of the American Medical Informatics Association : JAMIA

Abstract: OBJECTIVE: To introduce a novel, standardised approach to evaluating AI prediction models in balancing effectiveness, efficiency and utility, using a sepsis prediction

model case study. MATERIALS AND METHODS: Retrospective patient data from electronic medical records of 7 public hospitals was used to retrain and evaluate a machine learning sepsis prediction model. Four conventional metrics-area under the receiver operating curve (AUROC), sensitivity, positive predictive value, and specificity-were compared with a novel graphical display integrating metrics of predictive accuracy (effectiveness), alert burden (efficiency) and lead time of alerts relative to clinical events (utility) for different alert thresholds. RESULT(S): The dataset comprised 977,506 inpatient admissions. The novel methodology produced a plot of four vertically aligned graphs that enables decision-makers to identify an alert threshold that optimally balances effectiveness, efficiency and utility (EEU) at the level of an entire admission, and which differs from that derived using conventional metrics. DISCUSSION(S): Conventional evaluation metrics do not consider alert timing relative to clinical events and are often applied to different evaluation datasets (sample and admission level), introducing bias and confusion. In contrast, the EEU methodology (i) generates admission level evaluations at different alert thresholds; (ii) measures alert timing relative to clinical events; and (iii) provides a visual display that enables identification of the alert threshold that optimally balances EEU factors. CONCLUSION(S): Evaluations of prediction models for adverse events in hospitalised patients should incorporate the EEU approach in assessing model suitability and selecting alert thresholds.

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162. **Sleep and physical activity: the experiences of adults with cerebral palsy and recommendations for clinical practice**

Authors: van Rijssen, Ilse Margot;Gorter, Jan Willem;Visser-Meily, Johanna;Sommers-Spijkerman, Marion;Konijnenbelt, Manin;van Driel, Marieke and Verschuren, Olaf

Publication Date: 2025

Journal: Disability & Rehabilitation

Abstract: Purpose: Adults with cerebral palsy (CP) face challenges maintaining physical activity and good sleep. This study explores their experiences and describes factors influencing sleep and physical activity. Methods: We conducted semi-structured interviews with fourteen adults aged 23 to 58, of whom thirteen were ambulant. Participants were recruited via the Dutch patient organization for individuals with CP. Data were analyzed using inductive qualitative content analysis. Results: Three main themes emerged: balancing energy, rest and activity, and separate themes on sleep and physical activity. Balancing energy, rest and activity included subthemes of managing personal resources, interaction between sleep and physical activity, and presence of appropriate support and resources. Maintaining a healthy 24-h balance was crucial, yet participants often struggled achieving this balance and finding appropriate support. Experiences with sleep and physical activity were categorized into mental, physical, and environmental subthemes, which are closely interconnected. Conclusions: People with CP have difficulties with sleep, physical activity, and maintaining a healthy 24-h balance. Despite their motivation to maintain well-being, they often lack adequate support. Addressing these issues holistically can improve care and support for adults with CP. Youth rehabilitation services play a critical role in preparing adolescents with CP for adulthood by fostering self-management skills. IMPLICATIONS FOR REHABILITATION: Rehabilitation services should provide proactive education and guidance on sleep and physical activity to

adolescents with cerebral palsy to better prepare them for aging-related changes. Healthcare professionals should recognize and address cerebral palsy-specific challenges related to sleep and physical activity, such as pain, spasms, sensitivity to stimuli, and fatigue. Improving sleep education for medical trainees and drawing on rehabilitation strategies from other populations can enhance care for adults with cerebral palsy.

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163. **Variability and reproducibility of gait parameters in youth with cerebral palsy: Feasibility for multicenter motion analysis studies**

Authors: Veilleux, Louis-Nicolas;Courter, Robert;Feng, Jing;Warshauer, Spencer;Descôteaux, Nancy and Chafetz, Ross S.

Publication Date: 2025

Journal: Clinical Biomechanics

Abstract: Demonstrating instrumented gait analysis inter-evaluator reproducibility is essential to perform proper multicenter studies. Studies have evaluated inter-evaluator reproducibility but often were limited to highly experienced evaluators or assessed in healthy individuals only. The current study aimed at determining if introducing variability through evaluators with various years of gait analysis experience would lead to acceptable levels of reproducibility? Three adolescent and one young adult with cerebral palsy were each evaluated by four out of ten evaluators with various years of marker-based gait analysis experience. Gait analysis was performed on a 10-m walkway at patients' preferred speed. The intraclass correlation coefficient (ICC), and the intrinsic (inter-trial) and extrinsic (inter-evaluator) variability of gait parameters were computed. Ten evaluators from nine different motion analysis centers (average of 8.4 ± 10.4 years of gait analysis experience; min: 1 year; max: 33 years) participated in the study. For most joints, good to excellent (0.75 to 1 ICCs) reproducibility was reported. Error analysis revealed that the main source of variability was associated with evaluators and not patients' gait. Regression analysis showed that years of experience in a motion analysis center was not a significant predictor of mean inter-evaluator deviation ($\beta = -0.002 \pm 0.006$; $p = 0.659$) or of its standard deviation ($\beta = -0.002 \pm 0.004$; $p = 0.650$). The result of the current project suggests that one year of marker-based gait analysis experience and reviewing of a procedure video prior to engaging in a study is sufficient to generate quality data. • Study isolated evaluator gait variability, while lab and data processing were kept constant. • Low variability and high reproducibility support replicable gait data for multicenter studies. • One year experience may yield reproducible gait data, yet the minimum is not defined.

164. **A machine learning predictive model for acute kidney injury among aneurysmal subarachnoid hemorrhage patients.**

Authors: Wang, Ruoran;Qian, Lingzhu;Zeng, Yunhui;Cai, Linrui;He, Min;Xu, Jianguo and Zhang, Yu

Publication Date: 2025

Journal: BMC Medical Informatics & Decision Making

Abstract: BACKGROUND: Acute kidney injury (AKI) has been confirmed to be related to the prognosis of aSAH patients. Evaluating the risk of AKI in the early stage is important to avoid the unfavorable outcome of aSAH patients. However, no study has explored the predictive value of machine learning algorithms for AKI after aSAH. This study was designed to develop a machine learning algorithm-based predictive model for AKI among aSAH patients. METHODS: The outcome of this study was the AKI confirmed using the KDIGO criteria. The predictive value of seven machine learning algorithms for the AKI among aSAH patients was explored and verified using the 5-fold cross-validation. The predictive efficiency of machine learning algorithms-based predictive models was evaluated by the area under the receiver operating characteristics curve (AUC). The Shapley Additive explanation method was performed to visualize the importance of features incorporated in machine learning algorithms-based predictive models. RESULTS: 711 aSAH patients were enrolled with an AKI incidence of 7.7%. The AKI group had higher WFNS ($p = 0.011$), Hunt Hess ($p = 0.006$), and lower Glasgow Coma Scale (GCS) ($p = 0.004$). The multiple aneurysm was more frequently observed in the AKI group ($p = 0.027$). The AKI group had longer length of ICU stay (p : 711 aSAH patients were enrolled with an AKI incidence of 7.7%. The AKI group had higher WFNS ($p = 0.011$), Hunt Hess ($p = 0.006$), and lower Glasgow Coma Scale (GCS) ($p = 0.004$). The multiple aneurysm was more frequently observed in the AKI group ($p = 0.027$). The AKI group had longer length of ICU stay (p : 711 aSAH patients were enrolled with an AKI incidence of 7.7%. The AKI group had higher WFNS ($p = 0.011$), Hunt Hess ($p = 0.006$), and lower Glasgow Coma Scale (GCS) ($p = 0.004$). The multiple aneurysm was more frequently observed in the AKI group ($p = 0.027$). The AKI group had longer length of ICU stay (p : 711 aSAH patients were enrolled with an AKI incidence of 7.7%. The AKI group had higher WFNS ($p = 0.011$), Hunt Hess ($p = 0.006$), and lower Glasgow Coma Scale (GCS) ($p = 0.004$). The multiple aneurysm was more frequently observed in the AKI group ($p = 0.027$). The AKI group had longer length of ICU stay (p CONCLUSIONS: The random forest model demonstrated superior performance in predicting AKI in aSAH patients, achieving a high AUC value, predictive accuracy, and remarkable stability. This model could help clinicians evaluate the risk of AKI in the early stage and guide therapeutic options among aSAH patients. Copyright © 2025. The Author(s).

165. **Off-Label Antipsychotic Withdrawal in People With Intellectual Disabilities: Development and Internal Validation of a Prediction Model**

Authors: Weijgertze-Lanser, Joëlle;Wissing, Maureen B. G.;Elbers, Roy G.;Jonker, Josien;de Kuijper, Gerda M. and Maes-Festen, Dederieke A. M.

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: Off-label antipsychotic use in people with intellectual disabilities and challenging behaviour is high. Antipsychotic withdrawal is recommended, but attempts are often unsuccessful. This study aimed to develop and internally validate a prediction model that provides insight into predicting factors for unsuccessful (i.e. incomplete) off-label antipsychotic withdrawal attempts in people with intellectual disabilities. Methods: Data collected in two previous studies examining the withdrawal of off-label antipsychotics in people with intellectual disabilities and challenging behaviour living mostly in 24/7 care settings (98.6%) in the Netherlands were analysed. The dataset included 141 participants (64.5% male, median age 52). We selected candidate predictors (age, level of intellectual disability, defined daily dose, autism spectrum disorder and three subscales of the Aberrant Behavior Checklist ABC], namely stereotypy, hyperactivity and lethargy) based on previous research and clinical relevance. A multivariable logistic regression analysis with backward selection procedures was conducted to identify significant predictors. The model was internally validated using bootstrapping procedures. Results: The analysis revealed the level of intellectual disability (p = 0.030, OR = 2.374), defined daily dose (p = 0.063, OR = 2.833), and ABC stereotypy (p = 0.007, OR = 1.106) as key predictors for unsuccessful withdrawals. The variables explained 20% of the variance (Nagelkerke's R-square, R2 = 0.200). The model calibrated well as the Hosmer and Lemeshow test was not significant. The discrimination of the model was fair to good; the Area Under the Curve (AUC) was 0.728. Internal validation procedures showed an optimism-corrected AUC of 0.706; the optimism-corrected Nagelkerke's R2 was 0.157. Conclusions: The odds of unsuccessful withdrawal increase with a more severe level of intellectual disability, a higher antipsychotic defined daily dose and higher stereotypy scores. The results inform healthcare providers about the predictive factors enabling them to better anticipate and support future withdrawal attempts.

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166. **Person-centred approach for people with learning disabilities in palliative care: the challenges**

Authors: Wilson, Ashleigh;Young, Julie and Haraldsdottir, Erna

Publication Date: 2025

Journal: BMJ Supportive & Palliative Care

Abstract: Competing Interests: Competing interests: None declared.; Background: People with a learning disability (PWLD) are living longer with a greater need for palliative care. Research has identified that people with a learning disability experience challenges when accessing palliative care with concerns that person-centred care is not being achieved.; Aim: The overall aim of this study is to present a meta-synthesis of qualitative studies. Focusing on the challenges of achieving person-centred care for PWLD and palliative care needs, to gain a

deeper understanding of the challenges they experience.; Method: A qualitative meta-synthesis literature review using a seven-phased model by Noblit and Hare was undertaken. An online literature search was conducted between 8 July 2024 and 31 July 2024 across four databases: SAGE publications, PubMed, Wiley Online Library and CINAHL.; Results: 10 studies were reviewed with 226 participants ranging from PWLD, support workers, health professionals and family members. Main themes identified were: a deficiency of knowledge, the importance of the environment, challenges in achieving effective communication and advance care planning to achieve better outcomes.; Conclusion: This qualitative meta-synthesis identifies the challenges of achieving person-centred care for PWLD and palliative care needs. It draws attention to person-centred theory and how this supports good person-centred care for PWLD. This paper went further to identify how person-centred theory links with the wider context of healthcare practice while exploring recommendations to improve practice and gaps in research. (© Author(s) (or their employer(s)) 2025. No commercial re-use. See rights and permissions. Published by BMJ Group.)

