PANCREATIC PAIN MANAGEMENT

Univerza v Ljubljani

Neli Stošić Vintar
Medicinski fakultet Univerziteta u Ljubljani
Univerzitetski klinički centar Ljubljana

univerzitetni klinični center ljubljana
University Medical Centre Ljubljana

TUZLA 30.11 .2019

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Pain Classification

Pancreatic Pain

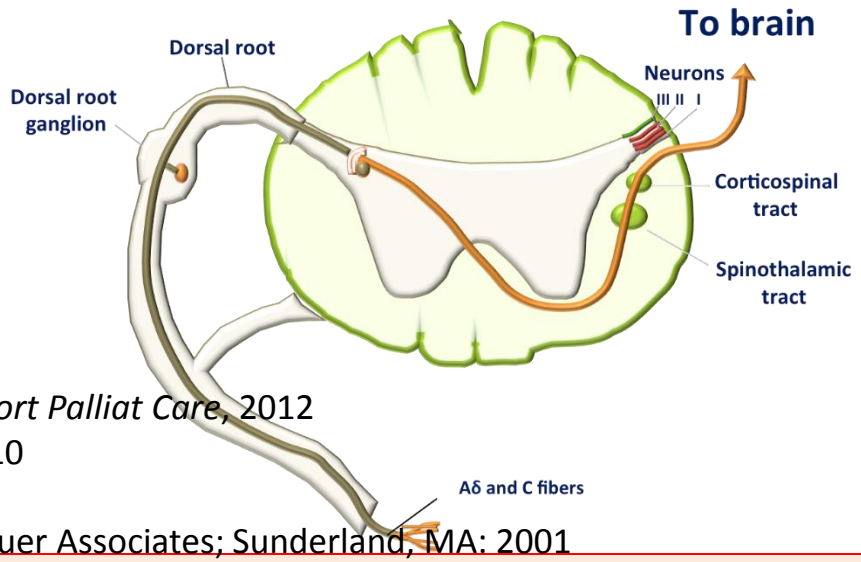
- time course: acute / chronic
- site of origin: somatic, visceral
- type of pain: nociceptive / neuropathic
- intensity: mild, moderate, severe, intorelable
- underlying cause for pain: malignant / non-malignant

