

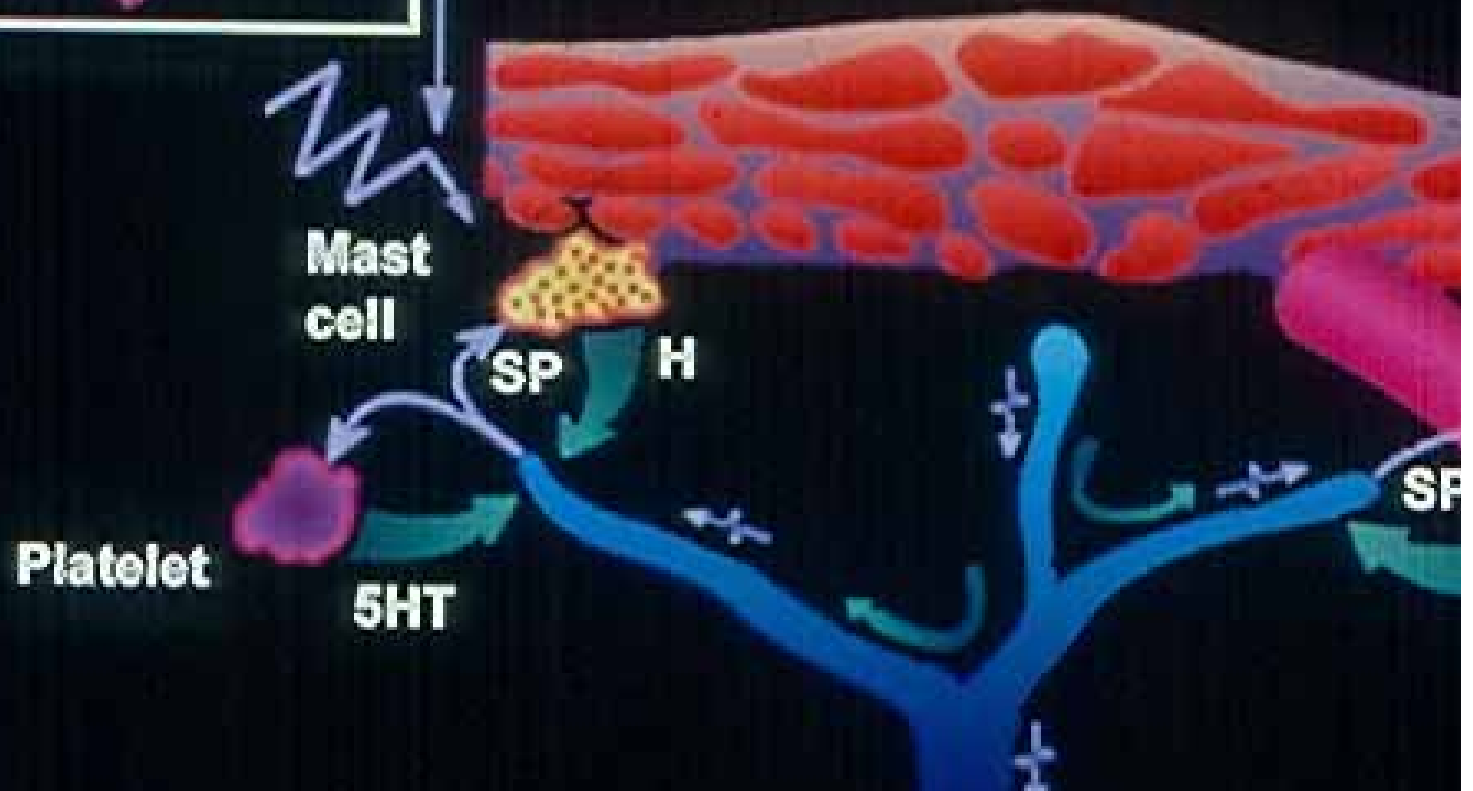
# Headaches and Fibromyalgia

