

# Information for Clinicians

## Clinical Biochemistry Department

### Hyperprolactinaemia - a guide for GPs

#### Definition

Prolactin > 700 mIU/L on a single sample without excessive venepuncture stress, at any time of day in both males and females is considered clinically significant hyperprolactinaemia and requires further investigation.

**Note:** The cut off of 700 mIU/L is a clinical action threshold and not a reference range. If a patient has symptoms of hyperprolactinaemia below this cut off, advise discussion with the Duty Biochemist (01225 824050)

Prolactin (mIU/L)	Interpretation
700 - 2000	Mild hyperprolactinaemia
2000 - 5000	Significant hyperprolactinaemia
>5000	Severe hyperprolactinaemia

#### Symptoms of hyperprolactinaemia

##### In females

- Oligomenorrhoea/amenorrhoea
- Galactorrhoea (when not pregnant or breast feeding)
- Vaginal dryness
- Acne
- Hirsutism

##### In males

- Erectile dysfunction
- Decreased body and facial hair
- Gynaecomastia

##### In both sexes

- Low bone density
- Reduction in other pituitary hormone production
- Decreased libido
- Headaches
- Visual disturbances
- Infertility

##### In children

- Growth failure
- Delayed puberty

## Causes of Hyperprolactinaemia

### Factitious causes of hyperprolactinaemia

Macroprolactin – Biologically inactive immunoglobulin-bound-prolactin (macroprolactin) can cross react in the prolactin assay causing false hyperprolactinaemia. The laboratory will routinely screen for macroprolactin on every first raised (>700 IU/L) prolactin seen in an individual patient. The presence of macroprolactin is not pathological itself; if present, an estimation of bioactive prolactin is reported with interpretation to guide further investigations.

### Physiological causes of hyperprolactinaemia

Pregnancy – measurement of prolactin during pregnancy is not routinely indicated or required  
 Breastfeeding – measurement of prolactin during breastfeeding is not routinely indicated or required  
 Exercise  
 Stress (physical or psychological, including venepuncture)  
 Sleep  
 Post-ictal (within hours of a seizure)  
 Neonatal period  
 Chest wall surgery or trauma

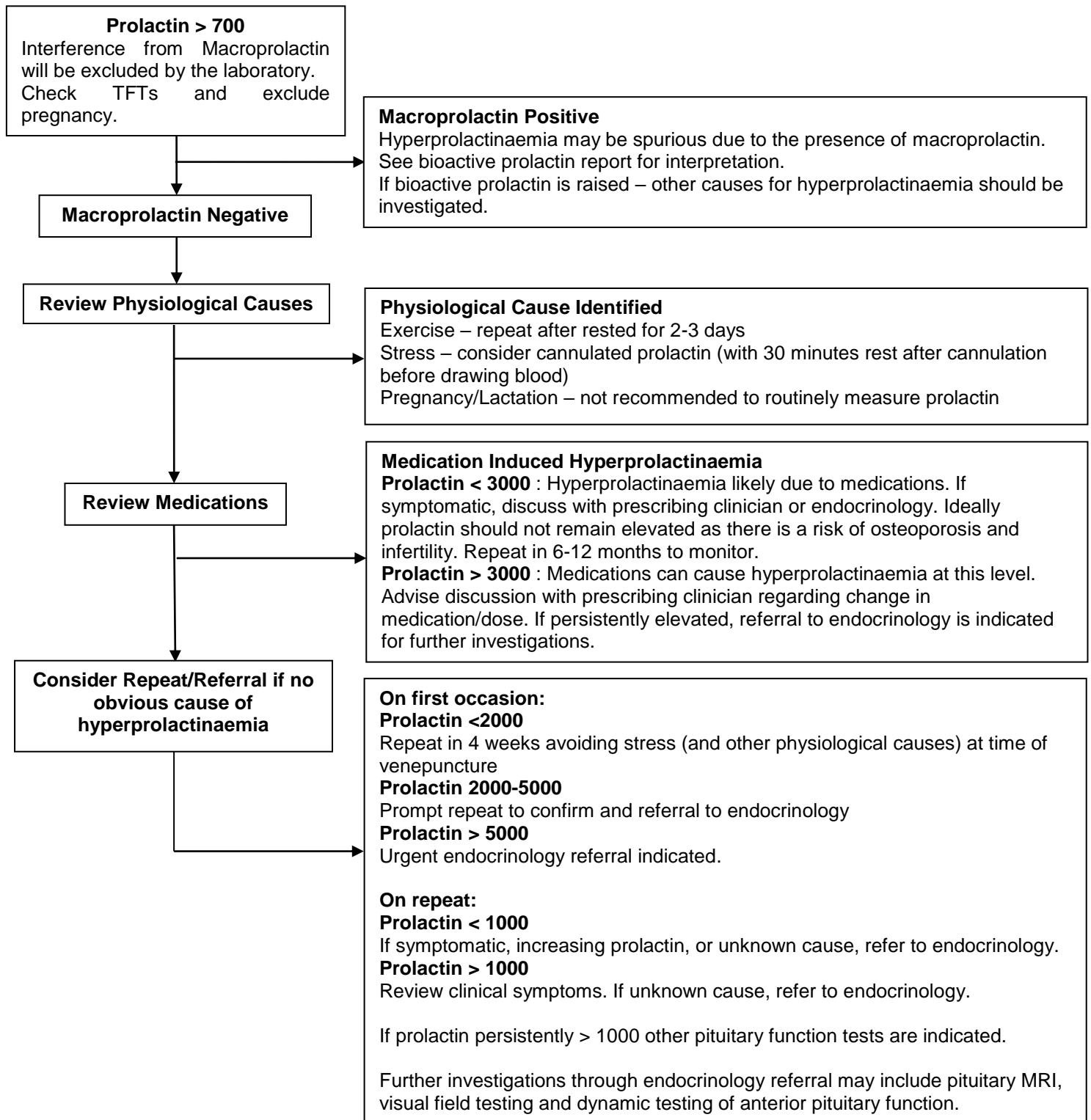
### Medication induced hyperprolactinaemia can be associated with the following:

