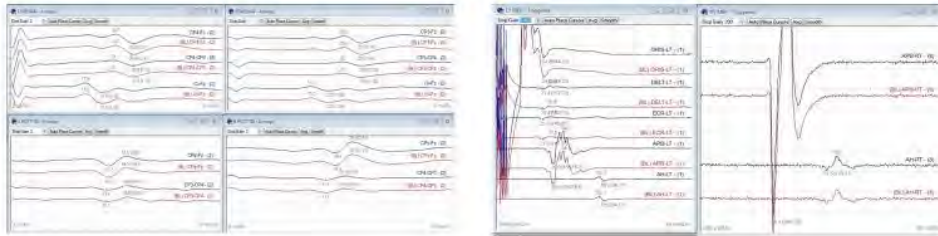


Resection of motor strip tumor with neuromonitoring mapping and changes

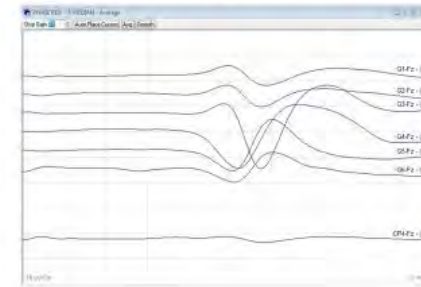
James Zuccaro DC, DABNM, CNIM and Maria

- PATIENT HISTORY:** The patient is a 47 year old male who has a history of having a seizure and left arm weakness. The patient's physical exam revealed that he was neurologically intact with grade 5/5 motor strength in the upper and lower extremity. The patient had no upper/lower extremity clonus. The patient was able to ambulate without assistance. MRI revealed a 15 mm lesion in the right parietal lobe.
- SURGICAL PLAN:** Right craniotomy with tumor resection using neuromonitoring mapping and navigation

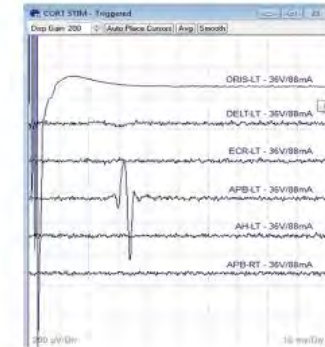
Baselines



Phase Reversal



Motor Mapping

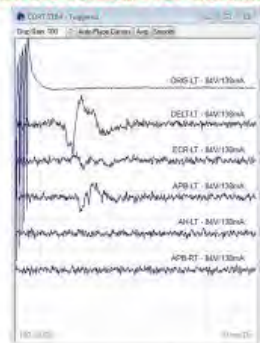


Tumor localized just anterior to the motor strip, anterior to the central sulcus

Direct Cortical MEPs

- Placed a 1x6 strip just lateral to tumor, 6 more anterior, stimulating 4 and 6.
- ECOG running from 1x6 strip
- Updated frequently during tumor resection with CUSA (Cavitron Ultrasonic surgical Aspirator)

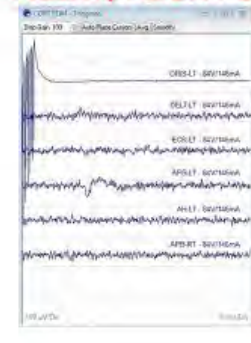
Direct cortical MEP Baseline



ALERT



ALERT/ABORT Sx



Closing Data



➤ Patient awake with grade 1-2/5 strength in the proximal left arm, grade 3-4/5 in the left hand

➤ REFERENCES:

- Cedzich C, Taniguchi M, Schafer S, Schramm J: Somatosensory evoked potential phase reversal and direct motor cortex stimulation during surgery in and around the central region. *Neurosurgery* (1996) 38:962-970.
- Koht, Sloan, Toleikis: *Monitoring the Nervous System for the Anesthesiologist and other Health Care Professionals*. 2012: 165-180.
- Taniguchi M, Cedzich C, Schramm J: Modification of cortical stimulation for motor evoked potentials under general anesthesia: technical description. *Neurosurgery* (1993) 32:219-226.
- Yingling CD, Ojemann S, Dodson B, Harrington MJ, Berger MS. Identification of motor pathways during tumor surgery facilitated by multichannel electromyographic recording. *J Neurosurg* (1999) 91:922-927.