PANCREATIC PAIN MANAGEMENT

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Pain Classification

Pancreatic Pain

- time course: acute / chronic
- site of origin: somatic, visceral
- type of pain: nociceptive / neuropathic
- intensity: mild, moderate, severe, intorelable
- underlying cause for pain: malignant / non-malignant

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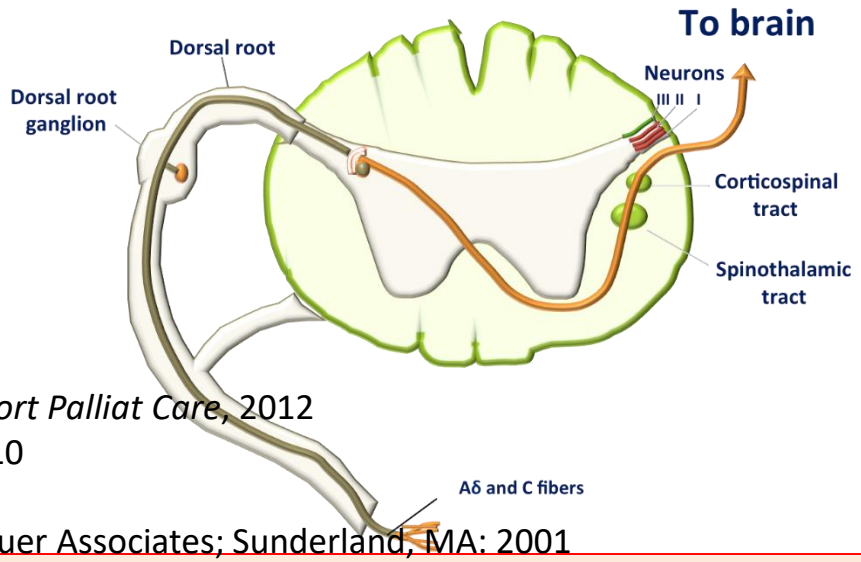
Visceral Pain

- transferred trough thinly myelinated Aδ-fibres and unmyelinated C-fibres
- 50 – 90% of primary afferent neurons are 'silent' and become mechanosensitive after inflammation



Sikandar and Dickenson, *Curr Opin Support Palliat Care*, 2012
Dubin and Patapoutian, *J Clin Invest*, 2010
Fields HL *et al., Neurobiol Dis,*1998
Williams and Purves, *Neuroscience.* Sinauer Associates; Sunderland, MA: 2001

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Visceral Pain

- caused by tension (stretch), ischemia and inflammation
- poorly localized with referral to somatic structures
- produces nonspecific regional or whole-body motor responses
- produces strong autonomic responses
- leads to sensitization of somatic tissues
- produces strong affective responses
- gradual increment of pain sensations: discomfort, malaise, pain

