THE H REFLEX TO MAGNETIC STIMULATION

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We elicited the gastrocnemius-soleus H reflex with magnetic stimulation to the posterior tibial nerve in 5 normal subjects.

H reflexes were studied with the subjects prone. For conventional electric and magnetic stimulation, standard electrode placement was used, and the posterior tibial nerve was excited at the popliteal fossa. Electric stimulation was done with the cathode proximal and a stimulus duration of 1000 μs. Magnetic stimulation was affected by 70 μs pulses, 2 T at 100% power, into a 9-cm round coil or a 5-cm round coil with a focal point. For both coils, each face was arbitrarily labelled A or B.

With either coil, the H response rarely appeared *alone; the H threshold was usually above the M threshold.* The 9-cm coil was more effective, eliciting higher amplitude M and H responses at the same power; even so, maximal M and H amplitudes were lower with magnetic than electric stimulation. H latencies to electric and magnetic stimulation were not significantly different. The H threshold varied with coil orientation (face A and B) and was lower with active ipsilateral or contralateral plantar flexion.

H reflexes are reliably obtained in normal subjects with a 9-cm coil. The 5-cm coil is inadequate for H reflex testing.