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Nutrition and Hydration

Current Awareness Bulletin

June 2026

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The complex nutrition virtual ward: a nurse-led service innovation to improve safety, efficiency and patient experience.

Gibson E. British Journal of Nursing 2026;35(8):S12-S15.

Virtual wards are increasingly used to deliver acute level care in the community. The Complex Nutrition Virtual Ward (CNVW) was established at Dudley Group NHS Foundation Trust to provide specialist community management for patients with complex nutritional needs who would otherwise require prolonged inpatient admission. This evaluation reports activity, safety outcomes and patient experience over the first 3 years of the ward's operation.

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1. **Exercise- and Nutrition-Based Prehabilitation Programs in Surgery: A Systematic Review and Meta-Analysis**

Authors: Cascavita, Catherine T.;Hall, Anne E.;Shariati, Kaavian;Chevalier, Jose M.;Argame, Alexander A.;Nguyen, Nghiem H.;Tseng, Chi-Hong;Hidalgo, Marco A. and Lee, Justine C.

Publication Date: 2026

Journal: Journal of the American College of Surgeons 243(1), pp. 168–181

Abstract: Background: Exercise- and nutrition-based prehabilitation programs are promising emerging strategies for enhancing surgical recovery. However, earlier studies have reported mixed findings about their impact on postoperative outcomes. The purpose of this study is to investigate the efficacy of exercise- and nutrition-based prehabilitation on postoperative

outcomes, including length of stay (LOS), complications, quality of life (QoL), pain, and mental health.; Study Design: A systematic review and meta-analysis was conducted, using Medline, Cochrane Central, EMBASE, and Web of Science, following Preferred Reporting Items for Systematic Reviews and Meta-analyses guidelines. Studies published between 2004 and 2024 were identified with search terms including "prehabilitation," "exercise," "nutrition," and "surgery." Eligible studies (n = 293) were randomized controlled trials (RCTs) evaluating exercise or nutrition-based prehabilitation programs and reporting LOS and complications as primary outcomes. Secondary outcomes included QoL, pain, and mental health scores. Random-effects meta-analyses estimated pooled effect sizes.; Results: Twenty-three RCTs were included (2,182 participants). Exercise or nutrition-based prehabilitation reduced complications (odds ratio 0.52. 95% CI 0.35 to 0.78, p < 0.002, I2 = 47.1%) and LOS (mean difference MD] -0.44 days, 95% CI -0.78 to -0.11, p = 0.01, I2 = 44.8%) compared with standard treatment. When comparing interventions, nutrition only had a greater reduction in LOS than exercise only (MD -1.09 days, 95% CI -1.72 to -0.47 vs MD -0.20 days, 95% CI -0.51 to 0.09; p = 0.01). Although QoL was not reported in nutrition-only RCTs, exercise alone improved QoL measures (standardized MD 0.94, 95% CI 0.24 to 1.64, p = 0.01, I2 = 93.6%) compared with standard treatment.; Conclusions: Exercise or nutrition-based prehabilitation programs reduce LOS and complications across multiple surgical contexts. Further work is needed to elucidate the effects of different intervention protocols on postoperative outcomes.

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2. **"An opportunity to spend time with each other": The importance of mealtimes for carepartners of older adults with acute myeloid leukemia and myelodysplastic syndromes**

Authors: Crowder, Victoria;Cho, Youngmin;Teng, Chiao-Hsin;Anderson, Danielle;Batchelor, Melissa;Beeber, Anna;Coombs, Lorinda A.;Richardson, Daniel;Sawyer, Amanda S.;Fogle, Rebecca;Holliday, Amanda M.;Schwartz, Todd A. and Bryant, Ashley Leak

Publication Date: 2026

Journal: Journal of Geriatric Oncology , pp. 102976

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3. **Nutrition provision across acute hospitalization in adult patients receiving extracorporeal membrane oxygenation: A prospective multicenter observational, registry-embedded study**

Authors: Ferguson, Clare E.;Tatucu-Babet, Oana;Bailey, Michael;Burrell, Aidan;Diehl, Arne;Ferrie, Suzie;Fraser, John F.;Higgins, Alisa M.;Lambell, Kate J.;Nair, Priya;Nyulasi, Ibolya;Paul, Eldho;Hodgson, Carol L. and Ridley, Emma J.