Sikandar and Dickenson, *Curr Opin Support Palliat Care*, 2012

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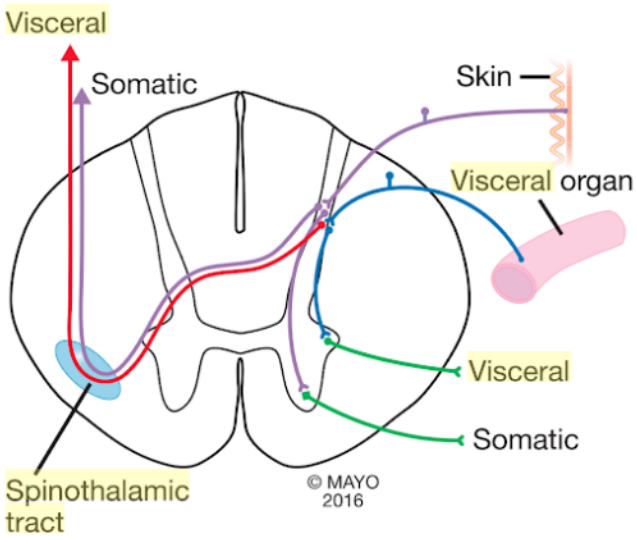
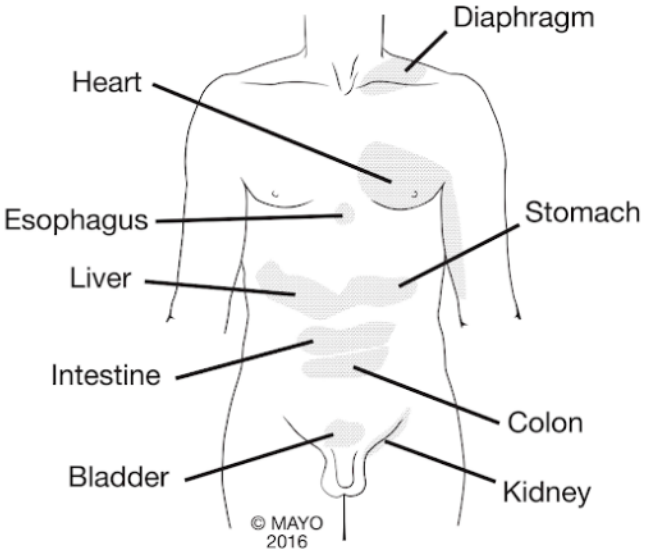
Viscerosomatic convergence





Benarroch, Cutsforth-Gregory and Flemming (2017). Mayo Clinic Medical Neurosciences: Organized by Neurologic System and Level. Oxford, UK: Oxford University Press.

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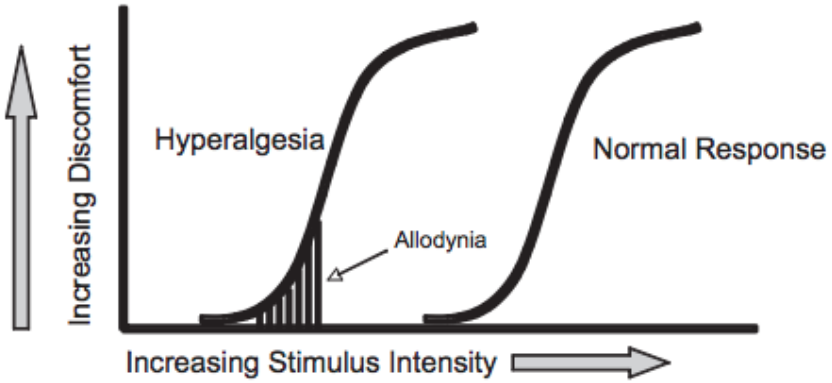
Sensitization and visceral pain

- visceral pain involves visceral hyperalgesia
- increased sensitivity has two causes:
  1. A change of sensory neurons in the viscera; they respond more intensely to naturally occuring stimuli
  2. An enhanced sensitivity of the sensory pathways in the brain that mediate sensations from the viscera
- both processes are known as “sensitization”
  - peripheral sensitization occurs in the viscera
  - central sensitization occurs in the brain



McClain (2010). Primary and secondary hyperalgesia. In Sinatra, Jahr & Watkins-Pitchford (Eds.), The Essence of Analgesia and Analgesics, Cambridge: Cambridge University Press.

