# muscle physiology lecture 16

improperly prepared blood sausages caused some nemans to die after consuming them in the 1820s. Justinus Kerner went to study why this happened. "wurstgift"- german for sausage poison. when he injected himself and animals with the poison, he found muscle weakness, droopy eyelids, trouble swallowing, and paralysis. bad ham served at a funeral killed three people and paralyzed twenty three people in 1895. Doctor Emile Pierre van Ermengem found that there were sausage shaped bacteria on the meat that were named bacillus botulinus. "sausage disease" type A strain of the seven strains of botulinum toxin blocks the release of acetylcholine from motor nerves, which causes paralysis. this is what botox is. became very popular in hollywood.

we can deactivate and desensitize nerves as well as activate and hypersensitize reorganization of spinal cord circuitry. mechanoreceptors can be reprogrammed to transmit messages of pain. silent nociceptors can be awakened. fibromyalgia · syndrome that overall is characterized by diffuse pain and overwhelming fatigue that can be debilitating. the cause is unknown.

Aa and Ab fibers- myelinated. messages can travel very quickly. detect innocuous stimuli and typically do not contribute to pain. often times, their stimulation can reduce pain. they have a large diameter. proprioception. rewiring Ab fibers @ the dorsal horn, not in the periphery, to send messages of pain, can contribute to allodynia and mechanical hyperalgesia.

Ao fibers- thinly myelinated & provide pain transmission. "first responder" pain fibers. when depolarized, rapid, acute, and sharp pain is felt.

c fibers- not myelinated, slow nerve conduction velocity. "second responder" pain fibers. when depolarized · delayed, dull, diffuse pain is felt.

Ao & c fibers respond to mechanical stimuli, such as heat, and chemical stimuli. silent or sleeping nociceptors transmit signals when they are woken up by a tissue injury or excessive inflammation.

indication · valid reason to take medication, do a test, procedure, etc.

contra indication · a reason not to "