Publication Date: 2026

Journal: Nutrition (Burbank, Los Angeles County, Calif.) 149, pp. 113244

Abstract: Background: Patients receiving extracorporeal membrane oxygenation (ECMO) are considered nutritionally vulnerable, with previous studies focussed on Intensive Care Unit (ICU) admission alone. We aimed to address this gap by describing nutrition provision and practices during the ICU and post-ICU ward admission in adults who received ECMO.; Methods: A prospective observational study was conducted across ten tertiary hospitals within the ECMO registry (EXCEL) in Australia. Data were collected on day 1 (ECMO initiation), 3, 7 and then 7-daily to day 60. The primary outcome was energy provision (% of clinician-prescribed target). Secondary outcomes were energy delivery (kcal/day), protein delivery (g/day) and protein provision (% of clinician-prescribed target). Mixed-effects linear modelling was used to compare data in the ICU and post-ICU ward setting.; Results: 147 patients were included between June 2022 and July 2023; 91 (62%) males, mean ± standard deviation age 48 ± 16 y. The median interquartile range] duration of ECMO was 6 d 4-12], with an ICU and hospital stay of 18 d 10-28] and 27 d 12-48] respectively. Energy delivery was 1223 ± 568 kcal/d in ICU (n = 140) and 1519 ± 765 kcal/d on the post-ICU ward in a subgroup with available data (n = 37), providing 64 ± 26% and 70 ± 34% of energy targets, respectively. Protein delivery was 60 ± 31 g/d in ICU and 72 ± 40 g/d on the post-ICU ward meeting 61 ± 29% and 77 ± 40% of protein targets, respectively. No significant differences were observed between the ICU and post-ICU ward.; Conclusions: Energy and protein delivery were comparable between the ICU and post-ICU ward, consistently remaining below prescribed targets. This may reflect an evidence-based shift early in ICU, but persistent deficits post-ICU may impair recovery and warrant further investigation.; Study Registration: https://www.anzctr.org.au/.; Trial Id: ACTRN12623000304639.

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4. **Parenteral nutrition and supplemental parenteral nutrition: should we use more?**

Authors: Lac, Tam;Chapple, Lee-Anne S. and Ridley, Emma J.

Publication Date: 2026

Journal: Current Opinion in Critical Care

Abstract: Purpose of Review: This review examines when parenteral nutrition (PN) (inclusive of total (TPN), supplemental (SPN), or peripheral (PPN)) may be provided in intensive care unit (ICU). We discuss adapting PN across metabolic phases, including early and late acute phases in ICU, post-ICU, and ward recovery.; Recent Findings: Given emerging data, it is more likely that historical negative sequelae associated with PN were driven by overfeeding than the feeding route itself. With conservative energy delivery and strict aseptic care, TPN/SPN is likely as safe as enteral nutrition (EN) in modern ICU settings. TPN should be considered when the gastrointestinal (GI) tract is non-functional, and SPN when EN is insufficient or not tolerated. Furthermore, amino acid uptake and muscle responses are comparable. Substantial energy and protein deficits persist post-ICU, particularly with oral intake alone, highlighting SPN's role to support rehabilitation. PPN may provide short-term strategies to bridge inadequate nutrition.; Summary: PN prescriptions should consider individual patient needs and phase of illness. In the ICU, PN should be considered when EN is not feasible or insufficient, particularly in later phase. Post-ICU and postoperatively, PN may support recovery when oral intake is poor or EN is impossible.

