

Sensory evoked potentials

General information

May use [Electrostimulation](#) of [peripheral nerves](#) (somatosensory or ([SSEP](#))), auditory clicks through earphones (auditory or AEP, AKA BAER (brainstem auditory evoked response)) or flashing lights through goggles (visual EP or VEP). Evoked potentials are most commonly used by neurosurgeons for intraoperative monitoring purposes. SSEP (especially from median nerve stimulation) also has prognostic significance in [cervical spondylotic myelopathy](#), ¹⁾ although use for this purpose is limited.

[Glioma surgery](#) represents a significant advance with respect to improving [resection](#) rates using new surgical techniques, including intraoperative [functional mapping](#), [monitoring](#), and [imaging](#). Functional mapping under [awake craniotomy](#) can be used to detect individual [eloquent](#) tissues of [speech](#) and/or [motor](#) functions in order to prevent unexpected [deficits](#) and promote extensive [resection](#). In addition, monitoring the patient's neurological findings during resection is also very useful for maximizing the removal rate and minimizing deficits by alarming that the touched area is close to eloquent regions and fibers. Assessing several types of [evoked potentials](#), including [motor evoked potentials](#) (MEPs), [sensory evoked potentials](#) (SEPs), and [visual evoked potentials](#) (VEPs), is also helpful for performing surgical monitoring in patients under [general anesthesia](#) (GA) ²⁾.

¹⁾
Holly Langston T, Matz PaulG, Anderson Paul A, et al. Clinical prognostic indicators of surgical outcome in cervical spondylotic myelopathy. J Neurosurg: Spine. 2009; 11:112-118

²⁾
Saito T, Muragaki Y, Maruyama T, Tamura M, Nitta M, Okada Y. Intraoperative Functional Mapping and Monitoring during Glioma Surgery. Neurol Med Chir (Tokyo). 2015;55 Suppl 1:1-13. PMID: 26236798.

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