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

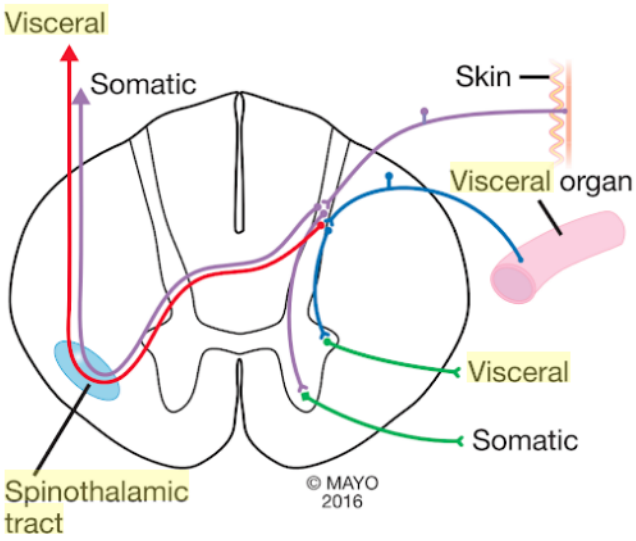
Visceral Pain

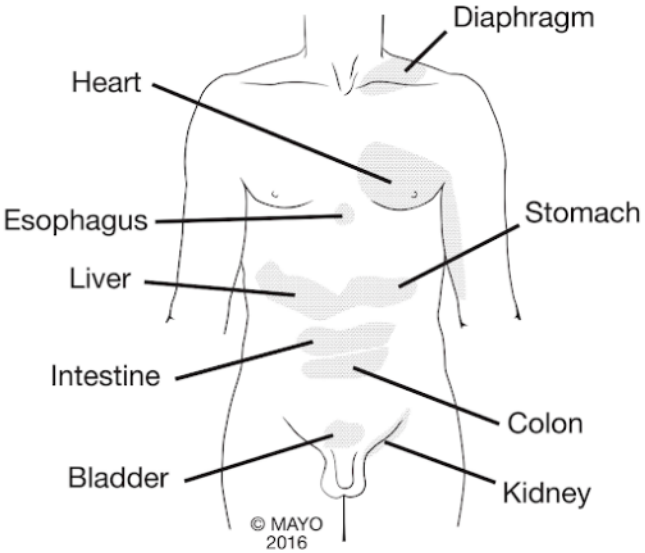
- caused by tension (stretch), ischemia and inflammation
- poorly localized with referral to somatic structures
- produces nonspecific regional or whole-body motor responses
- produces strong autonomic responses
- leads to sensitization of somatic tissues
- produces strong affective responses
- gradual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

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Viscerosomatic convergence





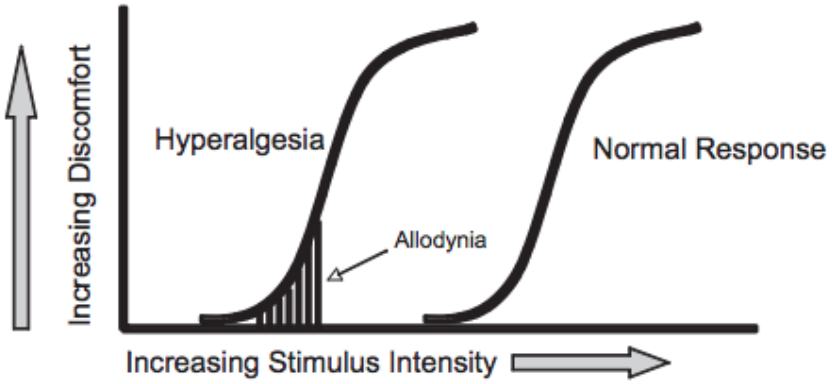
Benarroch, Cutsforth-Gregory and Flemming (2017). Mayo Clinic Medical Neurosciences: Organized by Neurologic System and Level. Oxford, UK: Oxford University Press.