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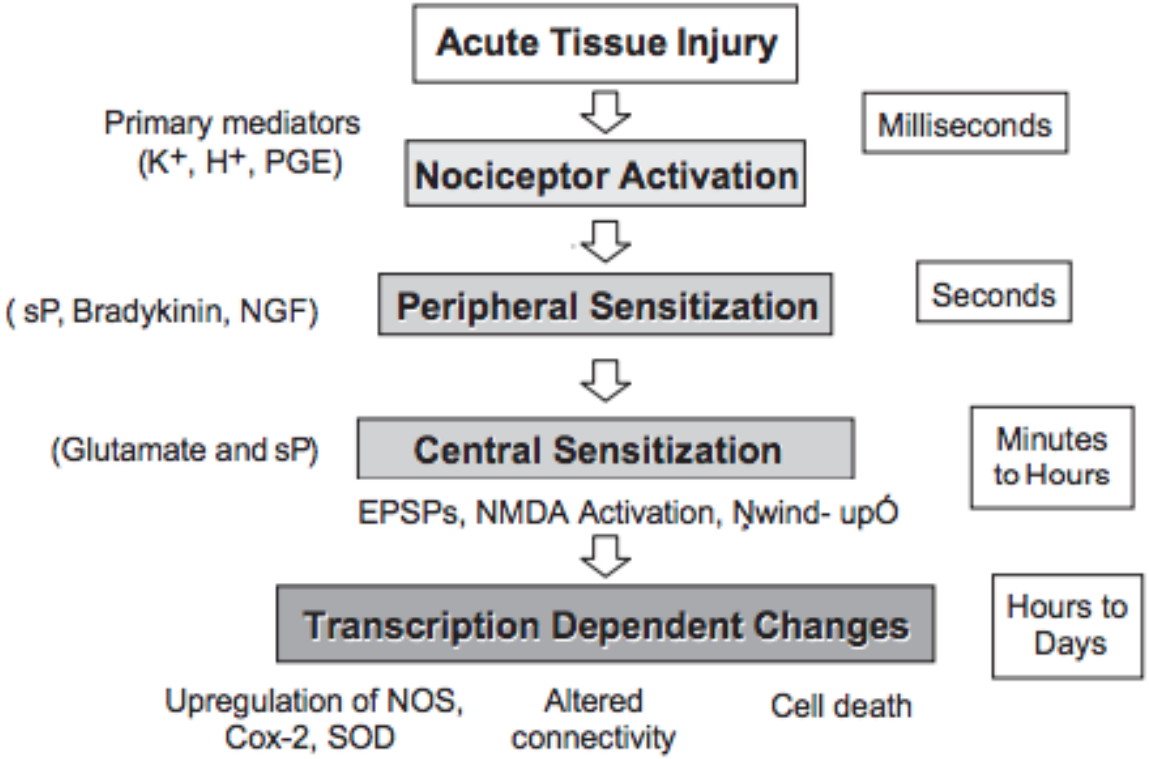
Sensitization and visceral pain - timeline



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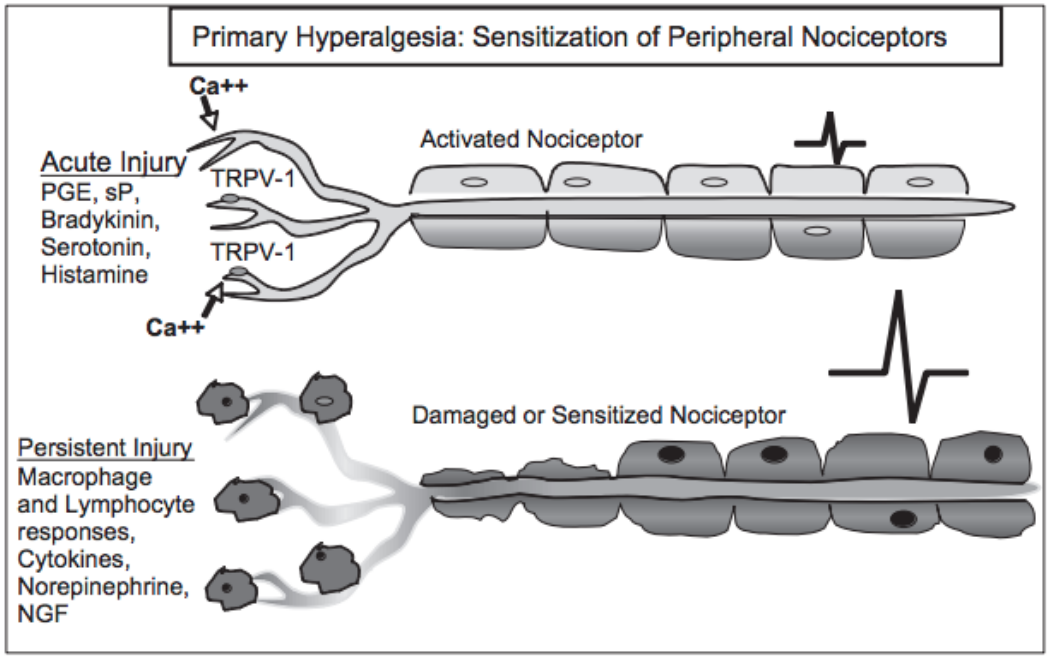
Peripheral sensitization (primary hyperaglesia)

