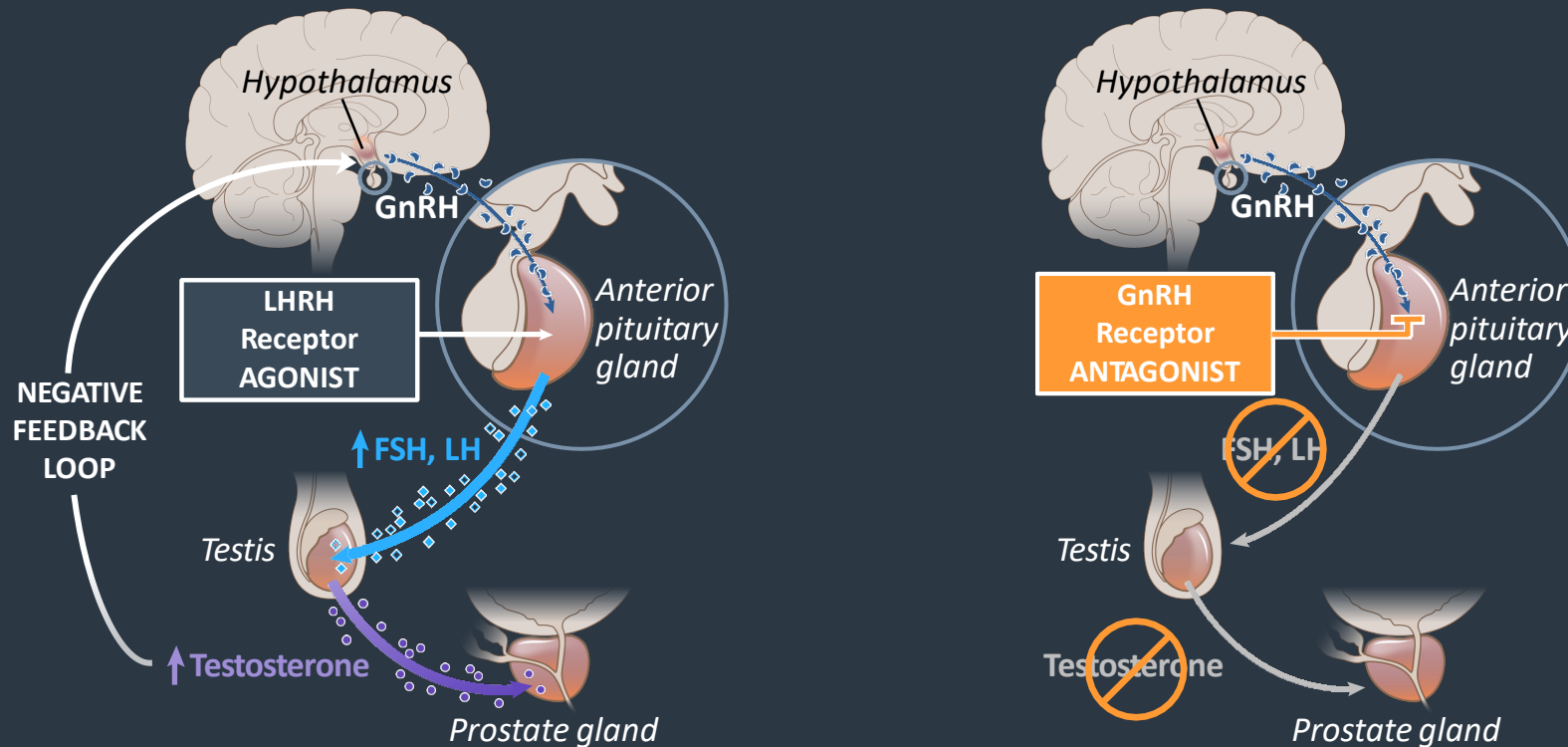


Androgen Deprivation Therapy: Mechanisms of Testosterone Suppression



Gonadotropin-releasing hormone (GnRH) stimulates the release of luteinizing hormone (LH) and follicle-stimulating hormone (FSH) from the pituitary. LH stimulates the testes to produce testosterone. Initial administration of LHRH agonists increases LH and FSH and, thereby, testosterone. Long-term exposure desensitizes the receptor, leading to LH and testosterone suppression, with partial FSH suppression. The acute testosterone surge may lead to an exacerbation of clinical symptoms in men with advanced disease, including increased bone pain, spinal cord compression, bladder output obstruction and even death. In contrast, GnRH receptor antagonists block GnRH receptors, achieving immediate LH and FSH suppression and avoiding testosterone surge.