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# Nonpharmacological Pain Management During Screening Colonoscopy

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# Pain

- Culturally connected and assessed by human behaviour
  - a person's cultural background influences the expression and meaning of pain
- A physiologic response to tissue damage
- Includes emotional and behavioural responses based on individuals' past experiences and perceptions of pain
- Pain pathways are connected to the brain regions which control emotions (limbic system)
- Devor 2008, Jensen & Gebhart 2008, Loeser & Treede 2008, Im et al. 2007, Reyes-Gibby et al. 2007, Finnstrom & Soderhamn 2006, Davidhizar & Giger 2004.

The Figure 1 shows the complexities of defining procedural pain.

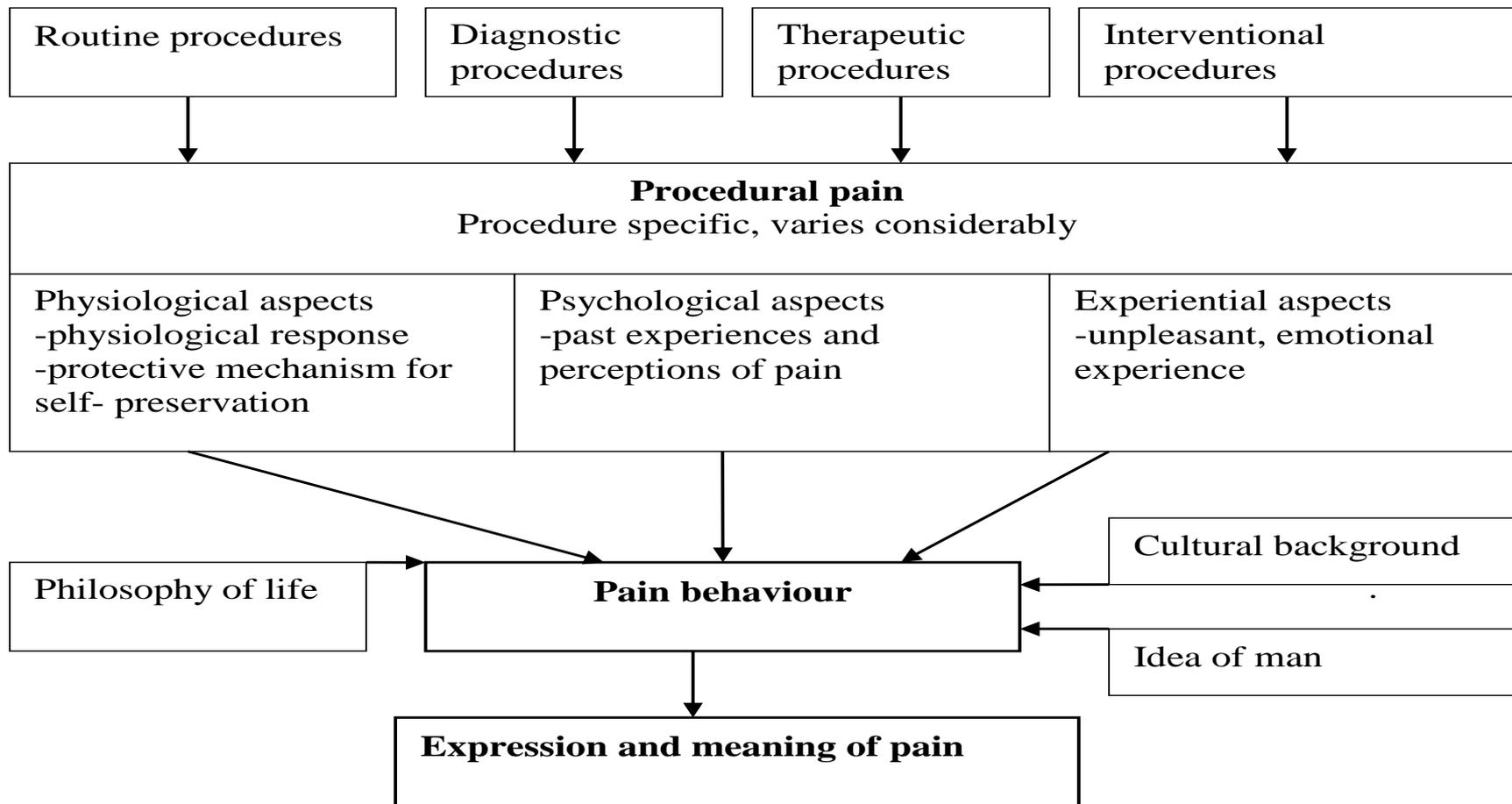


Figure1. The phenomenon of the procedural pain (IASP, Montes-Sandoval 1999, Davidhizar & Giger 2004, Finnstrom & Soderhamn 2006, Siffleet et al. 2007, Im et al. 2007, Reyes-Gibby et al. 2007, Pesut & McDonald 2007, Arroyo-Novoa et al. 2008, Devor 2008, Jensen & Gebhart 2008, Loeser & Treede 2008, Rawe et al. 2009, Liden et al. 2009)

- **The perception of pain**
  - the same between various racial and ethnic groups
- **The pain thresholds and/or tolerance**
- may differ because of genetics
- and according to
  - social and cultural background
  - ethnicity and sex
  - emotional and psychological state
  - memories of past pain experiences
  - beliefs and values
- The same person can sense the pain differently at different times
- Loeser 2000, Bonham 2001