5. **The impact of early enteral nutrition on length of hospital stay in adult severe acute pancreatitis: a retrospective cohort study**

Authors: Li, Shun and Zhang, Suming

Publication Date: 2026

Journal: Minerva Gastroenterology

Abstract: Background: To investigate the impact of early enteral nutrition on hospital stay in adults with severe acute pancreatitis (SAP).; Methods: Retrospective analysis of clinical data from adult SAP patients admitted between January 2023 and June 2023. Patients were divided into early enteral nutrition (63 cases) and late enteral nutrition (69 cases) groups. General information, admission blood parameters, white blood cell count, CRP levels, and length of hospital stay were compared between the groups. Pearson correlation analysis explored the relationship between timing of enteral nutrition and hospital stay.; Results: No significant differences in general information and admission blood parameters between groups. Both groups showed significant decreases in white blood cell count (WBC) and CRP levels following the initiation of enteral nutrition. After enteral nutrition intervention, the early enteral nutrition group had significantly lower WBC and CRP concentration than the late enteral nutrition group. Average length of hospital stay and ICU stay were significantly shorter in the early enteral nutrition group. Correlation analysis showed a positive correlation between timing of enteral nutrition and average length of hospital stay and ICU stay in SAP patients.; Conclusions: Early enteral nutrition has significant advantages over late enteral nutrition in improving inflammatory response and reducing length of hospital stay and ICU stay.

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6. **Proteomics for precision nutrition: current evidence and future directions**

Authors: Marino, Mirko;Del Bo', Cristian and Riso, Patrizia

Publication Date: 2026

Journal: Current Opinion in Clinical Nutrition and Metabolic Care 29(4), pp. 361–367

Abstract: Purpose of Review: This review critically evaluates proteomics research applied to clinical nutrition and metabolism published between mid-2024 and early-2026, examining whether recent advances have moved the field closer to clinically actionable precision nutrition applications.; Recent Findings: Large prospective cohort studies show that circulating proteomic signatures reflect dietary patterns and are associated with incident cardiometabolic, hepatic, and neurodegenerative outcomes. In most analyses, these signatures capture plausible biological pathways, but their incremental predictive value beyond established risk models appears modest. Interventional studies confirm that circulating proteins respond to dietary modification, but these trials are considerably smaller than epidemiological cohorts and proteomic-guided randomized allocation has rarely been implemented to date. Although multiomics integration and machine-learning approaches have expanded discovery and improved pathway modeling, independent validation, cross-platform consistency, and clinically meaningful risk reclassification remain inconsistently demonstrated across studies.; Summary: Diet-proteome associations are biologically coherent and reproducible at the population level.

Nevertheless, translation into individualized dietary prescription remains to be demonstrated at scale. Robust evidence of cross-platform consistency, formal clinical utility, and outcome-driven trials incorporating proteomic-guided interventions will be key to enabling circulating proteomics to support routine precision nutrition practice.

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7. **Parenteral nutrition in advanced cancer: A qualitative study on decision-making and information needs of patients and carers**

Authors: McCracken, Jennifer;Wheelwright, Sally and Shaw, Clare

Publication Date: 2026

Journal: PloS One 21(6), pp. e0350396

Abstract: Objectives: To identify the information needs of people with advanced cancer, and their carers, to make an informed decision to commence or discontinue parenteral nutrition (PN).; Methods: Semi-structured interviews with people who had advanced cancer and were receiving PN, and their informal carers were audio-recorded with consent and transcribed verbatim. Analysis was conducted using a framework analysis approach. Patients were recruited via four hospitals including a cancer centre and intestinal failure units. Carers were recruited via recruiting hospitals, advertisement on social media and support group forums.; Results: Interviews were conducted with five patients and six carers. Five overarching themes were identified: factors affecting the decision: lack of choice and the importance of hope and advocacy, communication and information: whose role is it?, tackling discussions around benefits, risks and challenges of PN, the reality of living with home PN and neglected conversations: stopping PN and advance care planning. Patients and carers suggested essential information provided should include how to recognise complications, what to expect with home PN, and the risks and benefits of PN. They also recommended ways to improve service delivery including identification of the professional responsible for PN, improving communication through multiprofessional meetings and establishing a clear home PN pathway and service specification.; Conclusions: This study has identified information that patients with advanced cancer and their carers need to make decisions around commencing and discontinuing parenteral nutrition. This knowledge can contribute to the development of decision tools to support shared decision-making among patients, carers and healthcare professionals.