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167. **The Impact of Virtual-Reality-Based Physiotherapy on Upper Limb Function in Children with Cerebral Palsy**

Authors: Wojtowicz, Zuzanna;Czech, Katarzyna;Lechowska, Adrianna and Paprocka, Justyna

Publication Date: 2025

Journal: Journal of Clinical Medicine

Abstract: Background/Objectives: Cerebral palsy (CP) is one of the most common causes of permanent motor disability in children, and its consequences for upper limb function have a significant impact on the patient's independence and quality of life. Virtual reality is attracting increasing interest as a modern, engaging and effective method of physiotherapy for children with cerebral palsy. This systematic literature review aimed to synthesize current scientific data on the impact of virtual-reality-based physiotherapy on upper limb function in children with cerebral palsy. Methods: The review was conducted in accordance with PRISMA 2020 guidelines. PubMed, Science Direct, Scopus, Web of Science, Research Gate and Google Scholar databases were searched for studies published between 2010 and 2025. Six original studies meeting the following criteria were included in the analysis: virtual reality therapy, population of children with cerebral palsy, physiotherapy goals related to the upper limb and availability of full text. Results: All included studies demonstrated a positive impact of virtual reality on at least one functional parameter of the upper limb, including range of motion, muscle strength, coordination and manual precision. Task-oriented training, immersive virtual reality environments and home-based therapy supported by remote monitoring proved to be the most effective. The effects were particularly noticeable in children with moderate impairment at GMFCS I-III. Conclusions: Virtual reality represents a safe and promising technology to support upper limb physiotherapy in children with cerebral palsy. It can be used both in clinical and home settings, contributing to increased exercise intensity and motivation. Further long-term studies using high-quality methodology are needed to determine the sustainability of the effects and their impact on everyday living.

168. **A study of the correlation between serum bile acid profile and prognosis in patients with sepsis.**

Authors: Xu Y.;Zhang J.;Lu Y.;Zhang W.;Shi H.;Liang Q.;Wang Y. and Sun, L.

Publication Date: 2025

Journal: American Journal of the Medical Sciences

Abstract: Objective: Sepsis remains a major global health challenge, with high mortality associated with multi-organ dysfunction, faster identification and assessment of sepsis is beneficial to guide treatment. Studies have found changes in the composition of bile acids (BAs) in the serum and stool of patients with sepsis compared to healthy individuals, so we sought to explore changes in serum BAs in patients with sepsis and their correlation with prognosis. Method(s): This prospective study enrolled healthy individuals and sepsis patients admitted to the Intensive Care Unit of the Second Affiliated Hospital of Nanjing Medical University between January 2023 and January 2024. Clinical data were collected, and serum levels of 15 BAs were quantified using liquid chromatography-tandem mass spectrometry. Patients were categorized into groups based on 28-day outcomes, severity of illness, and infection source for subsequent analysis. Result(s): Compared with healthy individuals, the secondary BAs in sepsis patients were significantly lower, among which ursodeoxycholic acid (UDCA) is below the reference range. Compared with the survivors, the taurocholic acid (TCA) and taurodeoxycholic acid (TDCA) of the non-survivors of sepsis were significantly increased, while the UDCA was further decreased. Patients with pulmonary infection exhibited higher overall BA levels than those with abdominal infection. Both TCA and TDCA correlated positively with bilirubin, while UDCA correlated negatively with SOFA scores, C-reactive protein, and procalcitonin. In univariate COX regression, UDCA was associated with 28-day mortality (HR =0.990, P=0.042). ROC analysis showed that the area under the curve for UDCA predicting 28-day mortality was 0.643 (P=0.034). Conclusion(s): Secondary BAs were significantly reduced in sepsis patients, with UDCA showing the most pronounced decrease. This reduction becomes even more substantial in non-survivors. The overall BA levels were significantly higher in patients with pulmonary infection than in those with abdominal infection. UDCA was negatively correlated with SOFA score, CRP, and PCT in sepsis patients, and combining it with other indicators improves the prediction of sepsis prognosis. These results indicate that UDCA may exert a protective effect in sepsis.

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169. **The impact of early nutritional support on in-hospital mortality in patients with sepsis caused by bacterial or viral infections: a retrospective cohort study.**

Authors: Xu, Lihong;Wang, Jinlong;Yin, Xinyi;Li, Qing;Chen, Hui;Wang, Haofei;Hu, Wenhan;Peng, Qingyun;Yang, Shuhe;Meng, Shanshan;Huang, Wei and Huang, Yingzi

Publication Date: 2025

Journal: European Journal of Medical Research

Abstract: BACKGROUND: The impact of pathogen type on the relationship between early nutritional support and prognosis in sepsis patients remains unclear. This study aims to

evaluate the effect of early nutritional support on in-hospital mortality in patients with sepsis caused by viral or bacterial infections. MATERIALS AND METHODS: A retrospective cohort study was conducted, including adult patients with sepsis admitted to the intensive care unit (ICU) of Zhongda Hospital, Southeast University, between 2016 and 2023. Early nutritional support was defined as initiating nutritional support within 48 h of sepsis diagnosis. Patients were stratified based on pathogen type, and propensity score matching (PSM) and inverse probability weighting (IPW) were used to adjust for confounding factors. Logistic regression analysis was performed to assess the effect of early nutritional support on in-hospital mortality. RESULTS: A total of 2,278 patients with sepsis were included (119 viral and 2,159 bacterial). After adjustment, in the viral sepsis group, early nutritional support was associated with a lower in-hospital mortality compared to delayed support (25.0% vs. 30.0%, aOR 0.79, 95% CI 0.63-0.99, p = 0.046). In contrast, in the bacterial sepsis group, early nutritional support showed no significant benefit for in-hospital mortality (16.3% vs. 18.5%, aOR 1.02, 95% CI 0.98-1.06, p = 0.328). For bacterial sepsis, early support was associated with longer ICU length of stay and duration of mechanical ventilation among survivors. CONCLUSION: Early nutritional support may offer a potential survival benefit in patients with viral sepsis. Given the small size and borderline statistical significance, these findings should be interpreted with caution and require further validation through prospective randomized controlled trials.

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170. **Effects of an adapted dance exercise program on trunk control, balance and functional mobility in children and adolescents with cerebral palsy: randomized controlled study.**

Authors: Yekdaneh A. and Arman, N.

Publication Date: 2025

Journal: Physiotherapy Theory and Practice

Abstract: Aims: The study aimed to investigate whether an 8-week adapted dance exercise program (ADEP), delivered in addition to conventional physiotherapy, would improve trunk control, balance, functional mobility, and quality of life (QoL) in children and adolescents with cerebral palsy (CP) compared with conventional physiotherapy alone. Method(s): Thirty participants with CP (Gross Motor Function Classification System Level I-II) were randomly assigned to the ADEP group (n = 15) or the control group (n = 15). Both groups received conventional physiotherapy, while the ADEP group additionally performed physiotherapist-choreographed dance exercises accompanied by music, twice a week for 8 weeks. Outcomes included the Trunk Control Measurement Scale (TCMS) for trunk control, the Pediatric Balance Scale (PBS) for balance, the Timed Up and Go (TUG) for functional mobility, and the Pediatric Outcomes Data Collection Instrument (PODCI) for QoL. Result(s): The ADEP group showed significantly greater improvements than the control group in TCMS-Total (DELTA = 10.53 vs 3.50, p Result(s): The ADEP group showed significantly greater improvements than the control group in TCMS-Total (DELTA = 10.53 vs 3.50, p Result(s): The ADEP group showed significantly greater improvements than the control group in TCMS-Total (DELTA = 10.53 vs 3.50, p Result(s): The ADEP group showed significantly greater improvements than the control group in TCMS-Total (DELTA = 10.53 vs 3.50, p Result(s): The ADEP group showed significantly greater improvements than the control group in TCMS-Total (DELTA = 10.53 vs 3.50, p Conclusion(s): An 8-week ADEP program, when combined with conventional

physiotherapy, produced clinically meaningful gains in trunk control and QoL in children and adolescents with CP. These findings support the use of dance-based rehabilitation as a feasible and engaging adjunct to physiotherapy. Copyright © 2025 Taylor & Francis Group, LLC.

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171. **Effects of a Teleexercise Movement-to-Music Intervention on Health Outcomes in Individuals With Mobility Disabilities: A Randomized Controlled Trial.**

Authors: Young H.J.;Lai B.;Wilroy J.;Vitemb A.;Tanaka S.;Mehta T.S.;Thirumalai M. and Rimmer, J. H.

Publication Date: 2025

Journal: Archives of Physical Medicine and Rehabilitation

Abstract: Objective: To examine the effects of a 12-week online movement-to-music (eM2M) intervention on health outcomes in people with mobility disabilities. Design(s): Two-arm randomized controlled trial. Setting(s): Synchronous, online delivery over Zoom. Participant(s): Adults (N=97) aged 18-70 and diagnosed with traumatic brain injury, stroke, multiple sclerosis, spinal cord injury, spina bifida, Parkinson, or cerebral palsy were randomized either to eM2M (n=48) or control (n=49). Intervention(s): eM2M participants completed three 60-minute sessions weekly for 12 weeks, whereas controls maintained usual activities. Main Outcome Measure(s): Primary measures included resting heart rate, heart rate recovery, and grip strength. Secondary measures included Short Physical Performance Battery (SPPB), timed Up and Go, PROMIS 10 Global Health Items, Ability to Participate in Social Roles and Activities Short Form 8a, and Godin Leisure Time Exercise Questionnaire. Participants were assessed at baseline and postintervention, with intent-to-treat mixed-model analysis of covariance as primary analyses. Result(s): After adjusting for baseline and mobility groups, there was no significant between-group difference in resting heart rate postintervention, though eM2M had a greater reduction in heart rate at minute-1 recovery (LSM=33.7%, P=.04). No difference was observed in dominant hand grip strength, whereas controls showed a significantly greater increase in nondominant grip strength compared to eM2M (LSM=-1.76kg, P=.03). In contrast, eM2M demonstrated significant improvements in overall SPPB (LSM=0.52, P=.048), gait speed (LSM=0.32, P=.02), and both physical (LSM difference=2.08, P=.04) and mental (LSM=2.22, P=.02) health compared to controls. No group differences were observed in social participation. After removing outliers, eM2M showed a significant increase in physical activity compared to controls (LSM=11.55, P=.02). Conclusion(s): Movement-to-music delivered online may improve cardiorespiratory fitness, mobility, quality of life, and physical activity in people with mobility disabilities. Copyright © 2025 The Authors

172. **Effects of a Teleexercise Movement-to-Music Intervention on Health Outcomes in Individuals With Mobility Disabilities: A Randomized Controlled Trial**

Authors: Young, Hui-Ju;Lai, Byron;Wilroy, Jereme;Vitemb, Avery;Tanaka, Shiori;Mehta, Tapan S.;Thirumalai, Mohanraj and Rimmer, James H.

