

Endocrine System

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Hypothalamus

- ❑ Receives input from the nervous system
- ❑ Monitoring blood hormones and metabolite level
- ❑ Final control point between the autonomic and endocrine system
- ❑ Produces releasing hormones which controls pituitary and cause it to release the designated hormone

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Hypothalamus

- ❑ Regulates autonomic functioning by stimulating autonomic nuclei, directly regulating appetite, thirst, temperature, arousal, sexual development and stress response
- ❑ Influences Circadian Rhythm

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Hypothalamus

- ❑ **Thyrotrophin**-releasing hormone TRH
- ❑ **Corticotropin**-r.h. CRH
- ❑ **Gonadotropin**-r.h. GnRH
- ❑ **Growth hormone**-r.h. GHRH
- ❑ **Somatostatin/somatotropin** inhibiting hormone
- ❑ **Dopamine or prolactin**-inhibiting hormone PIF

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Pituitary

- ❑ Hypothalamus – negative and positive feedback mechanism to direct the anterior pituitary gland, which stimulates the other ductless glands to produce hormones.
- ❑ The anterior pituitary's 7 stimulating hormones are managed by the 6 releasing stimulating and inhibiting hormones of the hypothalamus

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Pituitary

- ❑ **Thyroid** stim.h. TSH
- ❑ **Follicle** s.h. FSH (follicular development, estrogen, sperm maturation)
- ❑ **Luteinizing** h.LH (ovulation, estrogen & progesterone synthesis in ovaries)
- ❑ **Adrenocorticotropic** h. ACTH (adrenal cortical)
- ❑ **Melanocyte**–s.h. MSH (melanin synthesis)
- ❑ **Growth hormone** GH (protein synthesis, growth)
- ❑ **Prolactin** (milk production)

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Posterior Pituitary

- ❑ Conduit for two hormones produced in the hypothalamus but delivered through the pituitary: Oxytocin and Vasopressin
- ❑ **Oxytocin** – stimulates milk production and uterine contractions. Bonding, arousal
- ❑ **Vasopressin** (ADH or antidiuretic hormone) – stimulates water reabsorption in kidneys, constricts arterioles

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Clinical Pearl

- ❑ Manganese **Mn-Zyme** is the mineral most associated with pituitary function and is found in high concentrations in the pituitary gland.
- ❑ The neonatal pituitary and hypothalamus glandular **Cytozyme PT/HPT** is recommended for most hypo- and hyper-functioning states.

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Pituitary Hyperfunction

- ❑ Height over 6'6"
- ❑ Excessive sweating
- ❑ Muscle weakness
- ❑ Joint pain, carpal tunnel syndrome
- ❑ Early sexual development
- ❑ Increased libido
- ❑ Headaches
- ❑ Visual changes, visual field loss, double vision

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Pituitary Hyperfunction

- ❑ **Cytozyme PT/HPT** 1-2 with meals
- ❑ **Mn Zyme** 1-2 with meals
- ❑ **Neonatal Multi-Gland** 1-3 with meals

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Pituitary Hypofunction

- ❑ Height under 4'10"
- ❑ Decreased libido
- ❑ Excessive thirst
- ❑ Weight gain around hips of waist
- ❑ Menstrual disorders
- ❑ Tendency to ulcers or colitis
- ❑ Delayed sexual development

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Pituitary Hypofunction

- ❑ **Cytozyme PT/HPT** 1-2 with meals
- ❑ **Thyrostim** 1-2 with meals
- ❑ **ADB5 Plus** 1-2 with breakfast and lunch
- ❑ **Mn Zyme** 1-2 with meals
- ❑ **Neonatal Multi-Gland** 1-3 with meals