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8. **Nutrition support in the ICU: current evidence and evolving standards**

Authors: Peake, S. L.;Ridley, E. J. and Reignier, J.

Publication Date: 2026

Journal: Intensive Care Medicine

Abstract: Nutritional support is a cornerstone of care in critically ill patients, yet the optimal

delivery of macronutrient across phases of critical illness remains controversial. During the acute phase, profound metabolic alterations including anabolic resistance, enhanced proteolysis and endogenous energy production contribute to rapid muscle wasting. Recent large randomized trials have challenged the traditional paradigm of early full nutritional replacement, which may cause harm through overfeeding, refeeding syndrome, impaired autophagy, and metabolic intolerance. Low-calorie and low-protein strategies during the first week of critical illness, particularly in mechanically ventilated patients requiring organ support, may improve recovery and reduce complications. Increasing protein delivery has not consistently improved survival or functional recovery and may even be harmful, especially in patients with acute kidney injury. Current evidence therefore supports a cautious, individualized approach, with avoidance of overfeeding and consideration of low-calorie, low-protein feeding strategies while carefully monitoring gastrointestinal tolerance, metabolic complications and electrolyte disturbances. During the recovery phase, as inflammation resolves and anabolic processes emerge, nutritional priorities shift toward restoration of lean body mass and functional recovery. However, evidence defining optimal macronutrient targets remains limited. Observational studies consistently report inadequate energy and protein delivery after the acute phase due to feeding interruptions, gastrointestinal intolerance, and swallowing disorders. A multidisciplinary, protocol-driven approach emphasizing individualized nutritional support is therefore recommended. Future research should focus on defining phase-specific nutritional targets, identifying biomarkers of metabolic demand, and evaluating the impact of ICU and post-ICU nutrition on long-term functional outcomes.

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9. **Investigating the effects of olanzapine on appetite and weight in patients with cancer in a systematic review**

Authors: Renaux Torres, Marie Charlotte;Smati, Kamélia;Noujaim, Peter;Martin, Salomé;Gigante, Elia;Brugel, Mathias;Carlier, Claire;Djerada, Zoubir;Perrier, Marine;Bertin, Éric;Bouché, Olivier;Coutureau, Claire and Slimano, Florian

Publication Date: 2026

Journal: Discover Oncology

Abstract: Purpose: Anorexia, malnutrition, and cachexia are common in patients with cancer, yet evidence-based pharmacological guidance remains limited. Olanzapine is an antipsychotic that can increase appetite and cause weight gain. This systematic review evaluated the effects of olanzapine on appetite and body weight in patients with cancer.; Methods: This systematic review included randomized controlled trials (RCTs) and observational studies assessing the effects of olanzapine on appetite and/or body weight in patients with cancer. The search strategy was conducted in Medline (PubMed), Embase, and the Cochrane Library. Risk of bias was assessed using Cochrane RoB2 for RCTs and the ROBINS-I for observational studies.; Results: Of 1,733 records identified, 79 reports underwent full-text review. Fourteen RCTs, one prospective observational study, and three retrospective studies met the inclusion criteria. Most studies were not designed primarily to evaluate olanzapine as an orexigenic intervention; instead, olanzapine was typically studied for other indications (e.g. chemotherapy-induced nausea and vomiting control), with appetite and/or weight reported as secondary outcomes. Weight gain with olanzapine was reported in two RCTs using 2.5-5 mg/day for 8-12 weeks in adults. Increased appetite was reported in 10 of 14 studies in which olanzapine (2.5-10

