

Chronic Non-Terminal Pain

Non-Opioid Based Treatment

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Learning Objectives

- Provide basic assessment and monitoring of pain and pain interventions
- Describe the role of non-opioid analgesics in the management of chronic pain syndromes
 - Osteoarthritis
 - Low back pain



Outline

- Definitions and pathogenesis
- The basics
 - Assessment
 - Goals
- Non-opioid analgesics
 - Treatment
 - Monitoring



Pain

- Unpleasant sensory and emotional response associated with actual or potential tissue damage
- Acute – occurs suddenly, short-lived, resolves as acute illness resolves
- Chronic – lasts longer than expected healing process (or > 3mths), affects ADLs

www.iasp-pain.org/terms-p.html

<http://www.painfoundation.org/learn/publications/files/PainResourceGuide2009.pdf>

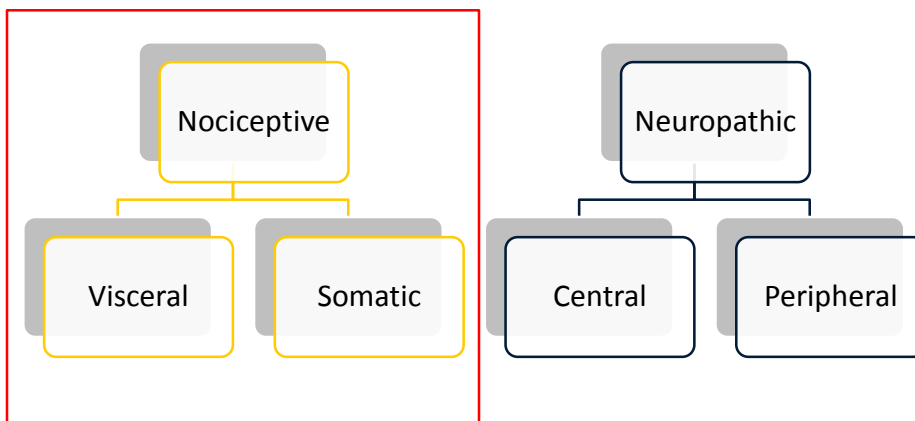


Pain Processing

- Inflammation and transduction
- Conduction
- Transmission
- Modulation
- Perception



Pathogenesis



Assessment of Pain

- P – what **P**rovokes the pain?
- Q – **Q**uality of the pain?
- R – does the pain **R**adiate?
- S – **S**everity of the pain?
- T – **T**ime of the pain?



Assessment of Pain

- Thorough patient history
 - CC, HPI, ROS, PMH
- Validated pain scales (visual analog scales)
- Physical exam
- Imaging and diagnostic studies



Goals of Chronic Pain Management

- Keep patient functional
- Improve mental health
- Decrease pain perception and dependence on drug therapy
- Decrease rate of physical deterioration
- Reduce pain as much as possible without undue adverse effects

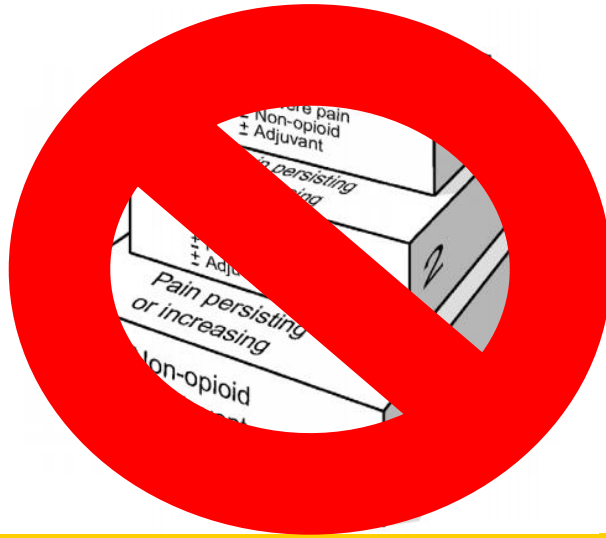


Non-Pharmacologic Therapy

- Physical/Occupational therapy
- Transcutaneous electrical nerve stimulation
- Psychotherapy
- Cold/heat
- Massage
- Prayer/meditation/spiritual
- Distraction
- Exercise
- Music



Pharmacologic Therapy



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Pharmacologic Options

- Acetaminophen
 - NSAIDs
 - Muscle relaxants
 - TCAs
 - SSRIs, SNRIs
 - Gabapentinoids
 - Anticonvulsants
 - Anti-arrhythmics
 - Lidocaine
 - Capsaicin
 - Opioids
 - Ketamine
 - Corticosteroids
 - Bisphosphonates
- Today's discussion
- Neuropathic agents
- Next month
- Advanced pain management

