Pallidotomy

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Definition

A neurosurgical procedure in which a destructive thermal lesion is made in the globus pallidus (part of the basal ganglia).

Background

Typically this surgery is indicated for patients with movement disorders and specifically dyskinesias often associated with Parkinson's disease but certainly not exclusively for this condition as it can also be used for intractable movement disorders associated with other conditions including hypoxic-anoxic brain injury, traumatic brain injury, and dystonic disorders, among other conditions. Such patients are often refractory to medical therapy, with primary motor symptoms of dyskinesia and dystonia, as well as bradykinesia,

rigidity, or on-off fluctuations. It has less effect on typical parkinsonian tremor. Bilateral lesions improve overall results but also have increased risks of speech disturbance and visual impairment. The lesion is made in the globus pallidus internus (GPi), using stereotactic guidance and electrical/thermal stimulation of the region for precise placement of the lesion. Pallidotomy was previously the most common surgery for Parkinson's disease but has largely been replaced with deep brain stimulation (DBS) which may be as effective, can be bilateral, and has lower risks of damage to adjacent tissue associated with its use. It is also an alternative to more extreme procedures including chemical pallidectomy.

Cross-References

- [Basal Ganglia](#)
- [Deep Brain Stimulator](#)

References and Readings

- <http://www.parkinson.org/understanding-parkinsons/treatment/surgery-treatment-options/Pallidotomy>
- http://www.wemove.org/par/par_pal.html