Burr Holes for Deep Brain Stimulation

Purpose: medically intractable idiopathic Parkinson's Disease with dyskinesia, bradykinesia, rigidity, severe fluctuations in medication responses, dystonia, tremor, movement disorder

Length: 3-5 hrs

Anesthetic considerations: usually MAC, some patients may request general

Medications:

- Drips: one Alaris brain: typically carrier, Propofol gtt, nitroglycerin gtt, +/- esmolol gtt
- Uppers: not typically needed, neo gtt if necessary
- Downers: typically nitroglycerin, can also use sodium nitroprusside or clevidipine
- Preop: ***NO MIDAZOLAM or pre-medication,*** *for analgesia surgeons may need to be reminded to use additional local anesthetic*
- Induction: Start prop gtt ~ 25-50 mcg/kg/min, may need to bolus 10-20 mg Propofol initially
- Other drugs: Typically Propofol gtt only, can consider dexmedetomidine 0.4 mcg/kg/hr, Cefazolin 2000 mg unless allergy or otherwise indicated; IV Tylenol, Ondansetron, Fosaprepitant (Emend) 150 gm IV (ordered from pharmacy if history of PONV)
- Maintenance: Propofol gtt, discontinue 20-30 min before electrophysiologic mapping (surgeon will usually let you know when to wake up); BP control is essential to prevent risk of intracranial hemorrhage during the insertion of the electrodes

Temperature/Monitors:

- Skin temp sticker usually sufficient
- Standard ASA monitors
- 1 PIV 18-20G

Hemodynamic Goals: 10-20% below baseline MAP unless otherwise contraindicated

Other considerations: patients will be off their Parkinson's medications and possibly their antihypertensives which may make blood pressure control challenging. Avoid centrally acting beta blockers (e.g. propranolol) as these may suppress the tremor. Parkinson's and antihypertensive meds should be resumed in the PACU.

Complications: intracranial hemorrhage, motor deficit, visual field deficits, aphasia