

LESIONING

Lesioning surgeries are a type of functional neurosurgery for the treatment of predominantly unilateral dystonia or tremor refractory to medications. They are performed only in carefully selected patients after appropriate presurgical evaluation, discussion and counselling. Unlike deep brain stimulation surgeries, these surgeries are used to treat only one side of the body.

We offer two types of lesioning surgeries:

- 1) Thalamotomy
- 2) Pallidotomy

What is thalamotomy and pallidotomy?

Thalamotomy is a type of surgery involving the thalamus (a region in the brain important in tremor generation) whereas, pallidotomy is a type of lesioning surgery involving pallidum (a region in the brain important in dystonia).

This procedure is done with patient awake under local anaesthesia as it is important to monitor the response of the surgery in the patient's symptoms and signs. A thin wire is temporarily placed into the thalamus (thalamotomy) or pallidum (pallidotomy) through a small hole drilled in the skull. The tip of the wire is heated to burn a small piece of tissue (3-5mm) in the thalamus. The wire is removed at the end of the procedure. The surgery is performed under local anaesthesia and the patient will be awake to monitor the response to the surgery.

What are the indications?

These surgeries are considered only in carefully selected patients in whom medications failed to give satisfactory response and the patient's quality of life is significantly impaired due to the illness. As mentioned earlier, unlike DBS, these surgeries are performed to treat only one side of the body.

Thalamotomy is considered in patients with tremor of predominantly one side of the body. If the tremor is present bilaterally, then the procedure is done to treat only the dominant hand (right in the most) of the patient or the side which is severely affected. Most common indication is Essential tremor. Pallidotomy is considered for patients with either focal dystonia of one hand or dystonia of one side of the body.

What are the limitations of these surgeries?

Unlike DBS these surgeries can be done to treat only one side of the body. However, in comparison to DBS, they are less costly, do not involve placement of a battery, and do not need strict and regular follow-up as required in patients undergoing DBS. Lesioning surgeries cannot cure the underlying diseases. There can be recurrence of the symptoms if the underlying disease progresses and may need repeat surgery if the response is not long lasting. Even though the procedure is relatively safe in expert hands, you can expect some temporary side effects such as speech difficulty, numbness or tingling in the arms or hands, reduced balance or coordination. There can be other side effects as well which your movement disorder specialist will discuss with you.