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Chapter 63 - Examination of the Reflexes

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CHAPTER 63

Examination of the Reflexes

KEY TEACHING POINTS

- Abnormal muscle stretch reflexes *in isolation* do not necessarily indicate disease. Instead, muscle stretch reflexes are abnormal if any of the following findings are present: hyporeflexia is associated with additional signs of lower motor neuron disease (weakness, atrophy, fasciculations); hyperreflexia is associated with additional signs of upper motor neuron disease (weakness, spasticity, Babinski sign); the reflex response is asymmetric; or the reflex is unusually brisk when compared with a reflex from a higher spinal level.
- Criteria for the pathologic upgoing toe (Babinski response) include the following: the extensor hallucis longus muscle contracts; there are abnormal fine motor movements of the affected foot (e.g., abnormal foot tapping); other flexor muscles in the limb contract at least slightly (e.g., hamstrings, tensor fascia lata); and the response is reproducible.
- Primitive reflexes (e.g., palmomental reflex, glabellar reflex, grasp reflex, snout reflex, and suck reflex) are common findings in frontal lobe disease, parkinsonism, and dementing illnesses.

Reflexes are involuntary contractions of muscles, induced by specific stimuli. In the neurologic examination there are three types of reflexes: (1) muscle stretch reflexes (deep tendon or myotatic reflexes), (2) cutaneous reflexes, and (3) primitive reflexes (or release reflexes). This chapter also discusses the **Babinski response**, which is an abnormal cutaneous reflex of the foot that appears in upper motor neuron disease.

REFLEX HAMMERS

I. TYPES OF REFLEX HAMMERS

Early in the history of reflex testing*, clinicians used various implements to elicit reflexes; the great British neurologist Gowers used the ulnar aspect of his hand or his rigid stethoscope. Other clinicians were less selective, using paper weights, laboratory stands, or even table lamps.²⁻⁴ In the late 1800s and early 1900s many different reflex hammers were produced, some of which remain popular nowadays.

A. TAYLOR HAMMER

The Taylor hammer was developed in 1888 by J.M. Taylor, personal assistant to S. Weir Mitchell at the Philadelphia Orthopedic Hospital and Infirmary for Nervous

* Reflex testing became common after Erb and Westphal simultaneously discovered the value of muscle stretch reflexes in 1875.¹

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