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

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

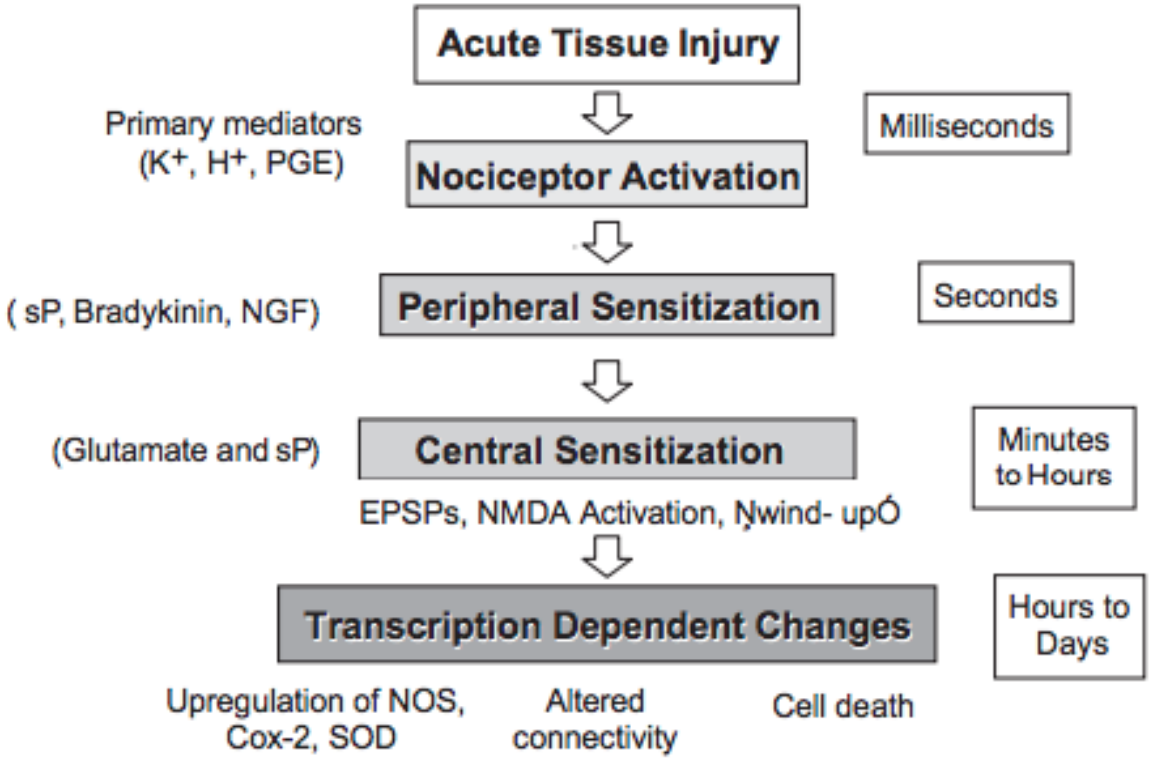


McClain (2010). Primary and secondary hyperalgesia. In Sinatra, Jahr & Watkins-Pitchford (Eds.), The Essence of Analgesia and Analgesics, Cambridge: Cambridge University Press.

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Sensitization and visceral pain - timeline



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

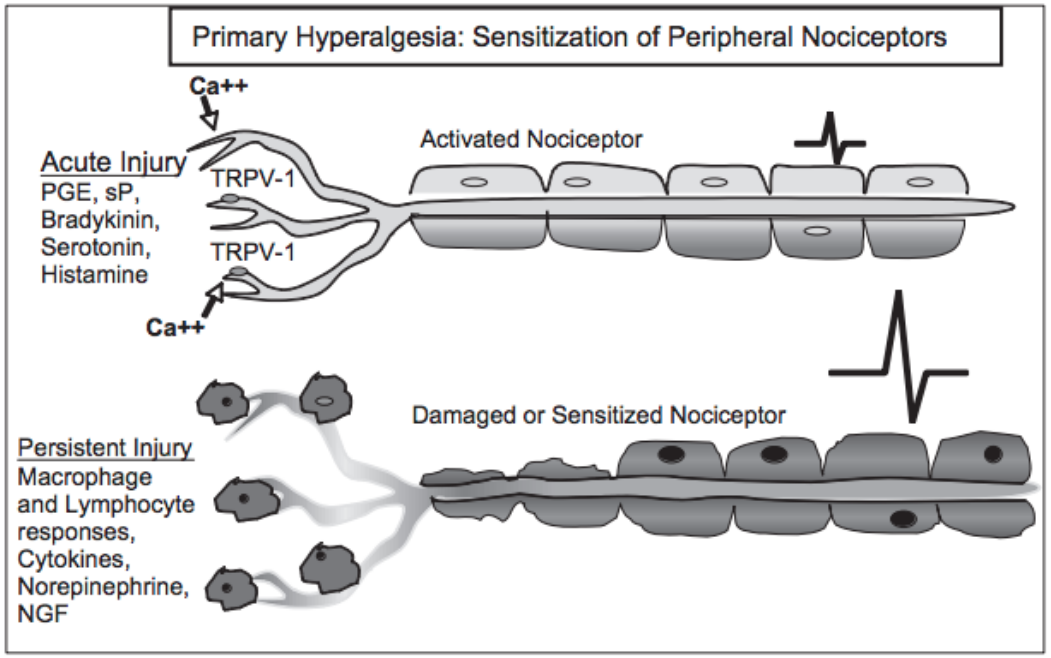
Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Peripheral sensitization (primary hyperaglesia)

