

The following is a list of terms that I will mention in my lectures on stress and psychoneuroimmunology. Many of these terms that are discussed in the book, but they are in a couple of different places. You should be familiar with all of these terms.

central nervous system: includes brain and spinal cord

peripheral nervous system: all other nerves; subdivided into:

somatic nervous system: controls voluntary movement of skeletal muscles, and inputs to CNS from (most) sensory systems

autonomic nervous system: controls action of smooth muscle (skin, blood vessels, eyes, muscles of gut, urinary bladder), cardiac muscle, and glands. There are two divisions:

sympathetic -- involved in activities associated with expenditure of energy from reserves stored in body.

parasympathetic -- involved in activities associated with increases in the body's supply of stored energy.

SAM response: sympathetic-adreno-medullary response, the body's fight-or-flight response; involves activation of sympathetic nervous system, and release of hormones norepinephrine and epinephrine from the adrenal medulla (the inner part of the adrenal gland)

neurotransmitter: a chemical that neurons use to communicate with each other

HPA system: hypothalamic-pituitary-adrenal system, the second major stress response system. Involves release of corticotrophin releasing hormone (CRH [sometimes called CRF, the 'F' stands for 'Factor', instead of 'Hormone']) from the hypothalamus, which stimulates the anterior pituitary to secrete adrenocorticotrophic hormone (ACTH), which causes the adrenal cortex to secrete cortisol.

neuroendocrine system: the HPA system is a neuroendocrine system. It is 'endocrine' in the sense that substances are secreted into the circulation, and it is 'neuroendocrine' because some hormones are not secreted by glands (which is the usual way), but by neurons (eg, in the hypothalamus -- CRH).

hypothalamus: a region of the brain that is important in the influencing the 4 F's: fighting, fleeing, feeding, and sex.

limbic system: a set of structures in the forebrain associated with cognition and emotion, including septum, amygdala, hippocampus

releasing hormones: hormones secreted by the hypothalamus, whose main function is to cause 'release' of other hormones by the pituitary (eg, corticotrophin releasing hormone)

pituitary: a gland that sits just below the hypothalamus; is often referred to as the 'master gland', but is actually controlled very closely by the hypothalamus.

tropic hormones: hormones secreted by the anterior pituitary that affect secretion of other endocrine glands (eg, adrenocorticotrophic hormone)

adrenal cortex: the outer part of the adrenal gland. The adrenal gland sits on top of the kidney

glucocorticoids: hormones secreted by the adrenal cortex that exert their effects on the metabolism of carbohydrates, by increasing blood levels of glucose. The principal hormone in humans is cortisol

steroid hormones: hormones that are small molecules derived from cholesterol; glucocorticoids are steroids

mitogen: a substance that nonspecifically causes mitosis in lymphocytes

in vitro: occurring outside the body (literally 'in glass')

in vivo: occurring inside the body