Publication Date: 2025

Journal: Archives of Physical Medicine & Rehabilitation

Abstract: To examine the effects of a 12-week online movement-to-music (eM2M) intervention on health outcomes in people with mobility disabilities. Two-arm randomized controlled trial. Synchronous, online delivery over Zoom. Adults (N=97) aged 18-70 and diagnosed with traumatic brain injury, stroke, multiple sclerosis, spinal cord injury, spina bifida, Parkinson, or cerebral palsy were randomized either to eM2M (n=48) or control (n=49). eM2M participants completed three 60-minute sessions weekly for 12 weeks, whereas controls maintained usual activities. Primary measures included resting heart rate, heart rate recovery, and grip strength. Secondary measures included Short Physical Performance Battery (SPPB), timed Up and Go, PROMIS 10 Global Health Items, Ability to Participate in Social Roles and Activities Short Form 8a, and Godin Leisure Time Exercise Questionnaire. Participants were assessed at baseline and postintervention, with intent-to-treat mixed-model analysis of covariance as primary analyses. After adjusting for baseline and mobility groups, there was no significant between-group difference in resting heart rate postintervention, though eM2M had a greater reduction in heart rate at minute-1 recovery (LSM=33.7%, P =.04). No difference was observed in dominant hand grip strength, whereas controls showed a significantly greater increase in nondominant grip strength compared to eM2M (LSM=−1.76kg, P =.03). In contrast, eM2M demonstrated significant improvements in overall SPPB (LSM=0.52, P =.048), gait speed (LSM=0.32, P =.02), and both physical (LSM difference=2.08, P =.04) and mental (LSM=2.22, P =.02) health compared to controls. No group differences were observed in social participation. After removing outliers, eM2M showed a significant increase in physical activity compared to controls (LSM=11.55, P =.02). Movement-to-music delivered online may improve cardiorespiratory fitness, mobility, quality of life, and physical activity in people with mobility disabilities.

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173. **Outcomes of Pediatric Orthopedic Management of Ambulatory Cerebral Palsy Utilizing a Closely Monitored, Lifespan-Guided Approach.**

Authors: Yuan Z.;Lennon N.;Church C.;Shrader M.W. and Miller, F.

Publication Date: 2025

Journal: Children

Abstract: Background: Cerebral palsy (CP) is a static, non-progressive brain pathology that affects mobility and musculoskeletal health. Objective(s): This review aims to describe the pediatric orthopedic management strategy at one specialty center with focus on optimal lifelong mobility function for ambulatory CP. Method(s): Beginning in the 1990s, a protocol was

developed to proactively monitor children with surgical or conservative interventions. After three decades, we undertook a prospective institutional review, board-approved 25-45-year-old adults callback study. Inclusion criteria were all children treated through childhood who could be located and were willing to return for a full evaluation. Result(s): Pediatric orthopedic interventions focused on regular surveillance with proactive treatment of progressive deformities. When function was impacted, we utilized multi-level orthopedic surgery guided by instrumented gait analysis. Childhood outcomes of this approach were evaluated through retrospective studies. Results show high correction rates were achieved for planovalgus foot deformity, knee flexion contracture, torsional malalignments, and stiff-knee gait. Our prospective adult callback study evaluated 136 adults with CP, gross motor function classification system levels I (21%), II (51%), III (22%), and IV (7%), with average ages of 16 +/- 3 years (adolescent visit) compared with 29 +/- 3 years (adult visit). Adults in the study had an average of 2.5 multi-level orthopedic surgery events and 10.4 surgical procedures. Compared with adults without disability, daily walking ability was lower in adults with CP. Adults with CP had limitations in physical function but no increased depression. A higher frequency of chronic pain compared with normal adults was present, but pain interference in daily life was not different. Adults demonstrated similar levels of education but higher rates of unemployment, caregiver needs, and utilization of Social Security disability insurance. Conclusion(s): The experience from our center suggests that consistent, proactive musculoskeletal management at regular intervals during childhood and adolescence may help maintain in gait and mobility function from adolescence to young adulthood in individuals with CP.

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174. **Impact of vitamin D supplementation on short- and long-term mortality in sepsis: A systematic review and meta-analysis.**

Authors: Zhang H. and Feng, W.

Publication Date: 2025

Journal: Respiratory Medicine

Abstract: Objective: This systematic review and meta-analysis evaluated the impact of vitamin D supplementation on sepsis outcomes, focusing on short- and long-term mortality. Method(s): A comprehensive search of PubMed, EMBASE, Cochrane Library, and Web of Science was conducted for studies published up to February 10, 2025. Eligible studies enrolled patients with sepsis who received vitamin D supplementation and reported mortality outcomes, including 28-day, 90-day, or in-hospital mortality. Case reports, reviews, and studies with incomplete data were excluded. Data extraction and quality assessment were performed independently by two reviewers using the Cochrane Risk of Bias Tool and the Newcastle-Ottawa Scale. Meta-analysis was performed with Review Manager 5.3 and Stata 15, employing random-effects models. Publication bias was assessed with funnel plots and Egger's test, while the quality of evidence was graded using the GRADE system. Result(s): Five studies encompassing 42,915 patients met the inclusion criteria, including one randomized controlled trial and four large cohort studies. Pooled results demonstrated that vitamin D supplementation was may associated with reduction in 28-day mortality (OR: 0.59, 95 % CI: 0.51-0.69, P Result(s): Five studies encompassing 42,915 patients met the inclusion criteria, including one randomized controlled trial and four large cohort studies. Pooled results demonstrated that vitamin D

supplementation was may associated with reduction in 28-day mortality (OR: 0.59, 95 % CI: 0.51-0.69, P Result(s): Five studies encompassing 42,915 patients met the inclusion criteria, including one randomized controlled trial and four large cohort studies. Pooled results demonstrated that vitamin D supplementation was may associated with reduction in 28-day mortality (OR: 0.59, 95 % CI: 0.51-0.69, P Result(s): Five studies encompassing 42,915 patients met the inclusion criteria, including one randomized controlled trial and four large cohort studies. Pooled results demonstrated that vitamin D supplementation was may associated with reduction in 28-day mortality (OR: 0.59, 95 % CI: 0.51-0.69, P 2 = 64 %-78 %). No significant publication bias was detected. However, the overall quality of evidence was rated low due to inconsistency and imprecision. Conclusion(s): Vitamin D supplementation appears to reduce mortality in critically ill patients with sepsis. Nevertheless, the low certainty of evidence highlights the need for well-designed, large-scale randomized controlled trials to confirm these findings and guide clinical practice.

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175. **Development and validation of a prediction model for in-hospital mortality in patients with intra-abdominal sepsis: a dual-database study using MIMIC-IV and eICU databases.**

Authors: Zhang J.;Chen Y.;Zhao C.C.;Wang J. and Hu, Z. J.

Publication Date: 2025

Journal: BMJ Open

Abstract: Objectives To develop and validate a predictive model for assessing in-hospital mortality in patients with intra-abdominal sepsis (IAS), a leading cause of sepsis. Design Secondary analysis of two retrospective critical care databases. Setting Data extracted from the Intensive Care Medicine Information Marketplace IV (MIMIC-IV) and the eICU Collaborative Research Database. Participants Patients with IAS from MIMIC-IV (2008-2019; 1300 patients, 264 deaths) for model training and internal validation, and eICU (2014-2015; 149 patients, 33 deaths) for external validation. Interventions Clinical data were used for constructing a predictive model. Variable selection was performed using least absolute shrinkage and selection operator regression, followed by model development with multivariable logistic regression. The model was visualised as a nomogram. Primary and secondary outcome measures The primary outcome was in-hospital mortality. Secondary outcomes were model performance metrics, including the area under the receiver operating characteristic curve (AUC), calibration curves, decision curve analysis and clinical impact curves. Results Six predictors (lactate, age, activated partial thromboplastin time, blood urea nitrogen, total bilirubin and platelets) were identified. The predictive model showed good performance with an AUC of 0.795 (95% CI 0.758 to 0.831) in the training set (n=910) and 0.846 (95% CI 0.772 to 0.919) in the external validation set (n=149). Conclusion A robust predictive model was developed to estimate the risk of in-hospital mortality in patients with IAS. This tool may assist clinicians in enhancing patient management and decision-making.

176. **Machine Learning Based Prediction of Postoperative Acute Kidney Injury Risk in Coronary Artery Bypass Grafting Patients.**

Authors: Zhang, Yang;Cai, Dabei;Deng, Ye;Wang, Zhu;Zhang, Zhihan;Zhang, Hu;Wang, Qingjie;Feng, Shoujie;Sun, Ling and Wei, Jun

Publication Date: 2025

Journal: Clinical Interventions in Aging

Abstract: Background: Coronary artery bypass grafting (CABG) is key for severe coronary artery disease, but postoperative acute kidney injury (AKI) may increase mortality and prolong hospital stays. Reliable models for early prediction of post-CABG AKI remain lacking. Methods: Data of 520 CABG patients (September 2021-December 2024) from the Affiliated Hospital of Xuzhou Medical University were collected, and the patients were divided into a training group (70%, for model building) and a validation group (30%). Key variables were screened through Least Absolute Shrinkage and Selection Operator (LASSO) regression, followed by the construction of six machine learning models: Random Forest (RF), eXtreme Gradient Boosting (XGBoost), Logistic Regression (LR), Light Gradient Boosting Machine (LightGBM), Softmax Regression, and Support Vector Machine (SVM). The SHapley Additive exPlanations (SHAP) was used to quantify feature importance. Results: The incidence of post-CABG AKI was 25.96%, and the median age of patients in the AKI group was significantly higher than that in the non-AKI group (66.09 +/- 8.15 vs 64.32 +/- 7.76, p = 0.025). In the training group, the XGBoost model using the top 5 important variables outperformed other models (Area Under the Curve [AUC] = 0.89, 95% Confidence Interval [CI]: 0.86-0.91), followed by the LightGBM model using the top 5 important variables and the RF model using the top 5 important variables (both had an AUC of 0.88; 95% CI: 0.85-0.90 and 0.85-0.91, respectively). In the validation group, the LR model using the top 15 important variables and the Softmax Regression model using the top 15 important variables maintained the highest stability (both had an AUC of 0.86, 95% CI: 0.79-0.92). SHAP analysis confirmed that estimated glomerular filtration rate (eGFR), intraoperative epinephrine use and calcium levels were the top three predictive factors. Conclusion: The machine learning models constructed in this study can effectively predict post-CABG AKI, facilitating early identification of high-risk patients.

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177. **The association between endothelial activation and stress Index and the development and prognosis of acute kidney injury in elderly patients with critical illness.**

Authors: Zhang, Zhiyuan;Li, Yubo;Wei, Yang;Yang, Yu;Luo, Zixin;Xie, Jiahui;Xu, Qinglin;Zou, Kang and Wang, Jie

Publication Date: 2025

Journal: Renal Failure

Abstract: This study investigated the link between the endothelial activation and stress index (EASIX) and acute kidney injury (AKI) development and prognosis in elderly critically ill patients. Using the MIMIC-IV database, we conducted a retrospective cohort study including

12,122 ICU patients aged >=65 years, of whom 9,124 developed AKI. Patients were divided into three groups based on EASIX scores. We compared the baseline characteristics, mortality rates, and clinical outcomes across groups. Multivariable Cox regression analysis assessed the association between EASIX and AKI development and short-term outcomes, adjusting for confounders. Kaplan-Meier curves and subgroup analyses were performed. Dose-response modeling, threshold effect analysis, and E-value analysis were also conducted. Results showed that patients with the highest EASIX scores had significantly higher mortality rates, with HRs for 28-day mortality of 1.69 (95% CI: 1.47-1.95, p p p = 0.003). Kaplan-Meier curves indicated lower survival probabilities with higher EASIX values (log-rank p p < 0.001), suggesting the increased vulnerability to elevated EASIX. In conclusion, elevated EASIX is significantly associated with AKI development and adverse short-term outcomes in elderly critically ill patients, indicating its potential as an index for identifying high-risk patients.