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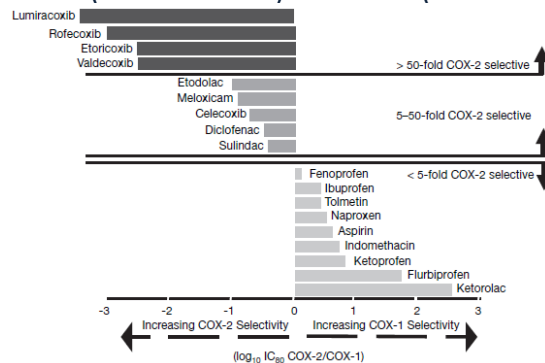
Acetaminophen

- Centrally acting analgesic and anti-pyretic
 - Inhibits COX-2 enzymes in CNS
 - Other possible mechanisms: cannabinoid receptor activation, nitric oxide production inhibition, substance P inhibition, serotonergic/opioid pathway modulation
- Generally very well tolerated
 - Hepatotoxicity seen with acute and/or chronic use



NSAIDs

- Analgesic, anti-inflammatory, anti-pyretic
 - Inhibits COX enzymes
 - COX-1 (normal tissue) vs. COX-2 (inflammation)



Herndon. Pharmacother. 2008; 28(6):788-805.



NSAID Adverse Effects

- Gastrointestinal
 - GI upset, GI bleeding
- Cardiovascular
 - HF, MI, HTN
- Hepatic
- Renal

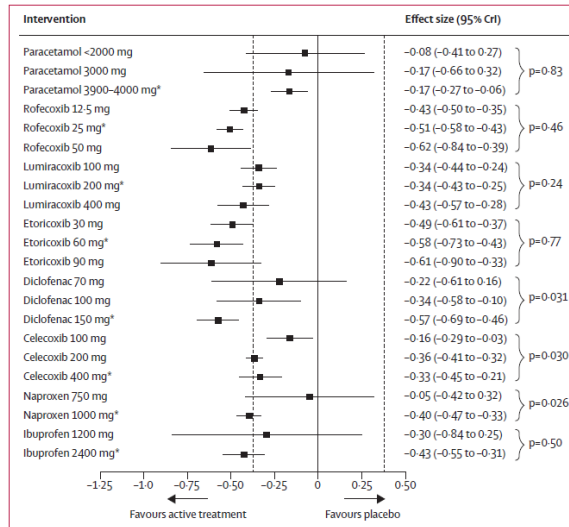


Acetaminophen vs NSAIDs

- Low back pain
 - Acute – likely prefer NSAIDs
 - Chronic – patient preference
- Osteoarthritis
 - Hands – topicals, oral NSAIDs
 - Hips – acetaminophen, NSAIDs
 - Knees – the above plus intraarticular injections



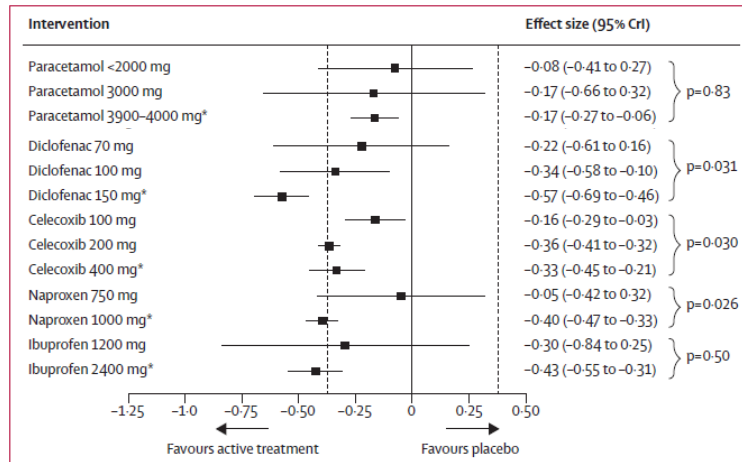
Acetaminophen vs NSAIDs



da Costa. Lancet. 2016; 387: 2093-105.



Acetaminophen vs NSAIDs



da Costa. Lancet. 2016; 387: 2093-105.



Muscle Relaxants

- Reduce pain by about 30% for acute low back pain
- No data exists regarding chronic back pain

Abdel Shaheed. Eur J Pain. 2016; Epub Ahead of Print.



Muscle Relaxants

	Dose (mg)	Avoid	Notes
Cyclobenzaprine	5-10 TID	Heart	
Methocarbamol	750 QID	MG	
Carisoprodol	350 QID	AIP	CIV
Chlorzoxazone	250-750 TID-QID	Liver	
Metaxalone	800 TID-QID	Liver	
Orphenadrine	100 BID	MG; Elderly	
Tizanidine	4 TID-QID	Heart	
Baclofen	5-20 TID		Renal dose



Monitoring

- Onset of analgesic effect
- Duration of analgesic effect
- PRN medication use
- ADEs of medications
- Concomitant medication use



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