(Continued...)

What happens: stretching of the tendon activates muscle spindle that is located around intrafusal fibers. Then, a response is sent to the spinal cord through the dorsal root and synapses with extensors. This excites extensors and inhibits flexors, then is sent to higher levels for processing.

Withdrawn Dorsal (step on sharp object)

- What happens: nociceptor is detected, which sends info through the dorsal root to the spinal cord to create synapses. An inhibitory synapse inhibits extensors on the ipsilateral side. On the contralateral side, an excitatory synapse excites extensors on the ipsilateral side. On the contralateral side, extensor muscles are excited and force is applied to avoid the foot from coming in contact with the ground to withdraw the foot from pain (nociceptor).

Golgi Tendon Organ Reflex / Kick Back Reflex

- What happens: inhibit extensor and excite flexor

Golgi Tendon Organ - ensures safety of tendon; detects force changes to preserve muscle/tendon from stretching too much or having
- Relaxed muscle → no action potential firing
- Passive stretch → slower firing
- Contraction → quick firing