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

- hyperagesia



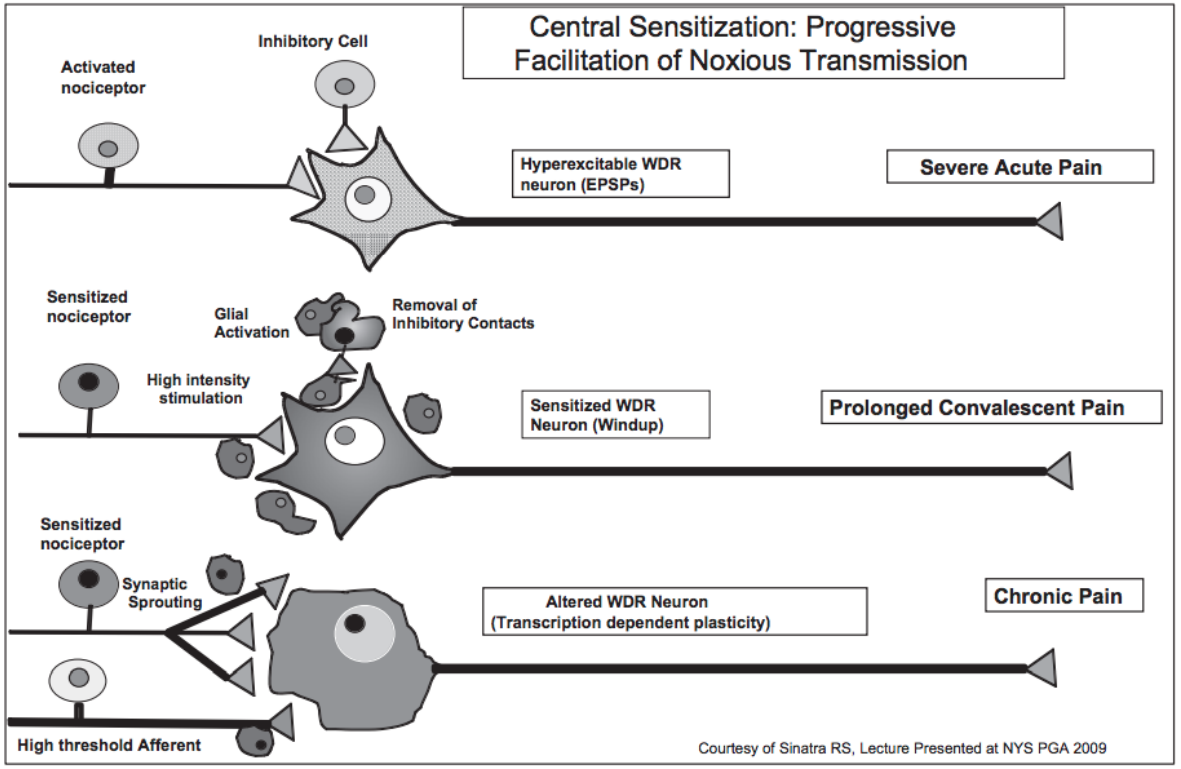
McClain (2010). Primary and secondary hyperalgesia. In Sinatra, Jahr & Watkins-Pitchford (Eds.), The Essence of Analgesia and Analgesics, Cambridge: Cambridge University Press.

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Central sensitization (secondary hyperagesia)