mg/day) was administered for 3 days to 12 weeks. However, only three studies prospectively assessed appetite as a primary outcome, and only two prespecified body weight change as an endpoint, indicating that most evidence derives from secondary analyses. Most RCTs raised some concerns or were at high risk of bias, and observational studies generally had serious or critical risk of bias for outcomes of interest. Only 2 RCTs were judged to be at low risk of bias, underscoring substantial methodological limitations and heterogeneity in populations, indications, dosing regimens, and outcome definitions.; Conclusions: Available evidence suggests that olanzapine may have orexigenic effects in patients with cancer, with increased appetite reported in several studies and body weight gain observed with long-term use. These findings should be interpreted cautiously given the heterogeneity in study designs and the generally limited methodological quality of the evidence. Further research is needed to confirm these effects and to define the optimal dose and treatment duration for improving appetite and body weight in patients with cancer. (© 2026. The Author(s).)

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10. **The effect of nutrition education interventions on dialysis patients' outcomes: a systematic review and meta-analysis**

Authors: Sarmadi, Sogand;Sanaie, Neda and Zare-Kaseb, Akbar

Publication Date: 2026

Journal: Annals of Medicine 58(1), pp. 2660389

Abstract: Background: Non-adherence to dietary and fluid restrictions among dialysis patients is associated with adverse clinical outcomes. Quantifying the effectiveness of nutrition education interventions can inform practice and policy.; Methods: We searched MEDLINE, EMBASE, CINAHL, CENTRAL, PsycINFO, Web of Science, and Scopus up to 15 July 2025, supplemented by trial registries and Google Scholar, with an updated search through 8 April 2026. Eligible studies included randomized and non-randomized trials evaluating nutritional education interventions in adult dialysis populations. Risk of bias was assessed using RoB-2 and ROBINS-I, certainty graded using GRADE, and random-effects meta-analyses conducted alongside subgroup, sensitivity, and meta-regression analyses. Publication bias was assessed with Egger and Begg tests and trim-and-fill where applicable.; Results: Forty-four studies comprising 4,106 participants were included. Nutrition education significantly improved knowledge (SMD = 1.09; 95% CI: 0.67-1.51) and health-related quality of life (SMD = 1.43; 95% CI: 0.86-2.00; I^2 = 0%), and reduced serum potassium (SMD = -0.52; 95% CI: -0.91 to -0.14; I^2 = 92%) and serum phosphate (SMD = -0.35; 95% CI: -0.56 to -0.15; I^2 = 81%). Results for albumin, creatinine, sodium, calcium, and BUN were inconsistent and non-significant. Most outcomes were rated low or very low certainty by GRADE, reflecting inconsistency, indirectness, and imprecision. Potential publication bias was identified for certain outcomes.; Conclusions: Nutrition education consistently improves knowledge and quality of life and may modestly reduce serum phosphate and potassium in dialysis patients. High-quality registered trials with standardized outcomes and longer follow-up are needed to establish effectiveness and sustainability.; Prospero Registration: CRD420251119567.

11. **Smart feeding: the role of artificial intelligence and integrated nutrition platforms in the ICU**

Authors: Singer, Pierre and Raphaeli, Orit

Publication Date: 2026

Journal: Current Opinion in Critical Care

Abstract: Purpose of Review: Tremendous improvement in the use of artificial intelligence has opened new opportunities to analyze the data obtained from electronic health records and imaging. New technologies have tried to overcome obstacles to implement guidelines and recommendations. This review aims to describe the recent progress in the use of machine learning and new technologies in the field of nutrition of the critically ill.; Recent Findings: Increase in data availability, ability to extract these data and analyze them using machine learning has allowed data scientists together with ICU specialists to improve nutritional screening and assessment and to predict occurrence of obstacles like enteral feeding intolerance or refeeding hypophosphatemia. In addition, new technologies can ensure nasogastric tube positioning and enteral feeding efficacy. Integrated platforms can integrate nutritional needs with most adequate prescriptions and modulate the nutritional administration according to the patient's tolerance and requirements. Analysis of continuous recording of imaging obtained from ultrasound can also predict gastric intolerance.; Summary: Using machine learning, numerous algorithms and nomograms have been suggested to predict enteral feeding intolerance but validation of these predictions is still required. New technologies integrating energy requirements and delivery of the optimal enteral feeding are very promising.

