

The Basal Nuclei

Another key group of nuclei found in the cerebrum are basal nuclei (also referred to as the basal ganglia). Key nuclei of this group include the caudate nucleus, the putamen and the globus pallidus. The basal nuclei also receive input from the substantia nigra of the midbrain. The main function of the basal nuclei is in regulating motor control. Although the precise details are not fully understood, it seems to play a key role in preventing incorrect and/or inappropriate movements. It seems to be key in regulating what are referred to as stereotyped movements such as swinging the arms when walking. Additionally, it is thought to play a key role in initiating, stopping and monitoring the intensity of voluntary motor movements. Output from this system does not go to the muscles themselves, rather output is sent to the motor centers in the frontal cortex where adjustments and corrections can be made to the outgoing signals. Damage to the basal nuclei can result in conditions that produce excessive movement (Huntington's disease) or too little movement (Parkinson's disease).



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