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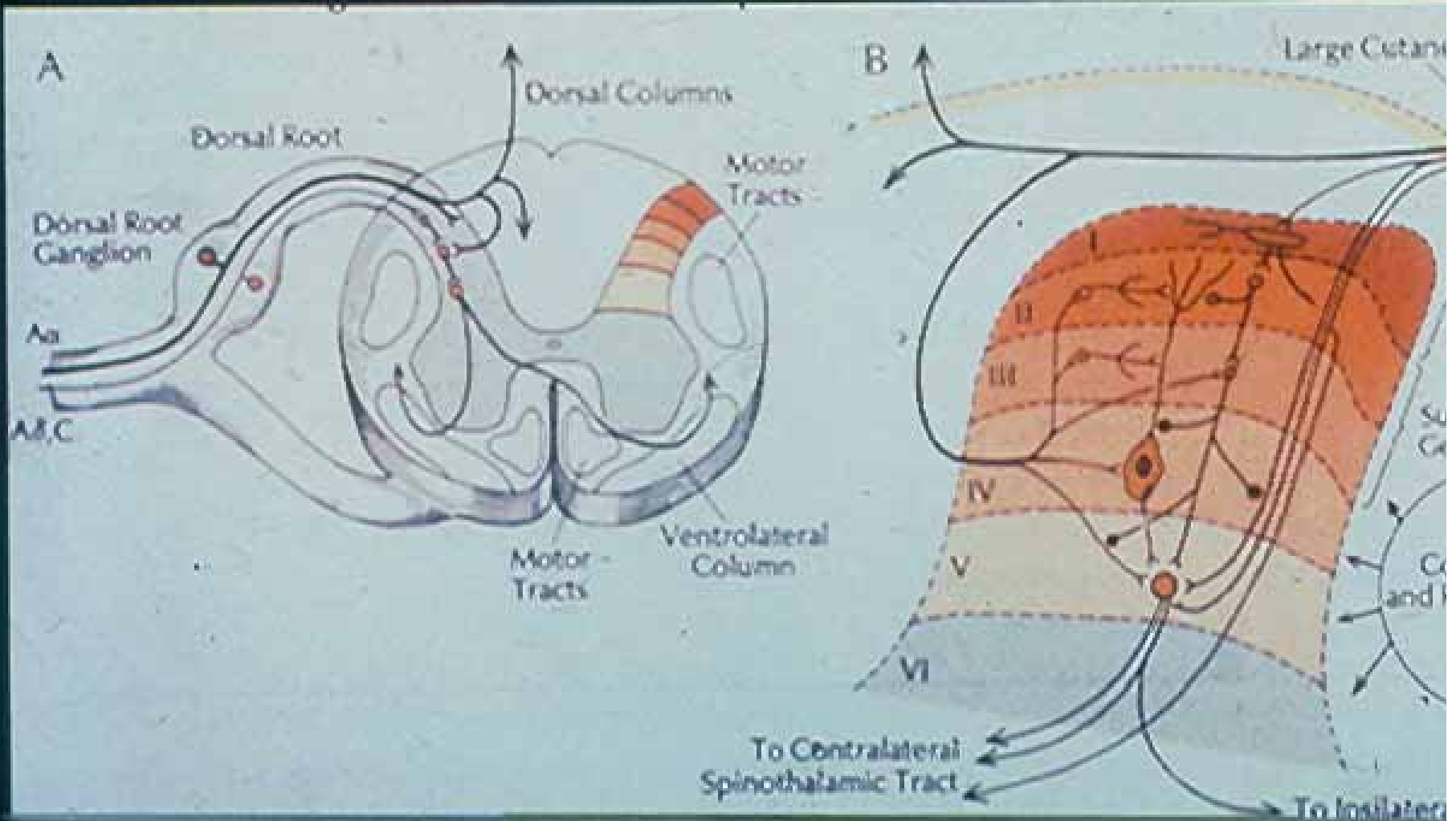
Robin Slover MD