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12. **School food interventions and nutrition-related outcomes in Europe: A scoping review**

Authors: Vidal, Irene;Franco, Manuel;Dominguez-Salas, Paula;Cohen, Nevin and Díez, Julia

Publication Date: 2026

Journal: Preventive Medicine 208, pp. 108584

Abstract: Objective: To map, synthesize and assess evidence on European school food interventions and effectiveness on nutrition-related outcomes in children and adolescents aged ≤19 years.; Methods: This scoping review followed PRISMA-ScR guidelines. We searched PubMed, Scopus, Web of Science, and the Education Resources Information Center for studies published between January 2020 and February 2026, following a published protocol. Two researchers independently screened titles, abstracts, and full texts. One researcher extracted the data using a standardized tool.; Results: The search identified 900 articles, of which 65 met the inclusion criteria. Most interventions (n = 52) were implemented in primary or secondary schools. Educational interventions (n = 43) were associated with positive dietary behaviors, such as higher fruit and vegetable intake, as well as favorable weight-related outcomes. Food provision (n = 10), including free school meals, was associated with healthier dietary intake and lower food insecurity. Multicomponent approaches (n = 12) were associated

with sustained improvements in dietary intake and favorable anthropometric outcomes. Equity-focused interventions (n = 33) were associated with improvements in food security, dietary intake, and body mass index in the targeted populations.; Conclusions: School food interventions in Europe are associated with positive shifts in dietary behaviors and weight-related outcomes. Future research should strengthen equity integration, expand early childhood approaches, and promote long-term policy support to enhance impact and sustainability.

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13. **Advancing digital nutrition assessment: Development and evaluation of the UK eNutriFFQv2.0**

Authors: Weech, Michelle;Fallaize, Rosalind;Franco, Rodrigo Zenun;Sutton, Rachel;Fotiou, Maria;Robertson, Nicole;Hwang, Faustina and Lovegrove, Julie A.

Publication Date: 2026

Journal: Nutrition (Burbank, Los Angeles County, Calif.) 149, pp. 113212

Abstract: Background: Digital dietary assessment tools are highly beneficial for nutrition research and personalized interventions.; Objective: This paper describes the development and evaluation of eNutriFFQv2.0, an updated online food frequency questionnaire designed to reflect current diets in the United Kingdom (UK). Updates included modernized food lists based on recent UK population surveys, food composition tables, and food portion photos to improve accuracy and user experience.; Methods: To assess reproducibility, UK adults completed the FFQ twice, 14 days apart; validity was evaluated against a 3-d weighed food record in a sub-sample. Multiple statistical methods were used. After excluding participants with unfeasible energy intakes, 87 participants completed the reproducibility and 53 the evaluation.; Results: The final eNutriFFQv2.0 captured 164 items and estimated intake for 56 nutrients and 6 food groups. Agreement with the WFR was acceptable to good for 25 out of the 29 nutrients analyzed (weighted kappa 0.21-0.77), with ≤10% misclassification into opposite quartiles for most nutrients. Bland-Altman plots showed good agreement for energy (176 kcal/d higher in FFQ1) and macronutrient estimates. Reproducibility was good for 24 out of the 29 nutrients analyzed (weighted kappa 0.58-0.85) with <5% misclassification. Mean bias for estimates of carbohydrate, fat, and protein was small (0.0-0.7). Energy estimates were 209 kcal/d (10.7%) higher in the first compared with the second completion of the FFQ.; Conclusions: These findings demonstrate that eNutriFFQv2.0 is a valid and reliable tool for assessing nutrient intake in UK adults, offering a practical, scalable solution for research and public health in the context of digital health and personalized dietary interventions.

Sources Used:
The following databases are used in the creation of this bulletin: Amed, British Nursing Index, Cinahl & Medline.

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