- persistent noxious stimulation of visceral nociceptors
  - inflammatory mediators
  - ectopic activity
  - noxious stimuli

- hyperagesia



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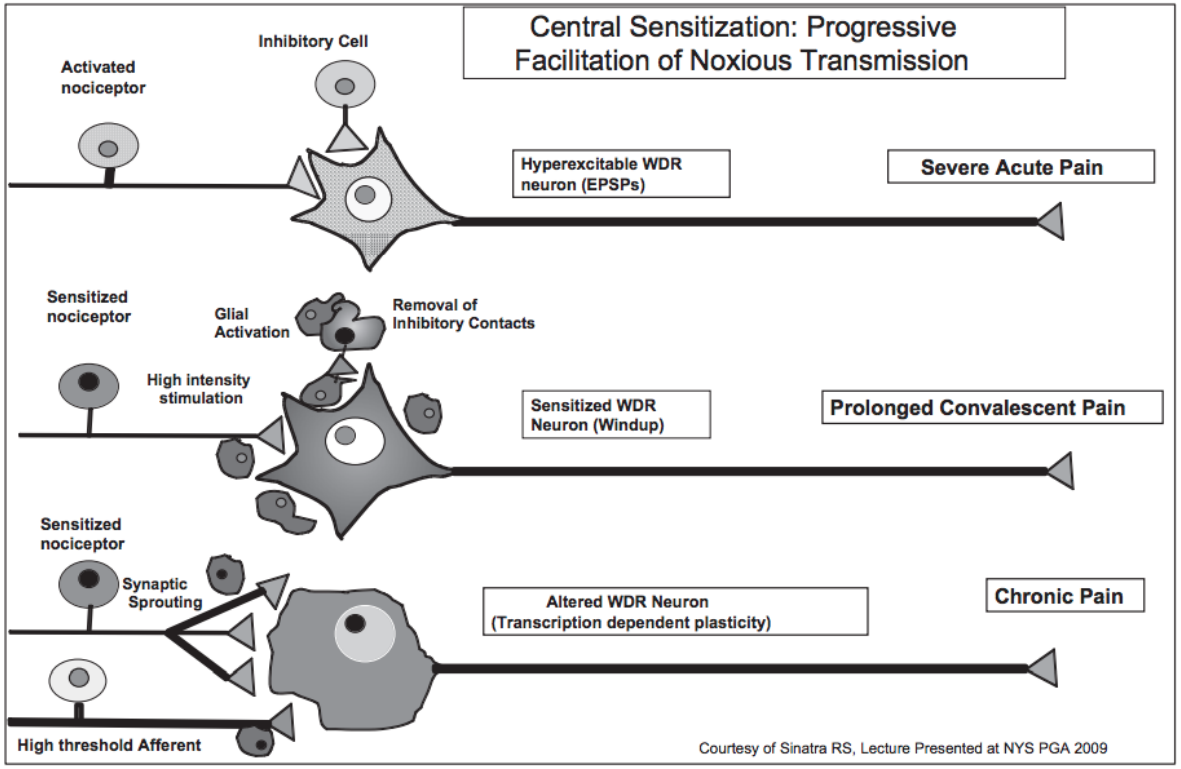
Central sensitization (secondary hyperagesia)

- sensitized peripheral nociceptors stimulate second order neurons in dorsal horn
- wind up
- transcription dependent plasticity



