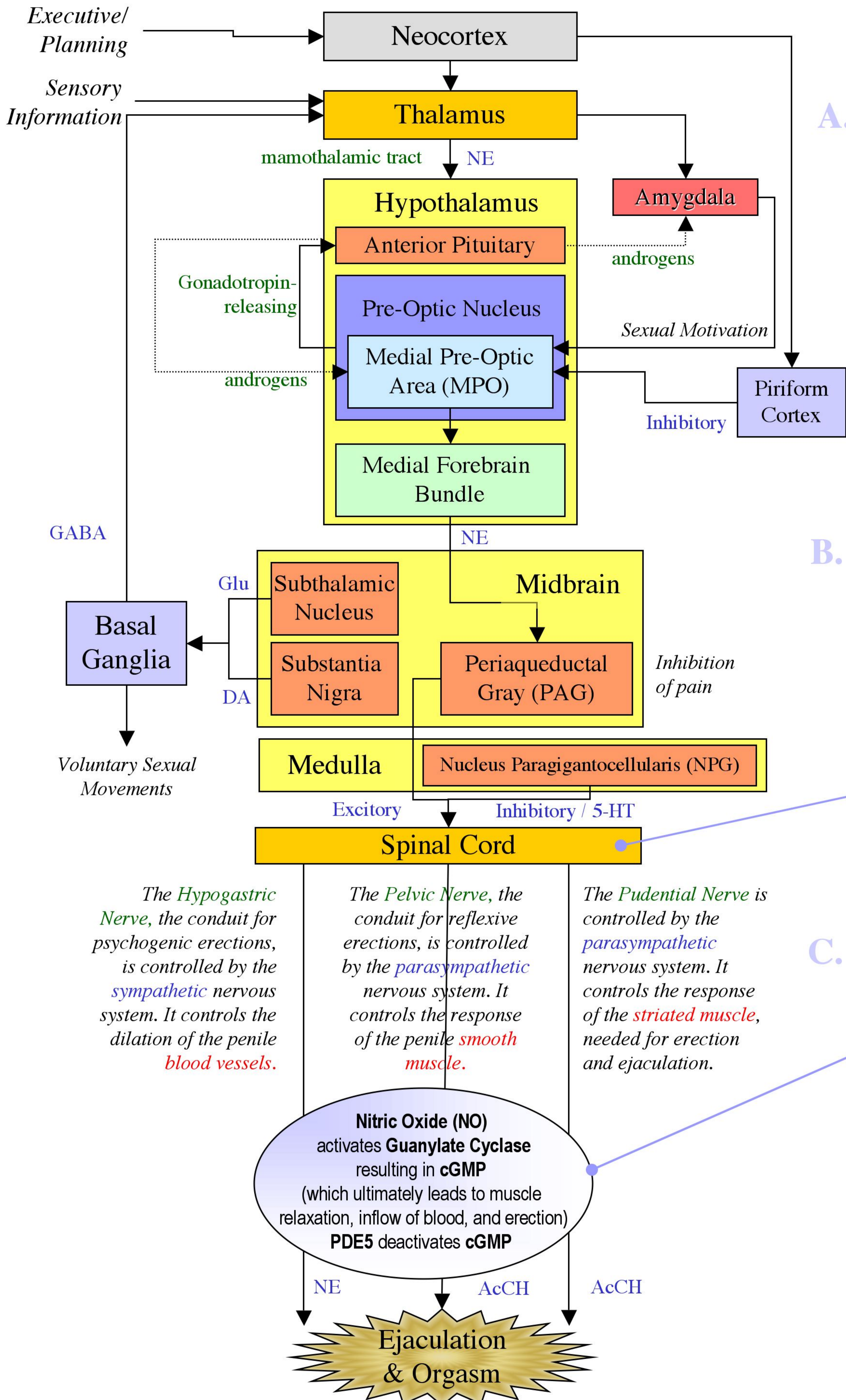


Copulation in the Male, Confounded by Erectile Dysfunction

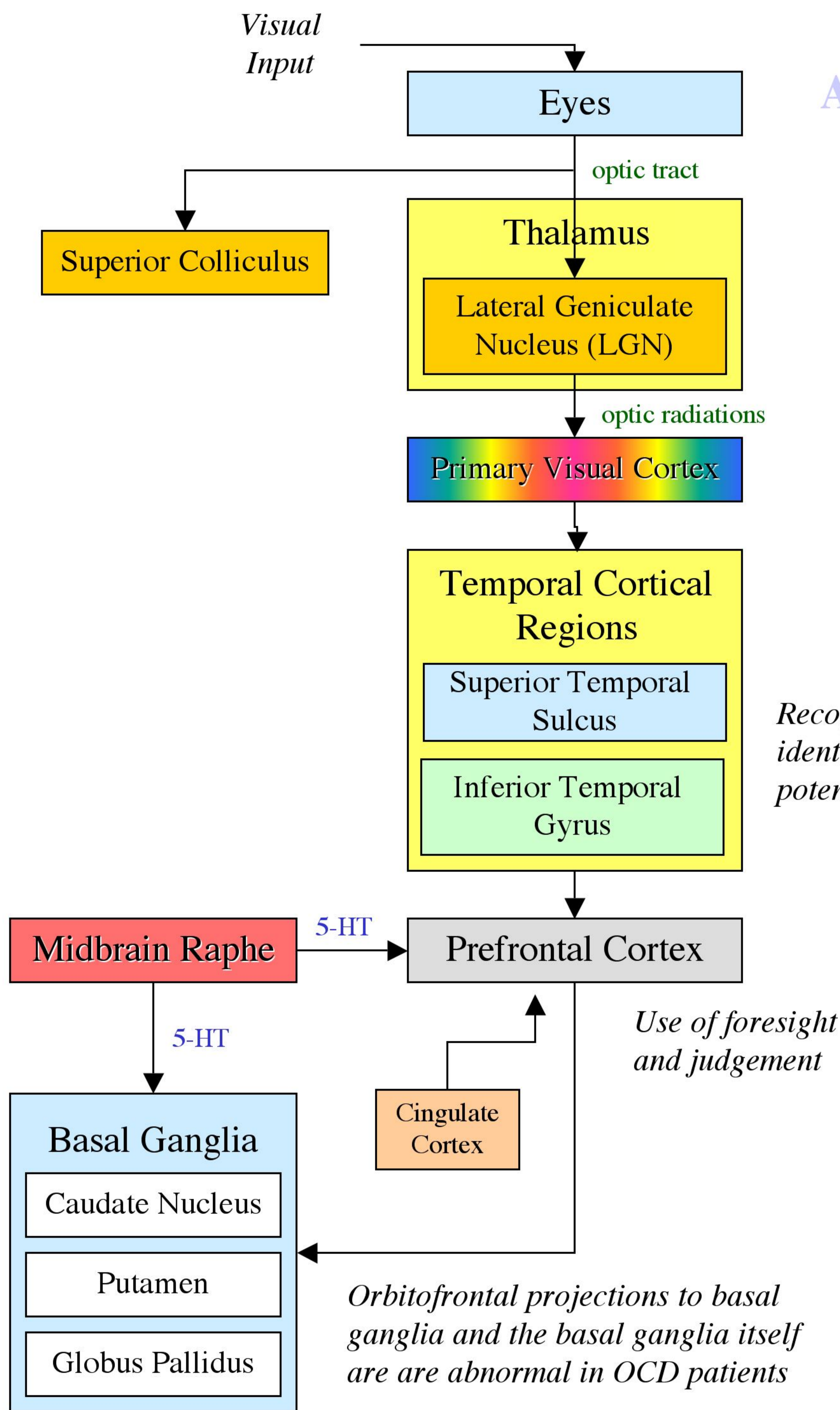


A. Copulation in the male involves many brain structures. Sensory input and planning are needed to evoke desire and execute sexual intercourse. The amygdala provides sexual motivation, and structures in the hypothalamus send signals through the PAG to spinal nerves which trigger erection and ejaculation.

B. Erectile Dysfunction can be caused by many factors, including psychogenic, vascular, endocrinologic, diabetic, and drug-induced reasons. Ten percent of ED is neurogenic, caused primarily by injuries to the spinal cord. Lower spinal cord lesions have a higher rate of reflex-related impairments.

C. One effective treatment for Erectile Dysfunction is **Viagra** (Sildenafil). Viagra works by preventing phosphodiesterase 5 (PDE5) from deactivating cyclic GMP, which is responsible for smooth muscle relaxation, leading to the inflow of blood in the penis. Sixty-five percent of patients with ED due solely to spinal cord injury experienced improved erections with Viagra.

Mate Selection in the Human Male, Confounded by Obsessive-Compulsive Disorder



A.

Humans select mates based on many different criteria. Both sexes seem to prefer mates who are intelligent, honest, emotionally stable, attractive, and have good personalities. Two categories where men and women differ is in physical appearance and social status, with men placing more emphasis on appearance. This diagram illustrates the process of **mate selection** in the male based on visual input. Starting at the top of