# Transduction by the Afferent Pathway

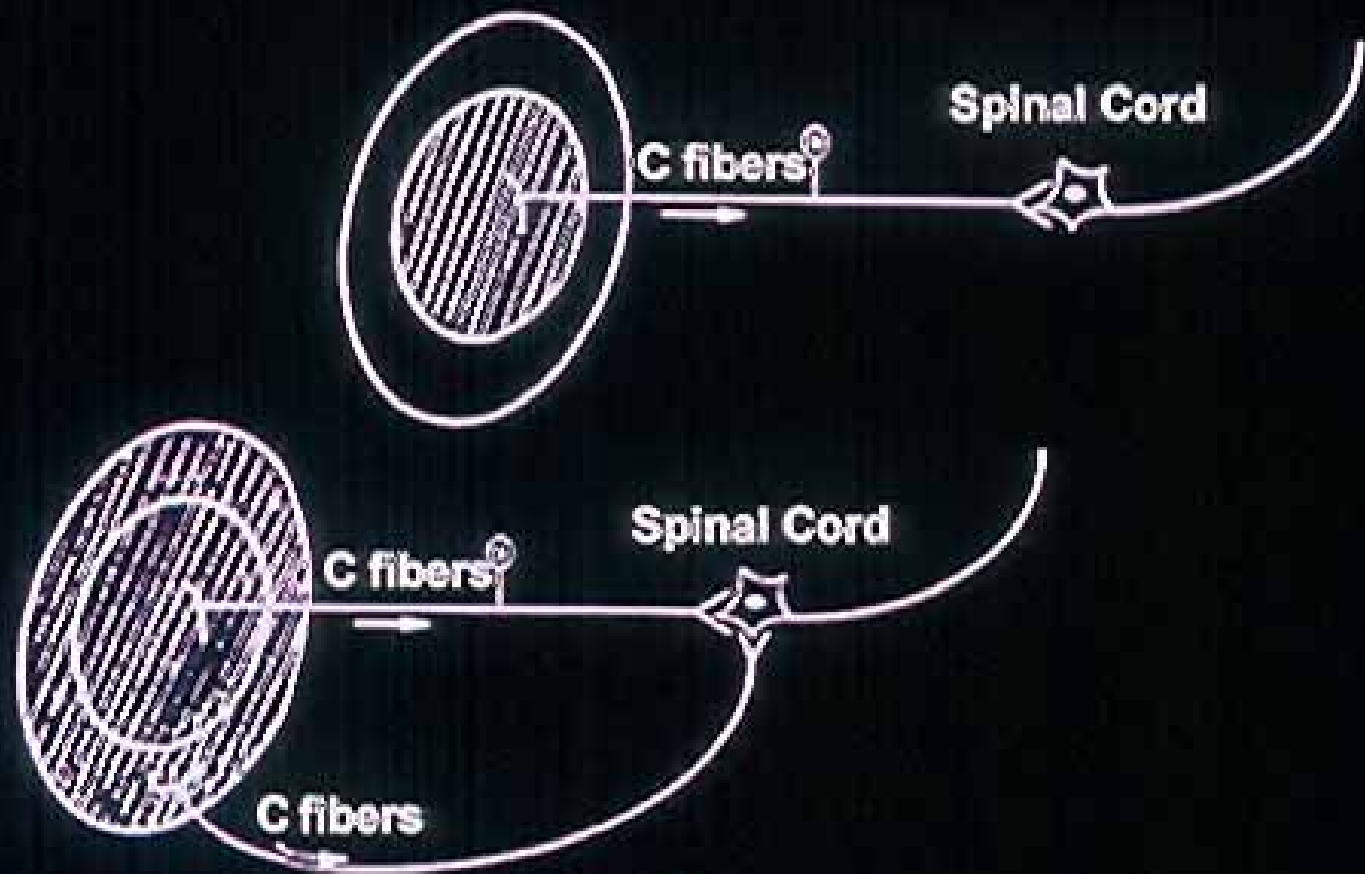
Transduction



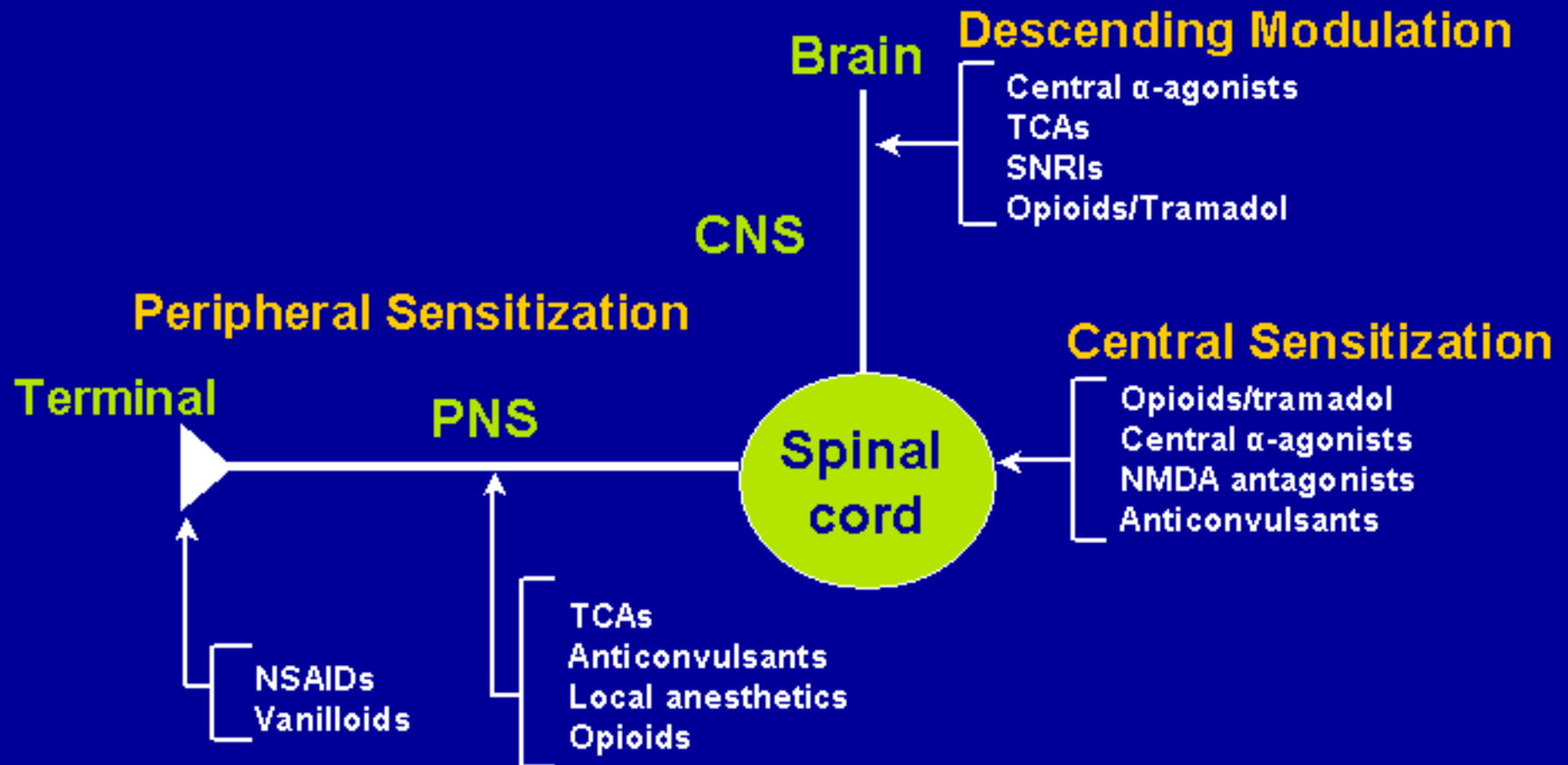
# Cross-Section of Spinal Cord with Details of the Dorsal Horn



# Central Sensitization



# The Nervous System and Pharmacotherapeutics



# MUSCULOSKELETAL

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- Overuse syndromes – neck forward
- Weekend warriors – back sprains
- May become chronic

# Vitamin D

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- 40 % of children referred to The Childrens Hospital Pain clinic were deficient; replacement has helped a number with myofascial pain issues
- Lowest Level seen – 6
- Adults referred to the University Pain Clinic; 35%. Again these patients have myofascial pain issues

# Fibromyalgia

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- Primary vs secondary
- Sleep correction critical
- Decreased gray matter in hippocampal gyri, right posterior cingulate cortex and left anterior cingulate cortex
- Areas associated with enhanced pain perception, cognitive dysfunction, and abnormal stress reactivity
- Abnormal dopamine metabolism correlated

# Drugs for fibromyalgia

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- Anticonvulsants
- Tramadol
- Muscle relaxants
- Celebrex
- Sleep agents
- Antidepressants

# Anticonvulsants

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- Gabapentin 50 mg per kg, 600-3600
- Pregabalin Start 25-75, 100-600