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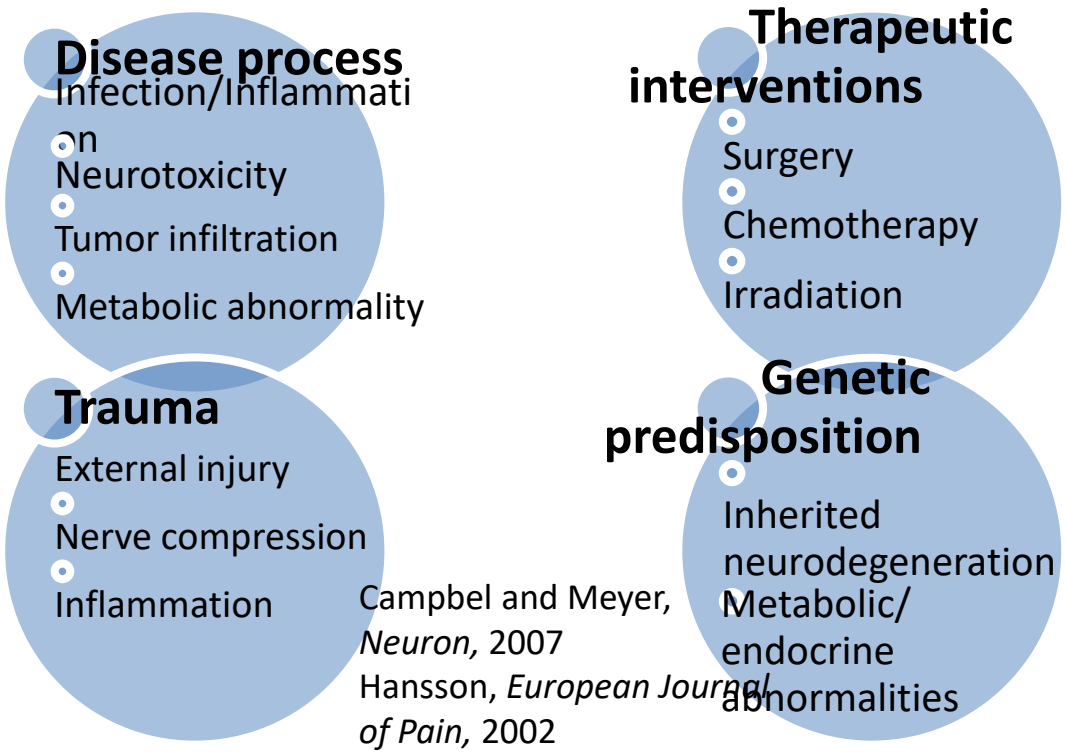
Neuropathic pain

LESION INVOLVES NOCICEPTIVE PATHWAY!



Campbel and Meyer, *Neuron,* 2007
Hansson, *European Journal of Pain,* 2002
Dvorkin et al. *Arch Neurol,* 2003

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Neuropathic pain

- persistent /short episodes
- burning / electrical
- combined with hyperalgesia and allodynia
- intensified at night