the diagram, input enters the eyes, passes through the optic tract, where most of the input travels through the LGN to the primary visual cortex. Recognition and identification of potential mates takes place in the temporal cortical regions, and the information is then passed to the prefrontal cortex for further processing.

Recognition and identification of potential mates

B.

Obsessive-compulsive disorder causes unwanted thoughts leading to anxiety-relieving behaviors called compulsions. OCD also causes difficulty in planning, prioritizing, and decision making, which can all confound mate selection. Structures involved include the prefrontal cortex and the basal ganglia, as well as the anterior cingulate cortex (involved in pain perception). The caudate nucleus is believed to be a processing center or filtering station for the complex messages generated by the frontal cortex. In OCD, the smooth, efficient filtering and shifting of thoughts and behavior are disrupted by problems in the caudate nucleus.

C.

Selective Serotonin Reuptake Inhibitors (SSRIs) like **Prozac** and **Luvox**, are effective in treating obsessive-compulsive disorder. SSRIs make more serotonin available to the basal ganglia by disabling the serotonin reuptake transporters in the synapses. This process takes at least 12 weeks, and only results in a 35% reduction of symptoms. Worse yet, the serotonergic actions may cause sexual problems by disrupting the pathway from the NPG, shown on the previous page. Behavioral therapy can also improve OCD without the troublesome sexual side-effects.

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