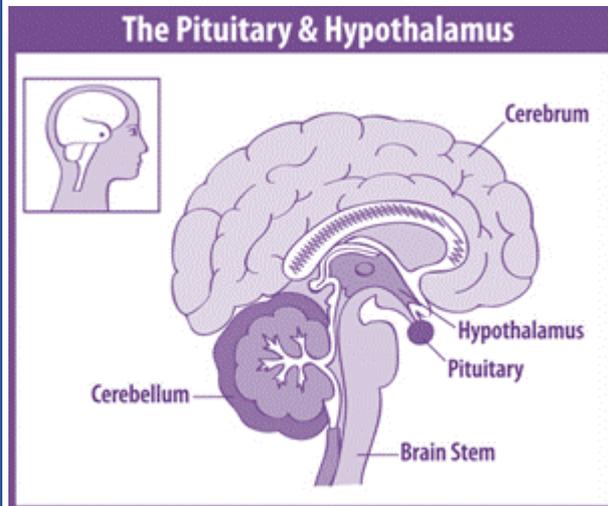


PITUITARY GLAND TUMOURS



**BRAIN & SPINE
CENTRE
SYDNEY**



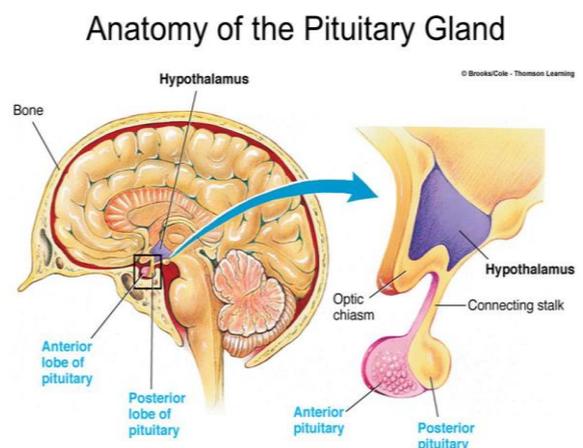
Your pituitary gland is about the size of a pea and is situated in a bony hollow, just behind the bridge of your nose. It is attached to the base of your brain by a thin stalk. The pituitary gland is often called the master gland because it controls several other hormone glands in your body, including the thyroid and adrenals, the ovaries and testicles. Hormones are chemical substances the body produces that control and regulate certain cells or organs. If your pituitary gland is not producing sufficient amounts of one or more hormones this is called hypopituitarism. If on the other hand you are over producing certain hormones, then you would have features due to the over production of the specific hormone concerned

A pituitary tumour is an abnormal growth of cells in the pituitary gland, which is the main hormone-producing gland in the body. A tumour in the pituitary gland can disrupt the normal balance of hormones in the body and affect a person's health.

PITUITARY HORMONES

Anterior Lobes of the Pituitary Gland

- ACTH (adrenocorticotrophic hormone) partly regulates the adrenal glands located at the top of the kidneys to release cortisol, a chemical essential for many metabolic processes in the body
- TSH (thyroid stimulating hormone -thyrotropin) partly regulates the thyroid in the production of the thyroid hormone which affects the rate of energy usage.
- HGH (human growth hormone) – has a major role in growth during childhood and repair of tissues in adulthood
- FSH and LH (follicle stimulating hormone and luteinising hormone) in females they control ovulation and



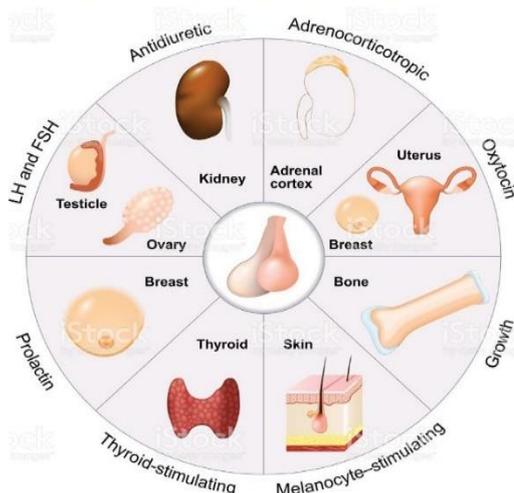
production of oestrogen and progesterone. In males they control the development of sperm and production of testosterone.

- Prolactin- in pregnancy prepares the breasts for milk production. After birth, controls production of breast milk.

Posterior Lobe of the Pituitary Gland

- ADH (antidiuretic hormone or vasopressin) – important in enhancing the kidneys' reabsorption of water in urine and maintaining the balance of water and salt in the blood and body fluids.
- Oxytocin – this hormone provokes contractions of the uterus during and after labour and the flow of milk during breast feeding.

PITUITARY HORMONES



PITUITARY TUMOURS

Pituitary tumours tend to grow slowly and are usually non cancerous. (benign). They are also referred to as adenomas and usually arise from the anterior (front) part of the pituitary. Malignant (cancerous) tumours of the pituitary are rare. Pituitary tumours include (in decreasing order of frequency):

- Non-functioning adenomas
- Prolactinomas
- Growth hormone (GH)-secreting
- Adrenocorticotrophic hormone (ACTH)-secreting
- Thyroid-stimulating hormone (TSH)-secreting
- Luteinising hormone/follicle-stimulating hormone (LH/FSH)-secreting tumours

The more common pituitary conditions include acromegaly, Cushing's disease, infertility and hypo/hyperthyroidism.

SYMPTOMS

May depend on the hormone secreted by the tumour as well as the pattern of growth of the tumour and may include one or several of the following: headache, facial pain, vision changes, loss of consciousness, hormone dysfunction, obstruction of cerebrospinal fluid causing an accumulation (hydrocephalus), changes in appetite, thirst and temperature regulation.

DIAGNOSIS

Diagnosis may involve the following;

- Blood test – to determine the blood levels of hormones and other factors
- MRI – provides the position and size of any tumour and the anatomy of nearby structures
- CT – is helpful for information regarding the sphenoid sinus (pre op planning)
- Ophthalmologist review – may determine if parts of the visual field are affected. This is helpful in determining which optic structures are being compressed by the tumour.
- Endocrinologist review – to determine the need for hormone replacement either pre or post surgery.

MANAGEMENT

Treatment depends on the type of pituitary tumour and whether it extends into the brain around the pituitary. Treatment for pituitary tumours may include:

- Surgery
- Radiation therapy
- Medicines that block tumour hormone secretion or block the symptoms caused by these hormones (only for specific tumour types)