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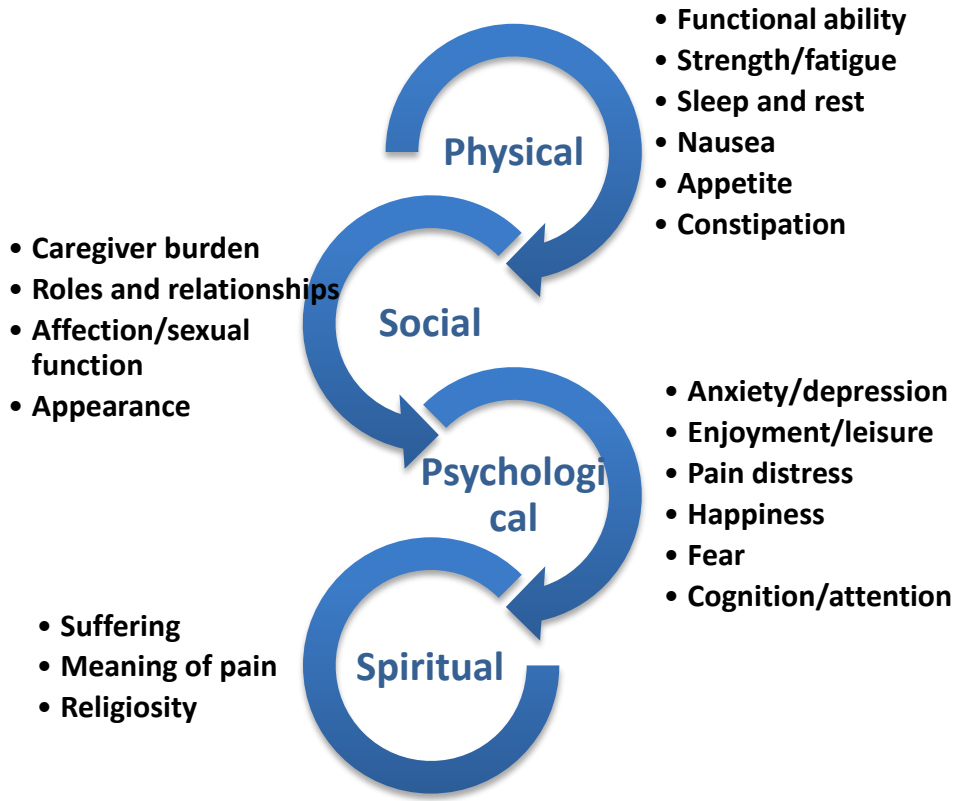
Impact of pain on the quality of life



Adapted from Ferrell et al. *Oncol Nurs Forum*. 1991;18:1303–9.

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Pain management strategies

- multimodal
- individualized
- medical therapy
  - pharmacological
  - non-pharmacological
- patient's collaboration
- family support

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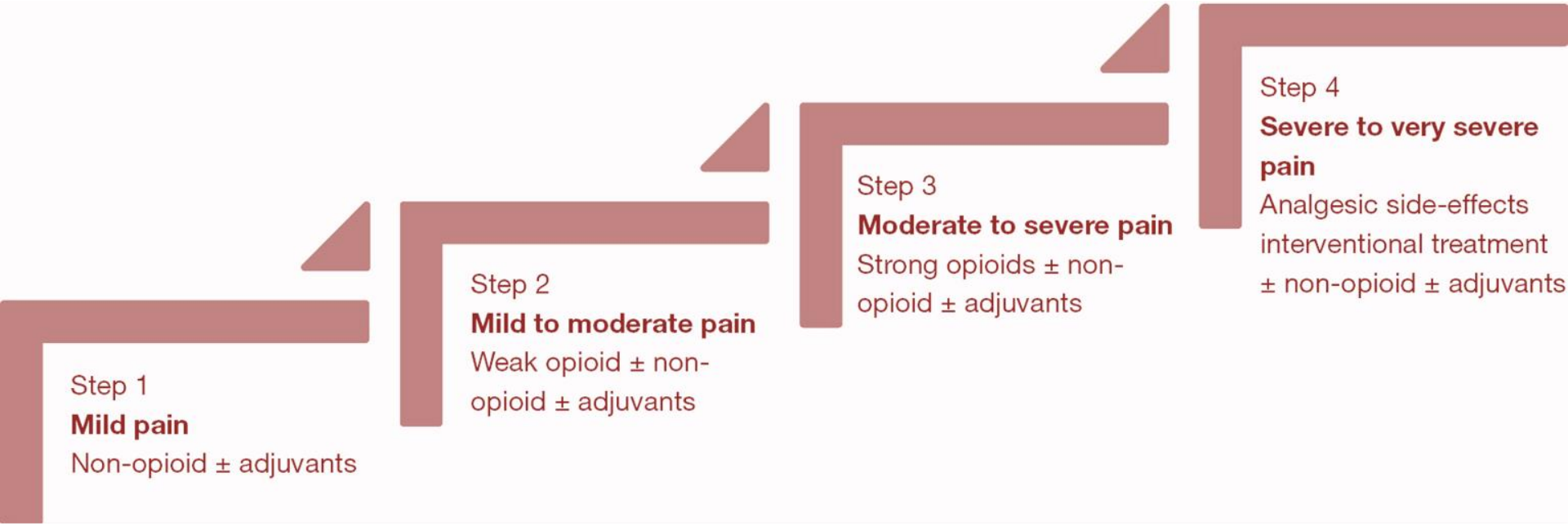
Pain management strategies
PHARMACOLOGICAL – WHO ladder



