

# Somatosensory evoked potentials and dopaminergic responsiveness to apomorphine and levodopa in parkinsonian patients

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Short-latency somatosensory evoked potentials (SSEPs) were recorded from 10 parkinsonian patients in "off" and "on" states induced by apomorphine and levodopa. The effects of apomorphine and long-term levodopa treatment on the frontal N30 component were assessed and compared with healthy controls. Nine of 10 patients tested with apomorphine showed a significant improvement ( $p < 0.01$ ) in N30 frontal component amplitude whereas in six of eight patients similarly assessed with levodopa we obtained a comparable improvement in SSEPs ( $p < 0.01$ ). Parietal SSEPs remained unchanged. This normalization of frontal SSEPs was concomitant with the clinical response and in some patients preceded the motor response. No changes were obtained in control subjects. The improvement in N30 potential occurred regardless of disease duration or the presence of motor fluctuations. SSEPs may represent an objective approach for assessing the dopaminergic response and the fluctuations of motor disability in parkinsonia