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178. **Causal deep learning for real-time detection of cardiac surgery-associated acute kidney injury: derivation and validation in seven time-series cohorts.**

Authors: Zhong Q.;Cheng Y.;Li Z.;Wang D.;Rao C.;Jiang Y.;Li L.;Wang Z.;Liu P.;Che H.;Li P.;Lu X.;Suo J. and He, K.

Publication Date: 2025

Journal: The Lancet.Digital Health

Abstract: BACKGROUND: Cardiac surgery-associated acute kidney injury (CSA-AKI) is a complex complication substantially contributing to an increased risk of mortality. Effective CSA-AKI management relies on timely diagnosis and interventions. However, many cases are detected too late. Despite the advancements in novel biomarkers and data-driven predictive models, existing practices are primarily constrained due to the limited discriminative and generalisation capabilities and stringent application requirements, presenting major challenges to the timely and effective diagnosis and interventions in CSA-AKI management. This study aimed to develop a causal deep learning architecture, named REACT, to achieve precise and dynamic predictions of CSA-AKI within the subsequent 48 h. METHOD(S): In this retrospective model development and prospective validation study, we included adult patients (aged >=18 years) from seven distinct cohorts undergoing major open-heart surgery for model training and validation. Data for model development and internal validation were sourced from electronic health records of two large centres in Beijing, China, between Jan 1, 2000, and Dec 31, 2022. External validation was conducted on three independent centres in China between Jan 1, 2000, and Dec 31, 2022, along with cross-national data from the public databases MIMIC-IV and eICU in the USA. To facilitate implementation, we also developed a publicly accessible web calculator and applet. The model's prospective application was validated from June 1, to Oct 31, 2023, at two centres in Beijing and Nanjing, China. FINDINGS: The final derivation cohort included 14 513 eligible patients with a median age of 56 years (IQR 45-65), 5515 (38.0%) patients were female, and 3047 (21.0%) developed CSA-AKI. The external validation dataset included 20 813 patients from China and 28 023 from the USA. REACT reduced 1328 input variables to six essential causal factors for CSA-AKI prediction. In internal validation, REACT achieved an average area under the receiver operating characteristic curve (AUROC) of 0.930 (SD 0.032), outperforming state-of-the-art deep learning architectures, specifically transformer-based and long short-term memory-based models, which rely on more complex variables. The model consistently outperformed in external validation across different centres

(average AUROC 0.920 [SD 0.036]) and regions (0.867 [0.073]), as well as in prospective validation (0.896 [0.023]). Compared with guideline-recommended pathways, REACT detected CSA-AKI on average 16.35 h (SD 2.01) earlier in external validation. INTERPRETATION: We proposed a causal deep learning approach to predict CSA-AKI risk within 48 h, distilling the complex temporal interactions between variables into only a few universal, relatively cost-effective inputs. The approach shows great potential for deployment across hospitals with minimum data requirements and provides a general framework for causal deep learning and early detection of other conditions. FUNDING: The Construction Project and the National Natural Science Foundation of China.

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179. **Association between red cell distribution width-to-albumin ratio and acute kidney injury in acute pancreatitis: A retrospective cohort study from the MIMIC-IV database.**

Authors: Zhou C.J.;Lin S.M. and Zheng, J. T.

Publication Date: 2025

Journal: Medicine

Abstract: This study aimed to evaluate the association between the red cell distribution width-to-albumin ratio (RAR) and the early onset of Acute Kidney Injury (AKI) in patients diagnosed with acute pancreatitis (AP). A retrospective cohort study was conducted using data from the Medical Information Mart for Intensive Care IV database, focusing on the first 24 hours following admission to the intensive care unit (ICU). The primary outcome was the incidence of AKI within 7 days of ICU admission, as defined by the Kidney Disease: Improving Global Outcomes criteria. Logistic regression models were employed to assess the association, with subgroup analyses considering variables such as age, sex, renal disease, diabetes, sepsis, use of mechanical ventilation, and sequential organ failure assessment scores. The analysis included 599 patients. Each unit increase in RAR was linearly associated with a 62% greater likelihood of AKI within 7 days of ICU admission (odds ratio = 1.62, 95% confidence interval [CI]: 1.34-1.96, P

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180. **Evaluating the Hearing-Related Quality of Life in People With Intellectual Disabilities**

Authors: Zielonkowski, Susanna;Mathmann, Philipp;Naghipour, Awa;Wasmuth, Susanne;Prein, Lukas;Parfitt, Ross;Brannath, Werner;Scharpenberg, Martin;Jankovic, Vincent;Neumann, Anja;Schwarze, Katharina;Schäfer, Karolin;Speckemeier, Christian;Gietmann, Corinna and Neumann, Katrin

Publication Date: 2025

Journal: Journal of Intellectual Disability Research

Abstract: Background: People with intellectual disabilities are more likely to have hearing loss than the general population, but in most cases, it remains unrecognised and unmanaged. The aims of this study were to determine whether the hearing status of people with intellectual disabilities can be correctly evaluated by themselves and/or their caregivers, and whether

hearing loss compromises the hearing-related quality of life of people with intellectual disabilities. Method: In the prospective cohort study, HörGeist, 1053 individuals with intellectual disabilities received hearing screening and, where necessary, diagnostic assessment and intervention within their living environment. A self-developed multipart questionnaire, including items regarding hearing-related quality of life, was answered by caregivers of the participants and was cross-checked with the results of the hearing tests. A multivariable regression was performed to verify an association between the hearing-related quality of life score and the degree of hearing loss. Results: Hearing loss was diagnosed in 463 (44.0%) participants; thereof, only 120 (25.9%) cases were known beforehand. In 404 participants (59.0%) and 580 caregivers (61.5%), hearing status was rated correctly; it was overestimated in 34.6% and 33.4%, respectively (sensitivity: 0.223/0.271, respectively). The mean hearing-related quality of life score was 3.0 of 4 possible points. The multivariable regression revealed a small but significant association between the degree of hearing loss and hearing-related quality of life ($\beta = -0.069$; $p < 0.001$; adjusted $R2 = 0.081$). Conclusions: Regular audiometric tests are recommended for improving the hearing-related quality of life in people with intellectual disabilities.

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181. **Early enteral nutrition and mortality in mechanically ventilated septic patients receiving vasopressors: A retrospective cohort study using the MIMIC-IV database.**

Authors: Zou B.;Xi F.;Gao T. and Yu, W.

Publication Date: 2025

Journal: Plos One 20

Abstract: Background The role of early enteral nutrition (EEN) in septic shock remains unclear. This study aimed to evaluate the association between EEN and clinical outcomes in septic patients requiring vasopressor therapy and invasive mechanical ventilation. Methods This retrospective cohort study used the MIMIC-IV database and included adult septic patients receiving vasopressors and mechanical ventilation at ICU admission. EEN was defined as enteral nutrition initiated within 48 hours. The primary outcome was 28-day mortality. Secondary outcomes included ICU and hospital length of stay, and duration of mechanical ventilation. Inverse probability of treatment weighting (IPTW) was used to adjust for baseline confounders. Vasopressor dose was stratified based on the maximum norepinephrine-equivalent dose in the first 48 hours: low (0.5). Multivariable regression models were used to assess associations. Results A total of 4,673 patients were included, of whom 997 (21.3%) received EEN. Before weighting, EEN was associated with higher 28-day mortality (21.9% vs. 15.3%). After IPTW adjustment, early feeding remained significantly associated with increased mortality (adjusted odds ratio 1.80; 95% confidence interval, 1.42 to 2.27). In stratified analyses, EEN was associated with increased mortality in the medium-dose (odds ratio 1.66; 95% confidence interval, 1.26 to 2.19, p 0.5). Multivariable regression models were used to assess associations. Results A total of 4,673 patients were included, of whom 997 (21.3%) received EEN. Before weighting, EEN was associated with higher 28-day mortality (21.9% vs. 15.3%). After IPTW adjustment, early feeding remained significantly associated with increased mortality (adjusted odds ratio 1.80; 95% confidence interval, 1.42 to 2.27). In stratified analyses, EEN was associated with increased mortality in the medium-dose (odds ratio 1.66;

95% confidence interval, 1.26 to 2.19, p 0.5). Multivariable regression models were used to assess associations. Results A total of 4,673 patients were included, of whom 997 (21.3%) received EEN. Before weighting, EEN was associated with higher 28-day mortality (21.9% vs. 15.3%). After IPTW adjustment, early feeding remained significantly associated with increased mortality (adjusted odds ratio 1.80; 95% confidence interval, 1.42 to 2.27). In stratified analyses, EEN was associated with increased mortality in the medium-dose (odds ratio 1.66; 95% confidence interval, 1.26 to 2.19, p

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182. **Perioperative Acute Kidney Injury and Anesthesia: A Narrative Review**

Authors: Cekmen, Nedim;Uslu, Ahmed and Yazar, Cagla

Publication Date: 2024

Journal: Journal of Clinical Practice and Research

Abstract: Perioperative acute kidney injury (AKI) remains challenging for the anesthesiologist and surgeon. It is one of the most common, heterogeneous, and severe complications. Perioperative AKI is associated with increased morbidity, mortality, the need for renal replacement therapy (RRT), prolonged hospital stays, and escalating costs and healthcare resource utilization. Concomitant comorbidities, age, size, type, timing, the urgency of surgery, improper fluid management, anemia, hyperglycemia, malnutrition, the use of blood and blood products, contrast dyes, diuretics, and exposure to nephrotoxins are the main factors in the development of AKI. The main factors involved in the pathogenesis of perioperative AKI are highly complex and include a combination of hypoperfusion, microcirculatory and endothelial dysfunction, inflammation, and tubular cell damage. The main aim of anesthesiologists should be to identify risk factors in the perioperative period and minimize the incidence of perioperative AKI through appropriate anesthesia management and the necessary protective and preventive strategies. The anesthesia management should include optimization of hemodynamics, adequate organ perfusion and oxygenation, suitable monitoring, correct fluid management, anesthesia, pain control, mechanical ventilation methods, glycemic control, avoiding nephrotoxic drugs, contrast dyes, and blood transfusions, and early RRT and nutritional support. New biomarkers should be used to detect, intervene, and treat AKI promptly. We review the recent literature on the value and importance of comprehensive preoperative evaluation, optimization of risk factors, perioperative monitoring, anesthesia and pain management, preventive methods, and treatment in patients with AKI. Copyright © 2024 Journal of Clinical Practice and Research.

