



**BlueCross BlueShield
of Illinois**

Blue Cross and Blue Shield of Illinois Provider Manual

HMO Scope of Benefits Section

Blue Cross and Blue Shield of Illinois, a Division of Health Care Service Corporation, a Mutual Legal Reserve Company,
an Independent Licensee of the Blue Cross and Blue Shield Association

Sensory Evoked Potentials (SEP)

Benefit

Evoked potentials are in benefit in a limited number of situations, if determined medically necessary by the PCP.

Interpretation

Sensory Evoked Potentials (SEP) are electrical waves generated by sensory neurons in response to stimuli. Changes in the electrical waves are averaged by a computer and then interpreted by a physician to assist the diagnosis of certain neuropathic states or to provide information for treatment management.

Sensory evoked potentials are detected by superficial electrodes attached to the skin or needle electrodes placed into the skin. Various means of stimulation are used:

- Auditory evoked potentials - Clicks or tones delivered through headphones.
- Somatosensory evoked potentials - transcutaneous stimulation of nerve trunks in arms or legs.
- Visual evoked potentials - Flashes of light or alternating checkerboard patterns.

Sensory evoked potentials are in benefit for evaluation of these symptoms or diagnoses:

1. Auditory
 - Evaluation of brainstem functions (e.g., hypoxic encephalopathy).
 - As a second line test to identify presence of brainstem tumors (e.g., acoustic neuromas) (May be a first line test if CT or MRI scanning is not available).
 - To supplement EEG findings in evaluating irreversibility of coma or brain death.
 - To evaluate hearing impairment in young children or mentally handicapped members of any age.
2. Somatosensory
 - Evaluation of spinal cord injury in unconscious trauma members.
 - To diagnose or manage somatosensory deficits (e.g., multiple sclerosis).
3. Visual
 - To diagnose or manage multiple sclerosis both in the acute phase and the chronic phase.
 - To localize visual field defects occurring in the absence of structural lesions (e.g., metabolic or infectious diseases).

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