

Value of self-induced plantar reflex in distinguishing Babinski from withdrawal



Figure Spinario



Sir Peter Paul Rubens' 1601 study of the famous Greco-Roman sculpture, showing a person removing a thorn from the sole of his foot. © The Trustees of British Museum; reproduced with permission.

Interpretation of the plantar response can be difficult, resulting in inter- and intraobserver discordance. A common source of confusion is that tickle-induced withdrawal can cause dorsiflexion of the great toe in a pattern similar to the Babinski sign.

Ticklish sensation, present when the stimulus is introduced by a person other than the subject, is reduced by self-stimulation. The cause of this inhibition has been shown to be in the cerebellum.¹

We reasoned that self-induction of the plantar response should reduce withdrawal, obviating the potential confusion with a Babinski sign. The patient would sit down, grab the foot, and scratch the sole with a sharp object in a posture similar to the famous Greco-Roman *Spinario* sculpture of a boy withdrawing a thorn from the sole of his foot, studied and drafted by Peter Paul Rubens (1577–1640) (figure).

In the process of reviewing the available literature, we were surprised to discover that C. Miller Fisher² had reported this observation 4 decades ago.

See the video on the *Neurology*[®] Web site at Neurology.org.

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Supplemental data
at Neurology.org

1. Blakemore SJ, Wolpert DM, Frith CD. Central cancellation of self-produced tickle sensation. *Nat Neurosci* 1998;1:635–640.
2. Fisher CM. Plantar reflex: elicitation by the patient. *Trans Am Neurol Assoc* 1973;98:262.

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