TRH  
 High dose oestrogens  
 Antipsychotic drugs: phenothiazines (e.g. chlorpromazine, promazine, thioridazine, sulpiride, fluphenazine, trifluoperazine), haloperidol, flupentixol, risperidone, paliperidone  
 Selective serotonin reuptake inhibitors (citalopram, fluoxetine, fluvoxamine, sertraline, paroxetine)  
 Antiemetics (metoclopramide, domperidone)  
 Cardiovascular drugs (verapamil, reserpine, methyl dopa)  
 Opiates, opioids (transient, rare)  
 Monoamine oxidase inhibitors  
 Cimetidine (intravenous)  
 Verapamil  
 Liquorice  
 Miscellaneous (bezafibrate, omeprazole, trimethoprim, histamine H2 antagonists)  
 Tricyclic antidepressants (rare)

### Pathological causes of hyperprolactinaemia

Pituitary tumour (prolactin secreting tumour, or non-secreting pituitary tumour that prevents dopamine reaching normal prolactin producing cells)  
 Hypothalamic/pituitary stalk lesion  
 Neuraxis irradiation  
 Spinal cord lesion  
 Head injury (e.g. due to disruption of the pituitary stalk)  
 Chronic renal failure (reduced prolactin clearance)  
 Severe liver disease (disordered hypothalamic regulation)  
 Primary hypothyroidism (increased synthesis of TRH)  
 PCOS

## Investigations and Management in Primary Care



## Management

The main principle of management of hyperprolactinaemia is to identify and treat the underlying cause if feasible.

The goals of treatment are:

- Relieve symptoms (if present)
- Prevent complications from osteoporosis or pressure effects
- Restore fertility and sexual function

Patients with prolactinomas are managed by Endocrinology.

All prolactin results are clinically reviewed by the Duty Biochemist and interpretative comments appended to results to guide further investigations and when referral is indicated.

## Further sources of Information

For further advice regarding hyperprolactinaemia please contact the duty biochemist on 01225 824050 Monday –Friday 9am-5pm.

## Reference Sources

Wass et al. Diagnosis and Treatment of Hyperprolactinaemia: An Endocrine society Clinical Practice Guideline *The Journal of Clinical Endocrinology & Metabolism*; Volume 96:2 2001; 273-288

Samperi et al. Hyperprolactinaemia. *Journal of Clinical Medicine*; 2019; 8; 2203

Sommerfield. Hyperprolactinaemia. *J R Coll Physicians Edinb*; 2005; 35; 143-147

UpToDate (Accessed 11/06/2018)

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