Subdural grid recordings

Before the grid placement

- Epilepsy surgeries with implanted subdural grid recordings will be posted on the Outlook calendars
- Neuro-4A-Weekly-Admits calendar for adults
- George Blackmore's Epilepsy Schedule for pediatrics
- The fellows on the LTM service should read the REC document, and review the MRI (if applicable)

In the OR

- Mapping and/or eCog may be done
- When grids are placed, pay attention to their orientation and take a picture of their placement
- Also write down the electrode tails for the grids, with the colors of the stripes to aid the EEG techs hooking up the grid

After the OR

- Email out to the relevant EEG techs and your co-fellows the picture and a diagram of the grid placement relative to the surface of the brain
  - It's helpful to email out to do this the night of the surgery, so the epi techs can smoothly hook up the grid and make the montage ASAP.
  - Revise the diagram based on the post-operative MRI or CT if needed
  - Blank templates for all of the grids we use can be found here: Grid Templates.pptx
- Reading the grid
  - The grid will be usually hooked up POD #1
  - Medications may be weaned to record seizures
  - Grid recordings are often reviewed with the scalp derivations hidden, and the grid electrodes in a referential montage
  - Look for sharps, spikes, rhythmic sharps, and buzzes of fast activity (beta/gamma).
  - Correlate these discharges (and seizures) on the scalp EEG
- Extraoperative mapping is similar to intraoperative awake mapping
  - The patient may need an extra dose of their AED before mapping to ensure it goes smoothly
  - Make sure that the primary team (neurosurg), nursing, techs, epilepsy attending, and the speech-language pathologist are aware of the time for mapping
    - Print out 5 copies of the diagram of the grid placement prior to the mapping to give to the epi attending, co-fellows, techs, and SLP.
    - Bring at least 10 stimulation sheets to document the mapping
  - Know where the interictal activity has been most active or were ictal foci are
    - These areas are typically not tested until the end, so that seizures are not induced early in the recording
  - Know where the lesion is relative to the grid (if the MRI is lesional)
  - Have Valium at the bedside (5-10 mg or 0.2 mg/kg) and a working IV
- Review all the data with the epi attending, or represent at REC to formulate operative plan