

Cochlear microphonic responses to acoustic clicks in guinea pig and their relation with microphonic responses to pure tones

Echeverria, Eugenio L.

Robles, LuisW.

Cochlear microphonic (CM) responses to acoustic transient stimuli were studied at the three more basal turns of the cochlea in the guinea pig. The responses to rarefaction and condensation pressure pulses of less than 100- μ s duration were recorded using the differential electrode technique. In some animals the CM response to pure tones was recorded at the same position at which the transient response was obtained. The transient responses recorded at the three turns of the cochlea displayed a damped oscillation at a frequency consistent with the values of cutoff frequency already known for the electrode positions. Some of the responses were significantly less damped than click responses previously reported. There was a good correlation between the cutoff frequency in the frequency response curve and the frequency of oscillation in the transient response for recordings obtained at the same position in the cochlea. A nonlinear effect was observed for changes in stimulus intensity. There