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



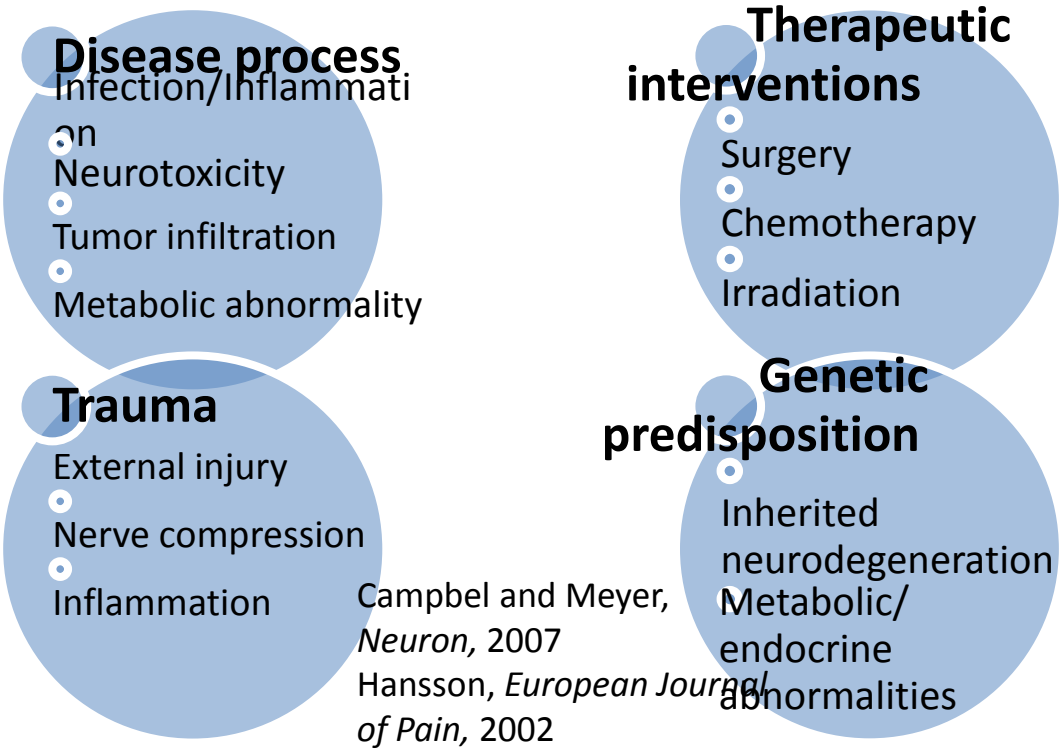
McClain (2010). Primary and secondary hyperalgesia. In Sinatra, Jahr & Watkins-Pitchford (Eds.), The Essence of Analgesia and Analgesics, Cambridge: Cambridge University Press.

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Neuropathic pain

LESION INVOLVES NOCICEPTIVE PATHWAY!



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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