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Pineal

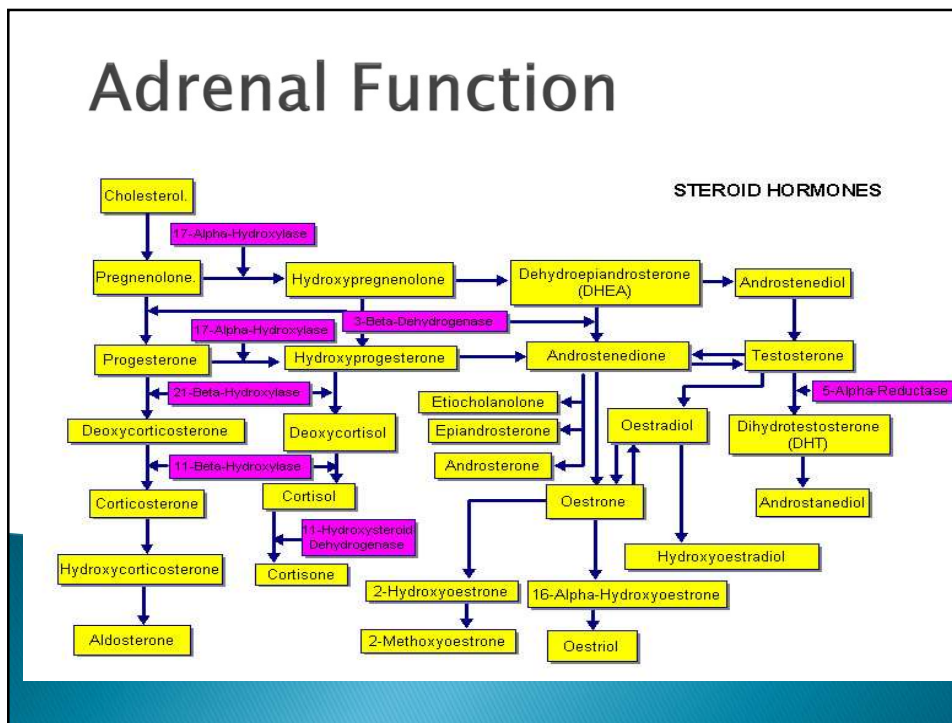
- ❑ Deep within the brain structures, slightly above and behind the pituitary
- ❑ Circadian Rhythm, sleep-wake cycles
- ❑ Produces Melatonin in the absence of light
- ❑ Melatonin increased with corticosteroids
- ❑ Serotonin necessary for full expression

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Adrenal Function

- ❑ Three classes of steroid hormones
- ❑ Glucocorticoids (cortisol: carbo, fat, protein)
- ❑ Mineralocorticoids (aldosterone: electrolytes)
- ❑ Androgens (Androstenediol/stenedione convert to sex hormones testosterone and estrogen)
- ❑ Cholesterol converted to Pregnenolone etc.
- ❑ Steroids passively enter membrane, binding to internal receptors, activate internal processes

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Hyperadrenia (Cushing's) – hormone producing tumor

- ❑ Headaches
- ❑ Hot flashes
- ❑ HBP
- ❑ Easy to anger
- ❑ Acne
- ❑ Thin limbs, thick abdomen shoulders
- ❑ Female masculine tendencies
- ❑ Increased body hair

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Hyperadrenia

- ❑ **ADHS** 2-3 tabs bid
- ❑ **Phospatidyl Serine** 1-3 caps bid
- ❑ **Bio CMP** 2-4 bid
- ❑ **Potassium HP** 1 tsp bid
- ❑ **De-Stress** 1-2 caps as needed

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Hypoadrenia

- ❑ Burned out feeling
- ❑ Morning fatigue
- ❑ Difficulty falling and/or staying sleeping
- ❑ Apathy
- ❑ Mental Fatigue
- ❑ Allergies
- ❑ Salt cravings
- ❑ Anxiety

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Hypoadrenia

- ❑ **Cytozyme AD** 1-2 tid
- ❑ **L-Tyrosine** 1-2 daily
- ❑ **Bio C Plus** 3 bid with food or
- ❑ **Mixed Ascorbate** powder 1 tsp bid
- ❑ **Cu Zyme** 1 daily with food
- ❑ **ADHS** 1-3 bid
- ❑ **Bio B 100**
- ❑ **Methyl Folate Plus**

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Hypoadrenia

- ❑ **DHEA** the most abundant steroid
- ❑ **DHEA** 10-50 mg
- ❑ **7 Keto Zyme Forte** 1-2 daily
- ❑ **Pregnenolone** 1-2 daily

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Sexual Development

- ❑ Estrogen dominance due to
- ❑ Xenoestrogens
- ❑ Fat accumulation
- ❑ Increased Aromatase converts testosterone into estrogen

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Sexual Development

- ❑ Aromatase inhibiting
- ❑ Indole 3 Carbinol
- ❑ Ca D Glucarate
- ❑ Progesterone Cream
- ❑ www.ncbi.nlm.nih.gov/pubmed/18751385
- ❑ Conclusion: The present data indicate that the progesterone metabolite 20alphaDHP can act as an anti-aromatase agent.

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Sexual Development

- ❑ Menopause
- ❑ **Bio Pause AM/PM**
- ❑ **NatraGest Progesterone**
- ❑ **Indole 3 Carbinol**
- ❑ **Ca D Glucarate**
- ❑ **Iodizyme HP**
- ❑ **Bvital**
- ❑ **Bio Drive**

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