183. **Initiatives and exposures associated with food security in remote and isolated communities: a scoping review.**

Authors: Drysdale, Mallory;Skinner, Kelly;Lazarescu, Calin;Couture, Alix;Young, Shelley and Idzerda, Leanne

Publication Date: 2024

Journal: Rural & Remote Health

Abstract: INTRODUCTION: Chronic household food insecurity (HFI) and lack of food availability and accessibility in isolated communities are longstanding public health crises. This review aims to paint a more fulsome picture of food security initiatives in remote and isolated communities by examining programs across circumpolar countries, Australia, and Aotearoa New Zealand. This synthesis of research will contribute to an understanding of what types of initiatives exist and aid in the identification of best practices. METHODS: The authors conducted a scoping review identifying articles that include either (1) an evaluation of an initiative with a quantitative food security outcome in remote and isolated communities, or (2) quantitative associations between exposure factors with food security outcomes. Inclusion criteria included English and French articles focused on remote and isolated communities in Canada, the US, Australia, New Zealand, Sweden, Norway, Finland, Greenland, and Russia from January 1997 to July 2022. RESULTS: The article search yielded 1882 results, of which 96 fulfilled the inclusion criteria, including 26 studies evaluating initiatives, 66 studies evaluating exposure factors, and four studies that included both initiatives and exposure factors. The majority of the studies included in this review were conducted in Canada and Australia. No initiative studies conducted in Russia, Greenland, Norway, Finland, or Sweden fulfilled the criteria for inclusion in this review. The most common types of initiatives evaluated included school-based programs, market subsidies, and education initiatives, though a small number (: The article search yielded 1882 results, of which 96 fulfilled the inclusion criteria, including 26 studies evaluating initiatives, 66 studies evaluating exposure factors, and four studies that included both initiatives and exposure factors. The majority of the studies included in this review were conducted in Canada and Australia. No initiative studies conducted in Russia, Greenland, Norway, Finland, or Sweden fulfilled the criteria for inclusion in this review. The most common types of initiatives evaluated included school-based programs, market subsidies, and education initiatives, though a small number (CONCLUSION: Those living in remote and isolated communities are particularly vulnerable to food insecurity and lack of access and availability of healthy foods, which are compounded by a variety of socioeconomic factors. This study highlights the lack of quantitative evaluations of food security initiatives in remote and isolated communities, as well as the wide variety in measured outcomes. Authors of several of the included articles note that community-led initiatives, with strong partnerships and local champions, were recommended in these populations, given the culturally and geographically diverse groups living in remote and isolated areas.

184. **Built Environment and Gender-Based Vulnerability as Key Drivers of Food Insecurity in Allegheny County.**

Authors: Firestine A. and Murrell, A. J.

Publication Date: 2024

Journal: International Journal of Environmental Research and Public Health

Abstract: Food insecurity is pervasive in Allegheny County, as one in five residents experiences food insecurity. Food insecurity is linked to chronic health conditions like heart disease and hypertension and disproportionately affects women in the United States, particularly women who are head of household. There are multiple dimensions used to measure regional disparities in food accessibility. Prior research has examined the linkages between food access and food insecurity, and this study aims to explore further the relationship between equitable access to sustainable and affordable food sources. This study examines food outlets in Allegheny County to determine if there is a significant relationship between food outlet availability and food insecurity. Both the presence and accessibility of these food outlets were examined. To measure accessibility, the walking distance to the nearest public transportation stop was calculated for each public transportation stop. The minimum distance to each food outlet was compared to food insecurity rates on a census tract level. Results showed that communities without grocery stores had lower access to healthy and affordable food sources. Also, communities with a higher proportion of female-headed households experienced greater food insecurity, regardless of access to food outlets. There was no statistically significant relationship between the distance from public transportation stops to grocery stores and rates of food insecurity overall and in low-income communities. However, communities with inaccessible grocery stores, either absent in the census tract or without close public transport stops, did have even greater average rates of food insecurity if there was an above-average proportion of female-headed households. Based on these findings, it is evident there exist structural elements of the built environment that correspond with disproportionate rates of food insecurity experienced by communities with households that are predominately female headed. In addition to resource support for these marginalized groups, we suggest that sole reliance on distance as an indicator of food insecurity can be misleading. There should be a greater focus on walkability aggregated on a household or individual level within the community instead of physical distance alone at a general scale.

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185. **Food Insecurity Among Graduate Students and Postdoctoral Trainees.**

Authors: Hammad N.M. and Leung, C. W.

Publication Date: 2024

Journal: JAMA Network Open

Abstract: Importance: Food insecurity on college campuses has emerged as an urgent public health priority; however, there has been a lack of studies focused on graduate students or postdoctoral trainees, particularly those enrolled at private academic institutions. Objective(s): To estimate the prevalence of and factors associated with food insecurity among graduate

students and postdoctoral trainees at a private academic university in Boston, Massachusetts. Design, Setting, and Participant(s): In this cross-sectional survey study, a survey on food insecurity was sent to graduate students and postdoctoral trainees at 3 health-focused graduate schools at Harvard University during the end of the spring 2023 academic term (April to June). Participants were studying medicine, dental medicine, or public health. Data analysis was performed from July to September 2023. Exposure: Sociodemographic characteristics of graduate students and postdoctoral trainees. Main Outcomes and Measures: The primary outcome was food insecurity as assessed using the US Household Food Security Survey Module. Food insecurity also encompassed low and very low food security. Bidirectional stepwise logistic regression models were conducted to estimate the factors associated with food insecurity for graduate students and postdoctoral trainees. Result(s): The analytic sample included 1745 participants (response rate, 55%): 1287 were graduate students and 458 were postdoctoral trainees. The median age of respondents was 29.0 (IQR, 7.0) years, and more than half (1073 [61.5%]) identified as female. A total of 694 respondents (39.8%) identified as Asian, 625 (35.8%) as White, and 426 (24.4%) as being of other race or ethnicity. The prevalence of food insecurity was 17.4% (224 of 1287) among graduate students and 12.7% (58 of 458) among postdoctoral trainees. Among graduate students, factors associated with food insecurity included being Asian (OR, 1.06 [95% CI, 1.01-1.11]) or of other race or ethnicity (OR, 1.07 [95% CI, 1.02-1.13]), receiving financial aid (OR, 1.09 [95% CI, 1.05-1.13]), and having housing instability (OR, 1.53 [95% CI, 1.45-1.61]). Among postdoctoral trainees, factors associated with food insecurity included receiving Supplemental Nutrition Assistance Program benefits (OR, 1.59 [95% CI, 1.28-1.97]), having housing instability (OR, 1.33 [95% CI, 1.22-1.45]), and not owning a car (OR, 1.11 [95% CI, 1.04-1.18]). Conclusions and Relevance: In this study, a substantial proportion of graduate students and postdoctoral trainees at a private academic institution experienced food insecurity during the academic year. These findings underscore the need for national and institutional interventions to address the complex, structural factors related to food insecurity in these distinct populations.

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186. **Correlation of Patient-Reported Social Determinants of Health With Census Tract Measures of Socioeconomic Disadvantage in Patients With GI Cancers in Eastern North Carolina.**

Authors: Hao, Scarlett;Quinn, Ashley W.;Iasiello, John A.;Lea, C. Suzanne;Popowicz, Patrycja;Fu, Yuanyuan;Irish, William;Parikh, Alexander A. and Snyder, Rebecca A.

Publication Date: 2024

Journal: JCO Oncology Practice

Abstract: PURPOSE: Investigating the impact of social determinants of health (SDOHs) on cancer care in large populations relies on census estimates. Routine clinic SDOH screening provides timely patient-level information which could inform best practices. This study evaluated the correlation between patient-reported SDOH needs and population-level census tract measures. METHODS: This was a retrospective cross-sectional study of a cohort of adult patients with GI malignancy screened for SDOHs such as financial insecurity, transportation, and food insecurity during initial outpatient evaluation at East Carolina University (formerly Vidant) Health Medical Center in Greenville, NC (November 2020-July 2021). Primary outcomes included number and severity of identified SDOH needs and area deprivation index

(ADI) and census tract measures for each patient. Spearman rank correlations were calculated among patient-level needs and between patient-level needs and similar census tract measures. RESULTS: Of 112 patients screened, 58.9% self-identified as White (n = 66) and 41.1% as Black (n = 46). A total of 50.5% (n = 54) resided in a rural county. The collective median state ADI rank was 7 (IQR, 5-9). The median household income was $38,125 in US dollars (USD) (IQR, $31,436-$48,934 [USD]). Only 12.5% (n = 14) reported a moderate or severe financial need. Among reported needs, financial need moderately correlated with food insecurity (coefficient, 0.46; P P P = .03) and limited access to healthy foods (coefficient, 0.18; P = .04). CONCLUSION: Given the poor correlation between reported and census needs, population-level measures may not accurately predict patient-reported needs. These findings highlight the importance of SDOH screening in the clinical setting to reduce health disparities and identify opportunities to improve care delivery.

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187. **Understanding the Experiences of Food Insecurity in Older Adult Households.**

Authors: Aday, Ronald H.;Wallace, J. Brandon;Jones, Sandra C.;Pogacsnik, Amber R.;Leifker, Kimberly F. and Kibe-Pea, Eva W.

Publication Date: 2023

Journal: Journal of Gerontological Social Work

Abstract: Food insecurity is a pressing multidimensional problem that negatively impacts the health and well-being of a significant number of the older population. Finding ways to better address nutritional issues among this vulnerable population is vital to their well-being. Using a mixed-methods approach, we conducted semi-structured phone interviews with a representative sample of 434 low-income older adult households in Tennessee. The aim of this study is to assess the prevalence of food insecurity, examine ongoing barriers, and, using qualitative data, to explore the diverse daily experiences older adults face when confronted with a food insecure lifestyle. Based on the USDA Adult 10-Item Household Screening Module, we found that 30% in our sample were designated as marginally, low or very low food secure. Many of those most vulnerable (older women, widowed or divorced, poor health and below the poverty line) constantly struggled with food insecurity. Being food insecure was attributed to limited financial resources, lack of transportation, health limitations, and a poor psychological state. Utilizing food stretching practicing, governmental agencies offering food supplements, family/friends, religious groups and personal resilience were common coping strategies. Implications and recommendations for service providers are offered.

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188. **Associations of Household Food Insecurity With Academic Outcomes in Early Adolescents.**

Authors: Orihuela, Catheryn A.;Cox, Callista;Evans, Retta and Mrug, Sylvie

Publication Date: 2023

Journal: Journal of School Health

Abstract: BACKGROUND: Food insecurity is characterized by limited access to adequate food due to a lack of money or resources (eg, lack of transportation to obtain food). School

aged children who are experiencing food insecurity are at greater risk for poor academic outcomes, but previous studies have not examined the effects of food insecurity on specific academic outcomes over time. METHOD: This study examined food insecurity as a risk factor for subsequent academic skills, enablers, and achievement. As part of a larger longitudinal study, middle school students (N = 112; meanage = 12.14, SD = 0.41; 50% female; 68% black/African American, 14% white, 13% Hispanic or Latino, 5% other) reported on food insecurity at baseline, while teachers reported on students' academic skills and enablers at both baseline and 12 months later at 1 year follow up. Math and English/Language Arts grades were obtained from the schools at each wave. FINDINGS: Food insecurity predicted lower academic skills over time but was unrelated to academic enablers and grades. IMPLICATIONS: Considering a whole school, whole community, whole child (WSCC) framework, this study will also discuss the important role schools and communities have in reducing food insecurity in middle school students. CONCLUSIONS: These results support negative long-term effects of food insecurity on academic skills in early adolescents.

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189. **Personal Vehicle Use and Food Security Among US Adults in Households With Children**

Item Type: Conference Proceeding

Authors: Antrum, C.

Publication Date: 2022

Publication Details: Obesity.

