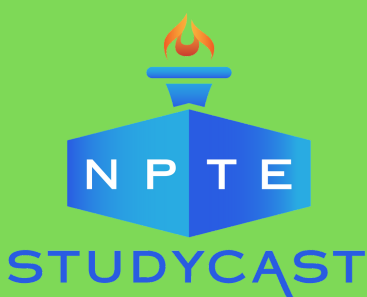


SPASTICITY

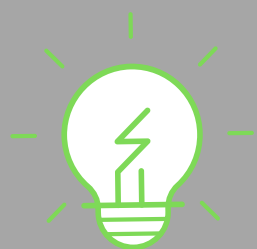


WHAT IS IT?

- A type of tone
- Two types of tone exist: hypotonic and hypertonic
- Spasticity is a velocity-dependent resistance to stretch: this is the biggest difference between “tone” in general and “spasticity”
- Can lead to synergistic movement patterns



ANATOMY



- You won't see spasticity unless there has been an injury to the CNS or the motor neuron
- Typical presentation of synergies when you see spasticity:
 - Flexor synergies in the upper extremities
 - Proximal extensors of the lower extremities
 - Distal flexors of the lower extremities

DIFFERENTIAL DIAGNOSIS

- Differentiate “tone” from “spasticity”
- What may present like spasticity:
 - Decreased muscle flexibility
 - Multi-trauma/anxious patients & muscle guarding
- Red flag to know it is spasticity: velocity dependent!



SPECIAL TESTS



- Modified Ashworth (gold standard for measuring spasticity): grades spasticity, scale= 0-4
 - 0=No increase in muscle tone
 - 1=Slight increase in muscle tone, minimal resistance at end of ROM
 - 1+=Slight increased in muscle tone, minimal resistance through less than half of the ROM
 - 2=More marked increase in muscle tone, through most of the ROM, affected part is easily moved
 - 3=Considerable increase in muscle tone, passive movement is difficult
 - 4=Affected part rigid in flexion or extension

TREATMENT EXAMPLES

- Early intervention is very important
- As soon as you notice spasticity, focus should shift to positioning, splinting if necessary, bracing, PROM, serial casting could be an option for more serious cases
- Medications: Botox, baclofen pump
- Surgery can be an option if ROM is significantly impaired



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