EVOKED POTENTIALS GUIDES
AUDITORY MIDDLE LATENCY RESPONSES (MLR)

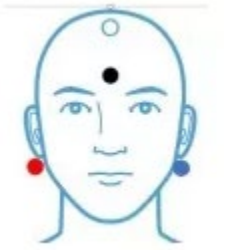
Overview

Auditory Middle Latency Responses (AMLR or MLR) are responses to auditory stimuli that occur between 10 and 75 msec after stimulation. The MLR generators are thought to be along the thalamic auditory pathway and the auditory cortex. The MLR can be used to estimate hearing and may be used in cases where auditory processing disorders or central lesions are suspected.

The MLR may be recorded in children and adults; however, the MLR does not reach adult like amplitudes until 8-10 years of age.

The patient should be instructed to relax and remain awake. The patient does not have to attend to or actively listen for the stimulus; however should be awake for the duration of the test to obtain the most robust amplitudes.

Electrodes are placed in the same locations for patients of all ages. Below is a commonly used electrode montage. The right and left electrodes may be placed on the front of the ear lobes to assist in avoiding post auricular muscle artifact (PAM).



The largest amplitudes for later latency responses will be obtained using a montage where the active (+) electrode is placed at Cz.

Common Test Settings

• Stimulus: Click

• Duration: 100 usec

• Phase: Alternating

• Intensity: 70 dBnHL*

• Transducer: Insert Earphones

• Rate: 7.1 clicks/sec

• Sweeps: 1024, replicated

• Gain: 75k

• High Pass Filter: 10 Hz

• Low Pass Filter: 250

• Low Pass Filter option: 1500 Hz for recording the ABR and the MLR

• Window: 100 msec

*Higher intensities may elicit PAM which may obscure the results.

The MLR consists of the following negative (N) and positive (P) peaks (Atcherson S., 2017):

• Na-occurs about 18 msec (range 12-21msec)

• Pa-occurs about 30 msec (range 21-38 msec)

• Pb-occurs about 50 msec

The latency and amplitude of Pa, absence of the response and amplitude asymmetry are considered when analyzing test results.