Abstract: Background: In 2020, 2.9 million households with children were food secure. Previous studies have demonstrated that reduced car access may contribute to issues related to food access. This study examines whether the use of a personal vehicle by the primary shopper of a household with children is associated food security. Method(s): Data were collected from primary shoppers of households with children aged 20+ (N=1183) in the National Health and Nutrition Examination Survey 2017-2018. Survey respondents were asked about their means of transportation to complete their grocery shopping and categorized as either using a personal vehicle or not. Additionally, households were measured for food security using the U.S. Food Security Survey Module and categorized as having full food security, marginal food security, low food security, or very low food security. Multinomial logistic regression models were conducted to measure the association between food security and personal vehicle use. Adjusted models included variables on age, race/ethnicity, and education. Result(s): Not using a personal vehicle was associated with low food security (OR=3.66, 95% CI: 1.38 - 9.74) or very low security (OR=6.79, 95% CI: 3.02 - 15.27). There were no differences in marginal food security between groups (OR=1.29, 95% CI: 0.79 - 2.11). Conclusion(s): Primary shoppers who do not use a personal vehicle have increased odds of Low and Very Low Food Security in households with children. Future research and interventions should address the ways in which limitations in transportation may contribute to issues of food security..

190. **Food security and well-being among older, rural Americans before and during the COVID-19 pandemic.**

Authors: Giroux, Stacey;Waldman, Kurt;Burris, Mecca;Valliant, Julia C. D.;Babb, Angela M.;Stafford, Philip;Fobi, Daniel;Czebotar, Kamila and Knudsen, Daniel C.

Publication Date: 2022

Journal: PLoS ONE

Abstract: The COVID-19 pandemic has impacted many aspects of our lives. Older adults, those with less income or fewer resources, and those living in rural parts of the United States are potentially more vulnerable. To understand the negative impact of COVID-19 on perceived food security, physical and mental health, and loneliness in a sample of older, rural, low-income adults in the United States, we use results from a mailed survey in which residents of four Indiana counties contrasted their status during the early period of the pandemic to their typical pre-pandemic status. We test for significant changes in status and what predicts negative impacts to food security, health, and loneliness. We asked respondents to report on both pre-pandemic and since-pandemic experiences in the instrument, which was administered after the pandemic had begun, in May 2020. We measure food security using the U.S. Household Food Security Survey Module (six-item short form; HFSSM), physical and mental health using the Centers for Disease Control's Healthy Days Measures (HRQOL-4), and loneliness using the UCLA Revised Loneliness Scale. A binomial test identified significant declines in status for all three measures. Logistic regressions identified factors associated with each of the measures worsening. Fear of going to the store or food pantry was associated with all three measures. Decreased store hours and closed food pantries were associated with lower food security. More education, fewer years of age, being female, decreased income, and stockpiling were associated with more reported days of poor physical or mental health. Fewer years of age, lack of transportation, and eating less often with others were associated with perceived increased loneliness. The pandemic had a negative impact on respondents' food security, unhealthy days, and loneliness, but different factors were associated with each measure for this population. Our findings provide insight for targeted recovery efforts.

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191. **Acquisition, mobility and food insecurity: integrated food systems opportunities across urbanicity levels highlighted by COVID-19.**

Authors: Mui, Yeeli;Headrick, Gabby;Raja, Samina;Palmer, Anne;Ehsani, Johnathon and Pollack Porter, Keshia

Publication Date: 2022

Journal: Public Health Nutrition

Abstract: OBJECTIVE: To investigate acquisition and mobility experiences of food-insecure individuals across urbanicity levels (i.e., urban, suburban, rural) in the early months of the COVID-19 pandemic. DESIGN: Cross-sectional study using a nationally representative online panel to measure where food-insecure individuals acquired food, food acquisition barriers and mobility to food sources, which were evaluated across urbanicity levels using chi-squared tests and 95 % CI. SETTING: USA. PARTICIPANTS: 2011 adults (18 years or older). RESULTS:

Food insecurity impacted 62.3 % of adults in urban areas, 40.5 % in rural areas and 36.7 % in suburban areas (P : Food insecurity impacted 62.3 % of adults in urban areas, 40.5 % in rural areas and 36.7 % in suburban areas (P : Food insecurity impacted 62.3 % of adults in urban areas, 40.5 % in rural areas and 36.7 % in suburban areas (P : Food insecurity impacted 62.3 % of adults in urban areas, 40.5 % in rural areas and 36.7 % in suburban areas (P : Food insecurity impacted 62.3 % of adults in urban areas, 40.5 % in rural areas and 36.7 % in suburban areas (P : Food insecurity impacted 62.3 % of adults in urban areas, 40.5 % in rural areas and 36.7 % in suburban areas (P CONCLUSIONS: A planning approach that links urban and rural areas could address food insecurity by enhancing the integration of food production, transportation and food distribution, building towards a more resilient and equitable food system for all Americans.

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192. **Understanding the impacts of COVID-19 on the determinants of food insecurity: A state-specific examination.**

Authors: Nelson, Eva;Bangham, Candice;Modi, Shagun;Liu, Xinyang;Codner, Alyson;Milton Hicks, Jacqueline and Greece, Jacey

Publication Date: 2022

Journal: Preventive Medicine Reports

Abstract: This paper examines risk factors influencing food insecurity during the first year of the COVID-19 pandemic in a state in the U.S. heavily impacted by it and offers recommendations for multi-sector intervention. The U.S. Census Bureau Household Pulse Survey was analyzed to evaluate the impacts of COVID-19 on food security in Massachusetts from April 2020 through March 2021 using a study sample of 57,678 participants. Food security was defined as a categorical variable (food security, marginal food security, low food security, very low food security) and binary variable (food security and food insecurity). Known or suspected factors that contribute to it, such as childcare, education, employment, housing, and transportation were examined in multivariate logistic regression models. Data imputation methods accounted for missing data. Sociodemographic characteristics, including lower education level and living in a household with children, were determinants of food insecurity. Another factor that influenced food insecurity was economic hardships, such as unemployment, being laid off due to COVID-19, not working due to concerns about contracting or spreading COVID-19, or not having enough money to buy food. A third factor influencing food insecurity was food environment, such as lack of geographic access to healthy foods. Some of these factors have been exacerbated by the pandemic and will continue to impact food security. These should be addressed through a comprehensive approach with public health efforts considering all levels of the social ecological model and the context created by the pandemic. Copyright © 2022 The Author(s).

193. **Rural Household Food Insecurity among Latino Immigrants during the COVID-19 Pandemic.**

Authors: Payan, Denise Diaz;Perez-Lua, Fabiola;Goldman-Mellor, Sidra and Young, Maria-Elena De Trinidad

Publication Date: 2022

Journal: Nutrients

Abstract: U.S. food insecurity rates rapidly increased during the COVID-19 pandemic, with disproportionate impacts on Latino immigrant households. We conducted a qualitative study to investigate how household food environments of rural Latino immigrants were affected during the COVID-19 pandemic. Thirty-one respondents (42% from low food security households) completed interviews (July 2020-April 2021) across four rural counties in California. A rural household food security conceptual framework was used to analyze the data. Early in the pandemic, food availability was impacted by school closures and the increased consumption of meals/snacks at home; food access was impacted by reduced incomes. Barriers to access included limited transportation, excess distance, and lack of convenience. Key resources for mitigating food insecurity were the Supplemental Nutrition Assistance Program (SNAP), the Pandemic Electronic Benefits Transfer (P-EBT), school meals, charitable food programs, and social capital, although the adequacy and acceptability of charitable food distributions were noted issues. Respondents expressed concern about legal status, stigma, and the public charge rule when discussing barriers to government nutrition assistance programs. They reported that food pantries and P-EBT had fewer access barriers. Positive coping strategies included health-promoting food substitutions and the reduced consumption of meals outside the home. Results can inform the development of policy and systems interventions to decrease food insecurity and nutrition-related health disparities among rural Latino immigrants.

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194. **Qualitative Perceptions of an Anticipated Fresh Food Prescription Program.**

Authors: Thomson, Sharon;Ugwuegbu, Judy;Montez, Kimberly;Langdon, Sarah;Best, Scott;Sostaita, Daniel;Franklin, Michelle and Zimmer, Rachel

Publication Date: 2022

Journal: Health Behavior & Policy Review

Abstract: Objective: Food insecurity (FI) is a growing public health problem. Produce prescriptions are known to improve healthy eating and decrease FI; however, few studies have incorporated community voice prior to its implementation. In this study, we aimed to elicit perspectives of individuals at risk for FI and the potential impact of a fresh food prescription (FFRx) program. Methods: We conducted this qualitative descriptive study through an academic medical center in collaboration with community partners. We conducted focus groups involving Latinx (N = 16) and African-American (N = 8) adults in community settings. Data were interpreted using an inductive thematic analysis. Results: Three overarching themes emerged: (1) fresh food accessibility was limited by cost, household size, and transportation but enhanced by food pantries, budgeting, and education; (2) cooking behaviors

were curbed by time constraints and unfamiliarity but propagated by passion, traditions, and communal practices; and (3) health and wellness deterrents included unhealthy diets driven by cultural and familial norms; however, weight loss and awareness of comorbidities were positive motivators. Participants shared their preference for local produce and cooking classes as components of a FFRx program while raising concerns about low participation due to the stigma of receiving aid. Conclusions: Our findings illuminated interest in engaging in a FFRx program and learning ways to prepare healthy foods. A program distributing fresh produce and healthy lifestyle education could close gaps identified in African-American and Latinx communities at risk for FI.

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195. **Facilitators and Barriers to Patient Attendance at a Free Health Center Produce Market.**

Authors: Zack, Rachel M.;Rodriguez Bronico, Jackie V.;Babbin, Molly;Nguyen, Tra;Weil, Rachel;Granick, Jean;Fiechtner, Lauren;Mulugeta, Wudeneh;Odayar, Varshini and Cortes, Dharma E.

Publication Date: 2022

Journal: American Journal of Preventive Medicine

Abstract: INTRODUCTION: Patient participation in healthcare system-sponsored efforts to address food insecurity varies widely. This mixed-methods study sought to understand the patient sociodemographic factors associated with and barriers and facilitators to the use of a monthly produce market held at Cambridge Health Alliance in partnership with The Greater Boston Food Bank. METHODS: Baseline surveys (N=715) were conducted from February 2019 to March 2020 before market attendance, followed by 1-year follow-up surveys (n=514) and qualitative interviews (n=45). Robust Poisson regression estimated associations between sociodemographic characteristics and market attendance. Analyses were conducted from 2021 to 2022. RESULTS: A total of 37.1% attended the market >=1 time. Market attendance was associated with being aged 30-49 years (Risk Ratio (RR)=1.36, 95% CI=1.00, 1.86), having a monthly household income : A total of 37.1% attended the market >=1 time. Market attendance was associated with being aged 30-49 years (Risk Ratio (RR)=1.36, 95% CI=1.00, 1.86), having a monthly household income CONCLUSIONS: Healthcare-based food distributions have the potential to reach patients with unmet food needs who cannot or would not access other forms of food assistance. Time constraints, physical limitations, and transportation challenges impact attendance; program modifications are necessary to improve accessibility.

196. **Community-based social determinants of three measures of mortality in Rhode Island cities and towns.**

Authors: Cohen, Steven A.;Broccoli, Julia R. and Greaney, Mary L.

