

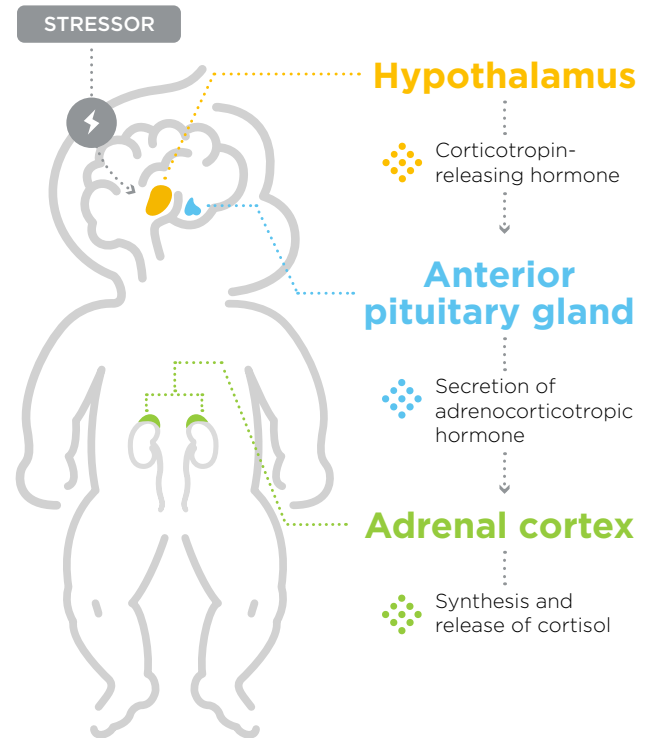
The Vital Function of Cortisol

The HPA axis is an endocrine feedback loop that plays a pivotal role in adrenal cortisol production and secretion^{1,2}

The hypothalamic-pituitary-adrenal (HPA) axis modulates the function of many body systems to combat and respond to stress. It is comprised of the²⁻⁶:

- Hypothalamus
- Anterior pituitary gland
- Adrenal cortex

Adrenal insufficiency is the clinical manifestation of deficient production of adrenal hormones, including cortisol, and can be life-threatening.⁷

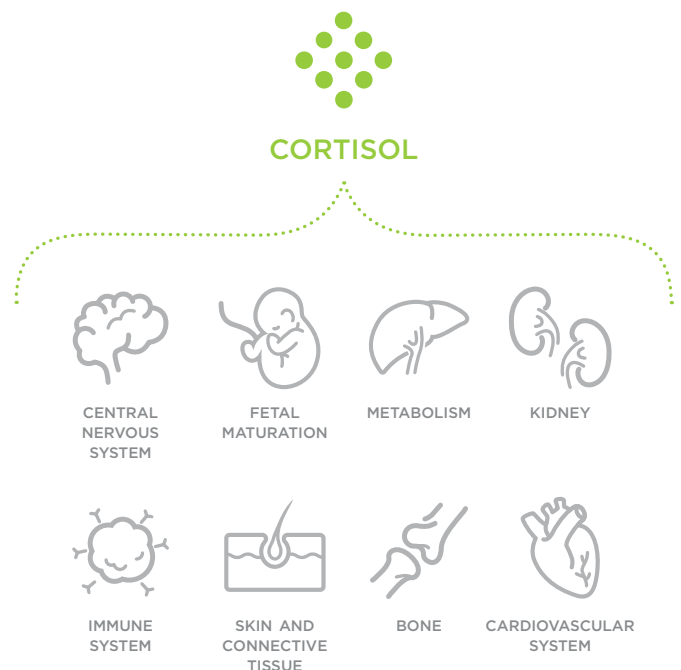


Cortisol is a key regulator of homeostasis²

Glucocorticoids are essential stress hormones that regulate metabolic, cardiovascular, and immunological homeostasis in the body. Cortisol is the main glucocorticoid in humans.^{2,6,8}

- Patients with primary or central (secondary and tertiary) adrenal insufficiency lack appropriate levels of cortisol in their system

Due to the significant contributions of cortisol, a cortisol deficiency may result in deadly consequences, like adrenal crisis.²



References: 1. Debono M, et al. *J Clin Endocrinol Metab.* 2009;94(5):1548-1554. doi:10.1210/jc.2008-2380. 2. Porter J, et al. *Arch Dis Child.* 2017;102(2):199-205. doi:10.1136/archdischild-2015-309538. 3. Farzi A, et al. *Neurotherapeutics.* 2018;15(1):5-22. doi:10.1007/s13311-017-0600-5. 4. White PC, Speiser PW. *Endocr Rev.* 2000;21(3):245-291. doi:10.1210/edrv.21.3.0398. 5. Arlt W, Allolio B. *Lancet.* 2003;361(9372):1881-1893. doi:10.1016/S0140-6736(03)13492-7. 6. Oprea A, et al. *Ther Adv Endocrinol Metab.* 2019;10:2042018818821294. doi:10.1177/2042018818821294. 7. Bornstein SR, et al. *J Clin Endocrinol Metab.* 2016;101(2):364-389. doi:10.1210/jc.2015-1710. 8. Nussey SS, Whitehead SA. *Endocrinology: An Integrated Approach.* BIOS Scientific Publishers; 2001:115-170.