- Topiramate Start 12.5-15, 50-200 mg
- Lamotrigine Start 25, Range 100-200 mg bid
- Trileptal Start 75-150, 150 tid

# New Fibromyalgia Drug

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- Savella – milnaciprin
- Comes in starter dose pack. Unable to get smaller doses consistently
- Injections into tender places may help; massage also helps. Small study together shows combination is better

# Headache

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- Head forward position
- Occipital, auricular, supraorbital neuralgias
- Muscle spasms in frontalis, procerus, temporalis, semispinatus, splenius capitus, trapezius, parascapular and paravertebral muscles
- Injections help

# Headache drugs

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- Muscle relaxants
- Anticonvulsants
- Indomethacin
- Antidepressants
- Abortives
- Long acting opiates
- Ketamine infusions

# Headaches

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- Never treat more than 8 days per month
- Migralief – vitamin B2, magnesium, co Q 10
- Vitamin D – above 30
- Ferritin levels – above 50

# HEADACHES

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- Many patients with headaches have been shown to have genetic abnormalities with  $\text{Ca}^{++}$  regulation
- B2, Magnesium, Co Q 10 may help by energizing mitochondria

# TOPICAL AGENTS

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- LIDOCAINE
- CAPSAICIN
- AMITRIPTYLINE
- KETAMINE
- ANTICONVULSANTS
- COMPOUNDED DRUGS