Publication Date: 2020

Journal: Archives of Public Health

Abstract: BACKGROUND: Efforts to understand and address the causes of place-based health disparities have focused primarily on understanding the social determinants of health on a large geographic level, such as the region, state, or county. However, there is a growing need to assess and understand how place-based characteristics at smaller geographic areas relate to of local place-based neighborhood characteristics on population health. Therefore, the objective of this study was to evaluate the magnitude of the associations between social determinants of health and life expectancy (LE) and related measures on the community level. METHODS: LE at birth (LE0), remaining LE at age 65 (LE65), and age-specific mortality rates (ASMR) were calculated from mortality data (2009-2011) collected by the Rhode Island Department of Health (RIDoH) using abridged life table methods for each RI city/town. The city/town-specific LE and ASMR were linked to data collected by the US Census, RIDoH, the Federal Bureau of Investigation, and other databases that include information about multiple social, environmental, and demographic determinants of health. Bivariate correlations between city/town-level LE0, LE65, and ASMR and social determinants: demographics, household composition, income and poverty, education, environment, food insecurity, crime, transportation, and rural-urban status were examined. RESULTS: LE0 (range: 75.9-83.3 years) was strongly associated with the percent of the population with a graduate/professional degree (r = 0.687, p r = - 0.598, p p 0.001), and per capita income (r = 0.553, p r = - 0.596, p p 0.001), violent crime rate (r = 0.450, p = 0.005), and per capita income (r = - 0.533, p CONCLUSIONS: There are several important place-based characteristics associated with mortality (LE and ASMR) among RI cities/towns. Additionally, some communities had unexpectedly high LE and low ASMR, despite poor social indicators. Copyright © The Author(s) 2020.

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197. **Disparities in Access to Healthy Diets: How Food Security and Food Shopping Behaviors Relate to Fruit and Vegetable Intake.**

Authors: Drisdelle C.;Kestens Y.;Hamelin A.M. and Mercille, G.

Publication Date: 2020

Journal: Journal of the Academy of Nutrition and Dietetics

Abstract: BACKGROUND: Food shopping behaviors may help determine how local food environments influence fruit and vegetable (F/V) intake, especially among food insecure households. OBJECTIVE(S): To examine whether household food security, food access, and food shopping behaviors are associated with F/V intake among residents of a low-income neighborhood. DESIGN: Study design is cross-sectional. PARTICIPANTS/SETTING: A simple random sample of 451 adults from a low-income neighborhood in Montreal (Canada) were recruited through telephone interviews in 2014. Final analyses included 417 participants. MAIN

OUTCOME MEASURES: Validated assessment tools were applied to measure F/V intake and to distinguish food secure (FS) from food insecure (FI) participants. Neighborhood food access was calculated according to number of food stores within 0.5 miles of road network buffer of participants' homes. Self-reported food shopping behaviors included trip frequency, store types, and transport used to reach the 3 most frequented stores. Participants also reported on mobility constraints, use of F/V markets, gardening, and perceived access to healthy food. STATISTICAL ANALYSES: F/V intake was modeled using multivariable linear regression. RESULT(S): A sample of adults, of whom 21.3% were living in FI households, reported consuming F/V an average of 4.1 times daily. FI participants had a lower intake of F/V (b = -0.69, P = .04), independent of sociodemographics, food access, resource constraints, perceived access to healthy food, and food shopping behaviors. Participants with mobility constraints had lower F/V intake (b = -0.68, P = .02), while gardening was associated with higher F/V intake (b = 0.59, P = .01). Number of supermarkets (b = -0.06, P = .03) and specialty stores (b = 0.10, P = .04) were associated with F/V intake, although the strength of the association was weak. CONCLUSION(S): For FI households, barriers to food access linked to financial challenges are associated with lower intake of F/V. Studies on food environment should include people's experience of food access to better understand the numerous barriers to F/V consumption faced by FI households.

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198. **Objective and perceived food environment and household economic resources related to food insecurity in older adults living alone in rural areas.**

Authors: Shim J.E.;Hwang J.Y. and Kim, K.

Publication Date: 2019

Journal: BMC Geriatrics

Abstract: BACKGROUND: Limited attention has been paid to an association between food environment and household economic resources related to food expenditure in food-insecure seniors. The aim of the study was to investigate the relationship between factors of economic resource, food environment, and food insecurity in single seniors residing in rural areas of South Korea. METHOD(S): A cross-sectional study was conducted in 170 single senior households aged 65 years or over residing in rural areas. Face-to-face interviews were performed to collect data on demographic characteristics, household economic resources/expenditure, food environmental factors, and food insecurity. RESULT(S): Among economic resources, generally limited food expenditures due to housing fees and heating costs during the winter were positively related to food insecurity. Among food environmental factors, food accessibility at community level such as food stores located far from home and inconvenient bus routes was related to food insecurity. The most explainable economic and food environment factors related to food insecurity by stepwise logistic regression analysis were the percentage of total expenditure on housing fee (OR = 1.021, 95% CI: 1.008-1.034), foods purchasing at super supermarket (OR = 0.398, 95% CI: 0.166-0.951), having difficulties in food purchasing due to food stores being located far from home (OR = 14.487, 95% CI: 5.139-40.842) and inconvenient bus routes (OR = 0.083, 95% CI: 0.015-0.460). CONCLUSION(S): Inadequate community food environment as well as limited household food resources were an important risk factor for food insecurity in Korean single rural seniors. Findings of this study could help us better understand how characteristics of household food

resources and community food environment can serve as barriers or facilitators of food security among single older adults residing in rural areas.

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199. **Prioritization of the essentials in the spending patterns of Canadian households experiencing food insecurity.**

Authors: Fafard St-Germain, Andree-Anne and Tarasuk, Valerie

Publication Date: 2018

Journal: Public Health Nutrition

Abstract: OBJECTIVE: Food insecurity is a potent determinant of health and indicator of material deprivation in many affluent countries. Food insecurity is associated with compromises in food and housing expenditures, but how it relates to other expenditures is unknown. The present study described households' resource allocation over a 12-month period by food insecurity status. DESIGN: Expenditure data from the 2010 Survey of Household Spending were aggregated into four categories (basic needs, other necessities, discretionary, investments/assets) and ten sub-categories (food, clothing, housing, transportation, household/personal care, health/education, leisure, miscellaneous, personal insurance/pension, durables/assets). A four-level food insecurity status was created using the adult-specific items of the Household Food Security Survey Module. Mean dollars spent and budget share by food insecurity status were estimated with generalized linear models adjusted first for household size and composition, and subsequently for after-tax income quartiles. SETTING: Canada. SUBJECTS: Population-based sample of households from the ten provinces (n 9050). RESULTS: Food-secure households had higher mean total expenditures than marginally, moderately and severely food-insecure households (P-trend : Food-secure households had higher mean total expenditures than marginally, moderately and severely food-insecure households (P-trend CONCLUSIONS: The spending patterns of food-insecure households suggest that they prioritized essential needs above all else.

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200. **The Association between Food Security and Store-Specific and Overall Food Shopping Behaviors.**

Authors: Ma, Xiaonan;Liese, Angela D.;Hibbert, James;Bell, Bethany A.;Wilcox, Sara and Sharpe, Patricia A.

Publication Date: 2017

Journal: Journal of the Academy of Nutrition & Dietetics

Abstract: BACKGROUND: Food security is a severe problem in the United States. Few studies have examined its relationship with food shopping behaviors. OBJECTIVE: This study aimed to examine the association between food security and store-specific and overall food shopping among residents of low-income neighborhoods. DESIGN: We conducted a cross-sectional study. PARTICIPANTS/SETTING: Five hundred twenty-seven households were recruited from two counties in South Carolina from November 2013 to May 2014, and 474 households were included in the final analysis. MAIN OUTCOMES MEASURES: Food security

was assessed using the 18-item US-Household Food Security Module questionnaire, and classified into three categories: high or marginal food security (FS), low food security (LFS), and very low food security (VLFS). Store-specific shopping behaviors including frequency, store type, and transportation were queried via in-person interview for the three most-frequented grocery stores. Distance from participants' homes to their reported stores was calculated using Geographic Information Systems. STATISTICAL ANALYSES: Multivariate linear regression for analyses of distance and frequency and multinomial/ordinary logistic regression for analyses of store type and transportation were used. RESULTS: Compared to FS participants, a significantly higher proportion of VLFS participants reported a convenience/dollar store as their most-frequented store (odds ratio [OR] 2.31, 95% CI 1.08 to 4.95) or a lack of transportation (OR 2.04, 95% CI 1.25 to 3.33). They also shopped less frequently (b=-.31, P=0.03) at their third most-frequented store and traveled fewer total miles for shopping (b=-4.71, P=0.04). In analyses considering all stores jointly, LFS participants had lower odds of shopping at both supermarkets and convenience/dollar stores (OR 0.44, 95% CI 0.21 to 0.91) compared to food-secure residents. CONCLUSIONS: The current findings suggest that households with VLFS tend to shop more frequently in stores that have less-healthful options, such as convenience/dollar stores. These findings lend support to ongoing community and policy interventions aimed at improving food access among food-insecure populations.

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201. **Food insecurity in New Zealand: Causes, consequences and cures**

Item Type: Conference Proceeding

Authors: Parnell W., Boston G. and Simpson, J.

Publication Date: 2017

Publication Details: Nutrients. Conference: Nutrition Society of New Zealand Annual Conference 2016. Christchurch New Zealand. 9(4) (no pagination); MDPI AG,
Abstract: Food (and nutrition) security exists when all people at all times have physical and economic access to food which is safe and consumed in sufficient quantity to meet their dietary needs and food preferences and is supported by an environment of adequate sanitation, health services and care allowing for a healthy life. In New Zealand food insecurity is largely the result of lack of sufficient money for food although other socio-cultural factors exacerbate the condition. Unemployment, low levels of Government Benefits, low wages, accompanied by complex and less than ideal social conditions contribute to the causes of food insecurity. National Nutrition Surveys have provided clear evidence that food insecurity at the household level is associated with poorer food choices, poorer nutrient intake levels and challenges to the maintenance of a healthy body weight particularly among women. Implicit within the condition of food insecurity is the concept of stress associated with obtaining food that is sufficient and available in a socially acceptable way. Thus food insecurity profoundly influences both physical and emotional health and affects the ability to participate fully in the life of the community. Ultimately no remedy other than the provision of 'sufficient' money to a person or household to enable the purchase of sufficient appropriate food for health will counter food insecurity. Interventions proposed to alleviate food insecurity in NZ include: actions to release money for the purchase of household food by better distribution of money over all expenditures; enhancing food purchasing and preparation skills; household or

community gardening projects; provision of affordable transport to food sources and better location of supermarkets; redistribution of and reduction of food otherwise wasted. Evaluations of the effectiveness of such interventions are sparse. A qualitative Canadian study of rural food insecurity titled their discourse "When cooking skills, homegrown food and perseverance aren't enough to feed a family". Thus efforts focused on the economic underpinnings of food insecurity are of paramount importance.