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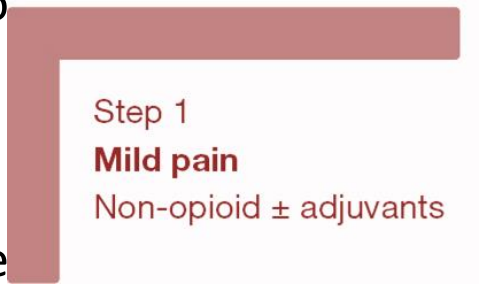
Pain management strategies
PHARMACOLOGICAL – WHO ladder

- simple analgetics
  - paracetamo'
  - (NSAIDs)
  - metamizol



- adjuvant analge
  - anxiety, depression: antidepressants (TCA, SSRI, SNRI)
  - abdominal cramps: antispasmolytics, benzodiazepines
  - neuropathic pain: pregabalin, gabapentin, amitriptyline, duloxetine
  - inadequately controlled pain (unconventional treatment): ketamine, lidocaine, cannabinoids

Working group for the International (IAP – APA – JPS – EPC) Consensus Guidelines for Chronic Pancreatitis, Pancreatology. 2017

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Pain management strategies PHARMACOLOGICAL – WHO ladder

- opioids

- adjuvant analgesics:
  - anxiety, depression: antidepressants (TCA, SSRI, SNRI)
  - abdominal cramps: antispasmolytics, benzodiazepines
  - neuropathic pain: pregabalin, gabapentin, amitriptyline, duloxetine
  - inadequately controlled pain (unconventional treatment): ketamine, lidocaine, cannabinoids

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Adjuncts for pancreatic pain

- pancreatic enzymes supplements
- antioxidants
- octreotide

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Pain management strategies
PHARMACOLOGICAL – intravenous therapy

- NON-OPIOIDS — metamizol 2,5 g /12h

  NSAID Neodolpasse 250 ml / 12 h

- OPIOIDS — piritramide

- ADJUVANT ANALGETICS — lidocaine 100 mg / 50 ml
  infusion 15 ml/h (3 h)

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Pain management strategies
PHARMACOLOGICAL – oral therapy

- NON-OPIOIDS
- metamizol 1000 mg / 8 h or 40 drops / 8

  NSAID – if not contraindicated

- OPIOIDS long-acting slow-release opioid

  tramadol, tapentadol, oxycodone, oxycodone / naloxone, morphine, fentanyl

- ADJUVANT ANALGETICS (NEUROPATHY) pregabalin, amitriptyline, duloxetine...

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Pain management strategies
INVASIVE AND NON-PHARMACOLOGICAL MEDICAL THERAPY

- endoscopic therapy (+ ESWL, sphincterotomy, stenting)
- surgical treatment
- neurolytic interventions
    - celiac plexus blocks
    - splanchnic nerve ablation
    - spinal cord stimulation
    - transcranial magnetic stimulation
- lifestyle changes: alcohol / smoking abstinence
- support groups
- psychological (behavioral) interventions, hypnosis

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Pain management goals

NON-MALIGNANT CHRONIC PAIN

- education: lifestyle changes, life with moderate pain (VAS 5 – 6)
- non-pharmacological pain treatments
- pharmacological pain treatment: non-opioids combined with lowest dose opioids (< 120 mg morphine / day)

MALIGNANT CHRONIC PAIN:

- pain relief (VAS < 3) - no maximum opioid dose

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Pain management strategies for chronic pancreatic pain
INTERDISCPLINARY APPROACH

- gastroenterologist
- anesthesiologist – algologist
- abdominal surgeon
- dietician
- physical medicine and rehabilitation (PM physiotherapist
- psychologist / psychiatrist
- social worker

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