Learning Objectives – Integrating Years 1 and 2

Below are essential concepts to be reviewed and integrated as you progress through the MHD Endocrinology block.

FHB
Endocrinology

There will be 2 questions on the March 26, 2012 MHD II exam developed from the following objectives:

Explain the principles of negative and positive feedback control of hormone regulation and provide relevant examples of each.

Diagram the major processes and hormones involved in regulation of blood glucose concentration

Explain the importance of pulsatile hormone release.

Contrast the anatomical and functional differences (including innervation, cell types, blood supply, and principal hormones) between the anterior and posterior pituitary

Identify the known hypothalamic-releasing hormones and their target pituitary trophic cells and hormones.

Discuss the regulation of the secretion of ACTH, FSH/LH, PRL and GH.

List the major hyperfunctional or hypofunctional states of the growth hormone, prolactin and ADH/AVP pituitary neuroendocrine axes.

Be knowledgeable of target organs for glucocorticoids (esp. cortisol) other than liver, muscle and fat.

Explain aldosterone's mechanism of kidney action in terms of its physiological effects and why cortisol is normally blocked from exerting a similar effect.

Explain why albumin levels are important when assessing Ca^{2+} status

Detail the hormones regulating plasma Ca^{2+} and phosphate and their target organs

Describe the functional zones (medullary and cortical) of the adrenal gland and the principal hormones secreted from each zone.

Detail the hypothalamic-pituitary-thyroid (HPT) axis, including negative feedback, with understanding of the role of thyroid releasing hormone (TRH)

Relate the key effects of thyroid hormone+receptors on the physiology of specific organs