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202. **Associations between the local food environment and the severity of food insecurity among new families using community food security interventions in Montreal.**

Authors: Perez, Elsury;Roncarolo, Federico and Potvin, Louise

Publication Date: 2017

Journal: Canadian Journal of Public Health.Revue Canadienne De Sante Publique

Abstract: OBJECTIVES: To examine the association between the local food environment and the severity of food insecurity among new families using community food security interventions in Montreal. METHODS: In this cross-sectional study, we analyzed baseline data from 785 adults aged 18-65 years enrolled in the evaluation of the effects of organizations delivering community food security interventions in Montreal. The dependent variable was household food insecurity, while the independent variable was the local food environment, assessed through: location of the most frequently used grocery store, distance between the participant's residence and the community organization used, mode of transportation, walking time to the most frequently used grocery store, satisfaction with the acceptability and affordability of food available at the most frequently used grocery store, and self-reported difficulties in accessing food. We used polytomous logistic regression to estimate the association between household food insecurity and the local food environment. In all the models, we coded food security status in three categories: food security, moderate food insecurity and severe food insecurity. The last group was used as a reference group. RESULTS: Our data suggest that compared to households with severe food insecurity, those with moderate food insecurity (OR = 0.43, 95% CI: 0.28-0.62) and those with food security (OR = 0.13, 95% CI: 0.06-0.26) were less likely to report difficulties in accessing food due to food affordability. Food-secure households also had lower odds of reporting difficulties in accessing food due to transportation constraints (OR = 0.18, 95% CI: 0.06-0.55) compared with severe food-insecure households. Living a distance of between 1 and 2 km from the organization used was significantly correlated with moderate food insecurity (OR = 1.80, 95% CI: 1.12-2.88). CONCLUSION: The local food environment is associated with severity of household food insecurity among new families using community food security interventions in Montreal. Future studies should study the relationship between the local food environment and food insecurity across all dimensions of food access.

203. **For Low-Income Americans, Living <=1 Mile (<=1.6 km) from the Nearest Supermarket Is Not Associated with Self-Reported Household Food Security.**

Authors: Wilde, Parke;Steiner, Abigail and Ver Ploeg, Michele

Publication Date: 2017

Journal: Current Developments in Nutrition

Abstract: Background: Motivated by concern over lack of access to nutritious food in low-income neighborhoods, healthy food financing initiatives have encouraged the introduction of new supermarkets. Extensive research on the association between the food retail environment and nutrition outcomes has shown mixed results. There has been less research specifically on food security outcomes. Objective: We assessed the association between multiple food environment measures and food security for low-income US households. Methods: By using the USDA's nationally representative 2012-2013 Food Acquisition and Purchase Survey (FoodAPS; n = 4826 households), which provides unique information about neighborhood- and household-level food retailer access, we quantified cross-sectional associations between food environment characteristics and household-level outcomes, with and without regression controls. Logistic regression analysis was used for binary household food security outcomes. Results: Most households bypassed the nearest retailer to select a primary retailer farther from home. For low-income households, distance to the nearest supermarket and to the primary retailer was not associated with food security. In comparison to shopping with households' own automobile, the odds of being food secure were lower for households that used another automobile (OR: 0.59; 95% CI: 0.38, 0.90) or other transportation (OR: 0.32; 95% CI: 0.17, 0.61) to reach the primary retailer. Conclusions: Having a closest supermarket 1 mile that are most strongly associated with food security outcomes.

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204. **Associations between the purchase of healthy and fast foods and restrictions to food access: a cross-sectional study in Melbourne, Australia.**

Authors: Burns C.;Bentley R.;Thornton L. and Kavanagh, A.

Publication Date: 2015

Journal: Public Health Nutrition

Abstract: OBJECTIVE: To examine the associations between financial, physical and transport conditions that may restrict food access (which we define as food security indicators) and the purchase of fast foods and nutritious staples such as bread and milk. DESIGN: Multilevel logistic and multinomial regression analysis of cross-sectional survey data to assess associations between the three indicators of food insecurity and household food shopping adjusted for sociodemographic and socio-economic variables. SETTING: Random selection of households (n 3995) from fifty Census Collector Districts in Melbourne, Australia, in 2003. SUBJECTS: The main food shoppers in each household (n 2564). RESULTS: After adjustment for confounders, analysis showed that a greater likelihood of purchasing chain-brand fast food on a weekly basis compared with never was associated with running out of money to buy food (OR = 1.59; 95 % CI 1.08, 2.34) and reporting difficulties lifting groceries (OR = 1.77; 95 % CI 1.23, 2.54). Respondents without regular access to a car to do food

shopping were less likely to purchase bread types considered more nutritious than white bread (OR = 0.75; 95 % CI 0.59, 0.95) and milk types considered more nutritious than full-cream milk (OR = 0.62; 95 % CI 0.47, 0.81). The food insecurity indicators were not associated with the purchasing of fruits, vegetables or non-chain fast food. CONCLUSIONS: Householders experiencing financial and physical barriers were more likely to frequently purchase chain fast foods while limited access to a car resulted in a lower likelihood that the nutritious options were purchased for two core food items (bread and milk). Policies and interventions that improve financial access to food and lessen the effect of physical limitations to carrying groceries may reduce the purchasing of fast foods. Further research is required on food sourcing and dietary quality among those with food access restrictions.

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205. **The association between dietary intakes and food environment factors**

Item Type: Conference Proceeding

Authors: Paik H.Y., Lee S., Jung H. and Song, Y.J.

Publication Date: 2014

Publication Details: FASEB Journal. Conference: Experimental Biology 2014, EB. San Diego, CA United States. 28(1 SUPPL. 1) (no pagination); FASEB,
Abstract: Food environments (FE) have become important factors to evaluate dietary intake at the levels of individual and household as well as community. The aim of this study was to investigate associations between dietary intakes and FE surrounding an individual and his/her family. The study was designed as a cross-sectional household study. We recruited 66 households in a mixed region of urban and rural areas. We collected data related with FE including food stores from a family member in charge of food purchases per household. Two days 24hr recall dietary data were collected by trained interviewers from total of 215 family members. Total and distribution of energy from three macronutrients, and percentages of recommended daily servings consumed for each of the six food groups; 1) grain, 2) meat.fish.eggs.beans, 3) vegetables, 4) fruits, 5) milk & dairy products, and 6) oils & sugars were calculated. GLM and Spearman's correlation were performed to estimate the effect of food environment factors on dietary intakes. People who spent more eating-out expenses showed higher intakes of energy from fat. The percentage energy from macronutrients and the intake of meat.fish.eggs.beans were different by food store used primarily. The consumption of vegetables was significantly different according to FE factors; living area, type of generation, owning a car, education level, and household income. Home food insecurity was inversely related with the intakes of total energy and meat.fish.eggs.beans group. Evidence from our study suggested that the effect of FE factors on dietary intakes should be measured by multi-level approaches.

206. **Food insecure families: description of access and barriers to food from one pediatric primary care center.**

Item Type: Journal Article

Authors: DeMartini T.L.;Beck A.F.;Kahn R.S. and Klein, M. D.

Publication Date: 2013

Journal: Journal of Community Health

Abstract: Despite evidence that food insecurity negatively impacts child health, health care providers play little role in addressing the issue. To inform potential primary care interventions, we sought to assess a range of challenges faced by food insecure (FI) families coming to an urban, pediatric primary care setting. A cross-sectional study was performed at a hospital-based, urban, academic pediatric primary care clinic that serves as a medical home for approximately 15,000 patients with 35,000 annual visits. Subjects included a convenience sample of caregivers of children presenting for either well child or ill care over a 4 months period in 2012. A self-administered survey assessed household food security status, shopping habits, transportation access, budgeting priorities, and perceptions about nutrition access in one's community. Bivariate analyses between food security status and these characteristics were performed using Chi square statistics or Fisher's exact test. The survey was completed by 199 caregivers. Approximately 33% of families were FI; 93% received food-related governmental assistance. FI families were more likely to obtain food from a corner/convenience store, utilize food banks, require transportation other than a household car, and prioritize paying bills before purchasing food. FI families perceived less access to healthy, affordable foods within their community. Thus, FI families may face unique barriers to accessing food. Knowledge of these barriers could allow clinicians to tailor in-clinic screening and create family-centered interventions.

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207. **Why sustainable and 'nutritionally correct' foods are not on the table: Western sydney and the moral arts of everyday life**

Item Type: Conference Proceeding

Authors: Dixon J. and Isaacs, B.

Publication Date: 2013

Publication Details: Annals of Nutrition and Metabolism

Abstract: Background and objectives: Within a context of future food security, the public health principle make healthy choices easy choices has become make healthy and sustainable choices easy choices. Dietary guidelines are being reframed, corporations are replacing unsustainable products, and consumers are being encouraged to become ecological citizens. While there is a growing literature on the sustainability practices of 'alternative' consumers, the food provisioning approaches of 'mainstream' consumers are less well understood. Method(s): This study is based upon in-depth interviews, photo essays and participant observation undertaken in a socio-economically disadvantaged area of Sydney, Australia, which aimed to

uncover consumer views towards local, sustainable and healthy diets. Result(s): Study participants were found to value cheap and tasty food over local or sustainably grown food; and while they associate nutritious food with fresh food, they will buy processed foods which can be less expensive, appeal to children and are subsequently less prone to waste. Reflecting mainstream Australian political culture, participants were pursuing a socially acceptable standard of living (including high mortgages, car reliance) which compromised household food budgets. They were also incorporating the pleasure and desires of family members as part of 'the moral arts of everyday life'. Conclusion(s): Using social theories of consumption and practice sociology we argue that food choices and practices easy or not need to be interpreted as part of the role that consumption plays in political citizenship and moral subjectivity. The food practices of poorer Australian households are essentially household budget and family nourishment practices not nutrition and sustainability practices; a position which challenges proposed government food and nutrition policies.

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208. **Convenience stores are the key food environment influence on nutrients available from household food supplies in Texas Border Colonias.**

Authors: Sharkey, Joseph R.;Dean, Wesley R.;Nalty, Courtney C. and Xu, Jin

Publication Date: 2013

Journal: BMC Public Health

Abstract: BACKGROUND: Few studies have focused on the relationship between the retail food environment and household food supplies. This study examines spatial access to retail food stores, food shopping habits, and nutrients available in household food supplies among 50 Mexican-origin families residing in Texas border colonias. METHODS: The design was cross-sectional; data were collected in the home March to June 2010 by promotora-researchers. Ground-truthed methods enumerated traditional (supercenters, supermarkets, grocery stores), convenience (convenience stores and food marts), and non-traditional (dollar stores, discount stores) retail food stores. Spatial access was computed using the network distance from each participant's residence to each food store. Data included survey data and two household food inventories (HFI) of the presence and amount of food items in the home. The Spanish language interviewer-administered survey included demographics, transportation access, food purchasing, food and nutrition assistance program participation, and the 18-item Core Food Security Module. Nutrition Data Systems for Research (NDS-R) was used to calculate HFI nutrients. Adult equivalent adjustment constants (AE), based on age and gender calorie needs, were calculated based on the age- and gender composition of each household and used to adjust HFI nutrients for household composition. Data were analyzed using bivariate analysis and linear regression models to determine the association of independent variables with the availability of each AE-adjusted nutrient. RESULTS: Regression models showed that households in which the child independently purchased food from a convenience store at least once a week had foods and beverages with increased amounts of total energy, total fat, and saturated fat. A greater distance to the nearest convenience store was associated with reduced amounts of total energy, vitamin D, total sugar, added sugar, total fat, and saturated fat. Participation in the National School Lunch Program (NSLP) was associated with lower household levels of total energy, calcium, vitamin C, sodium, vitamin D, and saturated fat. Spatial access and utilization of supermarkets and dollar stores were not associated with

nutrient availability. CONCLUSIONS: Although household members frequently purchased food items from supermarkets or dollar stores, it was spatial access to and frequent utilization of convenience food stores that influenced the amount of nutrients present in Texas border colonia households. These findings also suggest that households which participate in NSLP have reduced AE-adjusted nutrients available in the home. The next step will target changes within convenience stores to improve in-store marketing of foods and beverages to children and adults.

Sources Used:

The following databases are used in the creation of this bulletin:CINAHL and Medline.

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