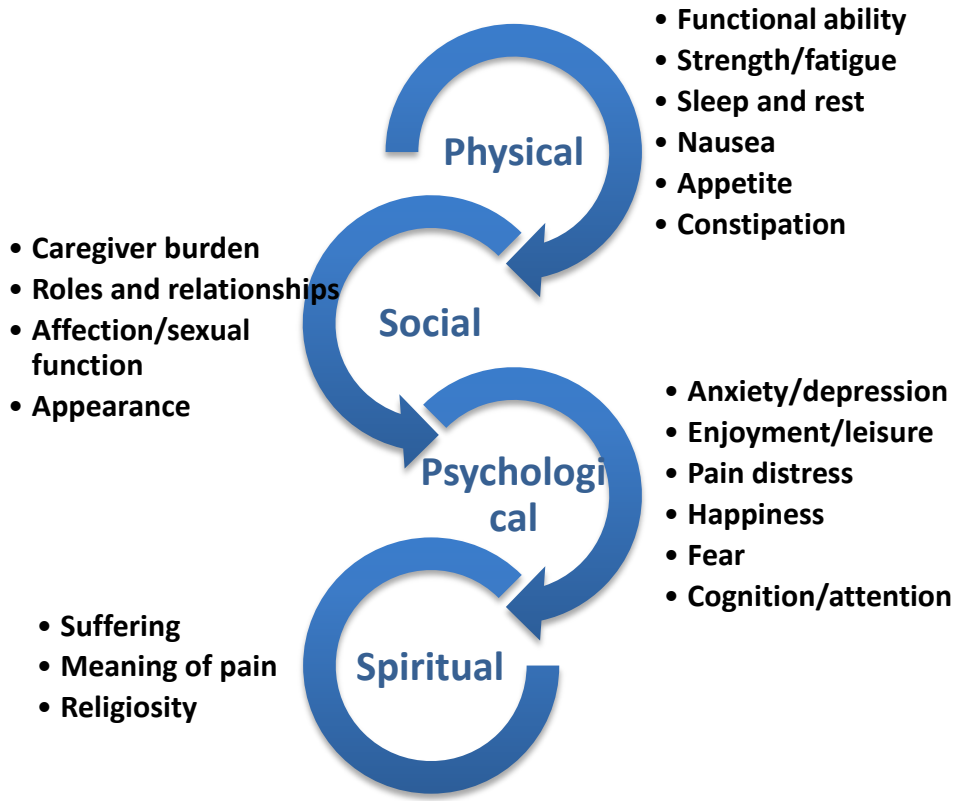
Neuropathic pain

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Impact of pain on the quality of life



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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

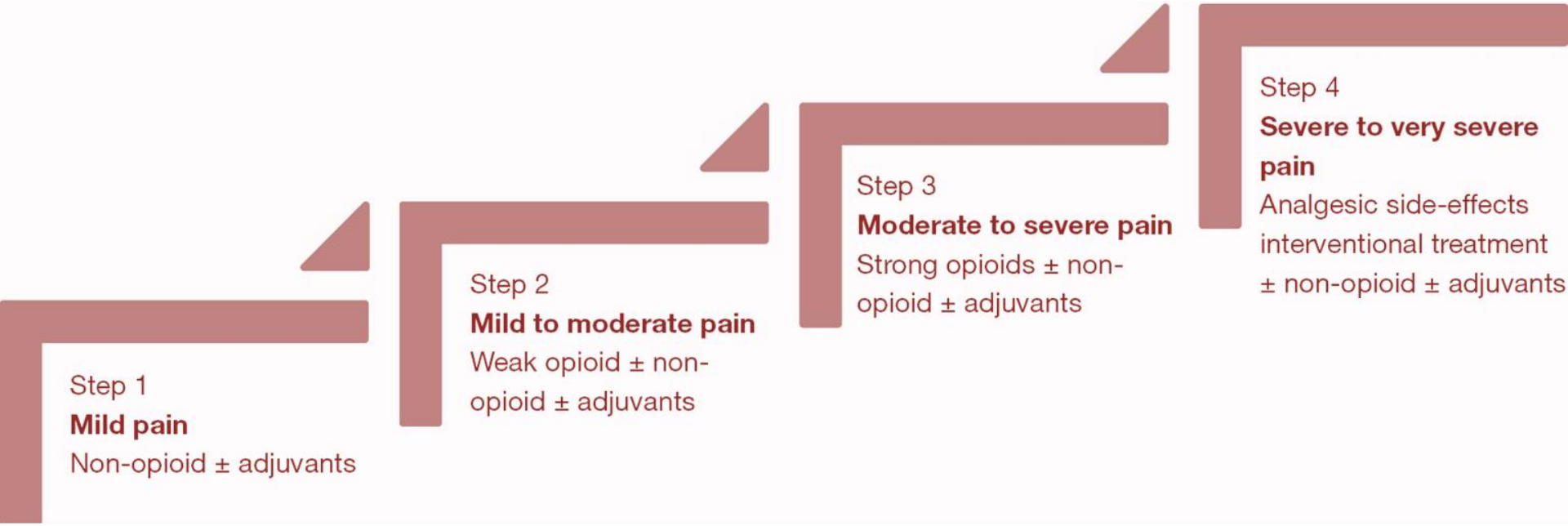
Pain management strategies

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Pain management strategies
PHARMACOLOGICAL – WHO ladder



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Adjuncts for pancreatic pain

- pancreatic enzymes supplements
- antioxidants
- octreotide

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

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)

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

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...

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

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

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

THANK YOU

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"