# Colonoscopy

- better tolerated by old subjects than young
- technically more difficult and less tolerated by women
  - females tend to have an inherently longer colon, which may predispose the colonoscope to painful looping
- Holme et.al. 2013, Benjamin 2007, Takahashi et al. 2005, Waye 2004, Froehlich 2003, Thiis-Evensen et al. 2000, Ristikankare 2000.

# Maneuvers

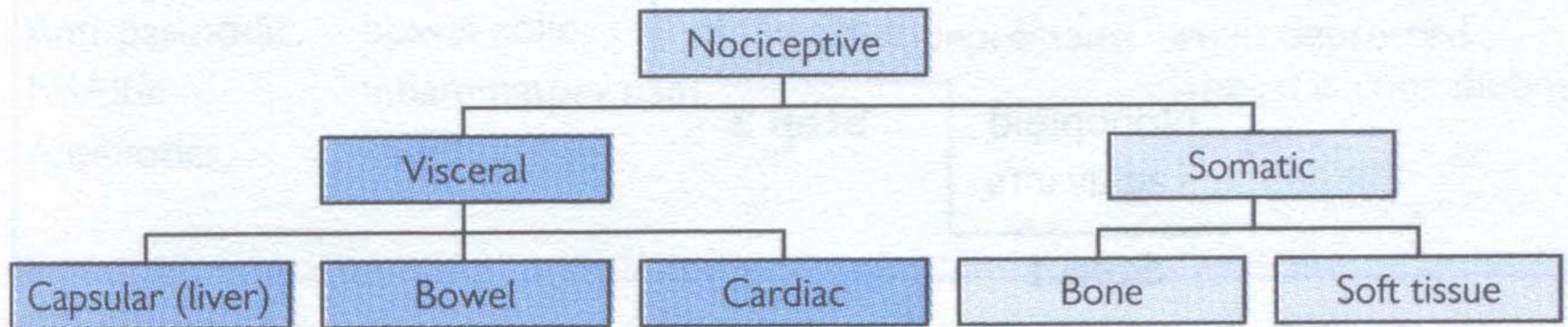
- **Loop reduction is an essential technique to**
  - improve complete and successful colonoscopy
  - reduce discomfort and increase success
  - could lead to a better tolerated endoscopy
  - takes little extra time to avoid looping of the scope
- **Patient repositioning**
- **Application of abdominal pressure**
- Holme et.al. 2013, Benjamin 2007, Takahashi et al. 2005, Waye 2004, Froehlich 2003, Thiis-Evensen et al. 2000, Ristikankare 2000.

# Medication free-colonoscopy

- common practice in Finland
- medication is available if necessary
  - the patient is very anxious before the procedure
  - when pain emerges regardless of loop reduction, reducing bowel air or medication-free interventions
- in most European countries and in the United States sedatives and pain medication are routinely administered by
  - physicians, nurses or patients themselves

# Colonoscopy pain

- **visceral pain**
- resulting from the activation of sensory afferent nerves that innervate intestines



**Fig. 6a.2** Nocioceptive pain

Watson M, Lucas C, Hoy A, Back I (eds.). Oxford Handbook of Palliative Care, Oxford University Press 2005, p. 179.

# Visceral pain differs from somatic pain

- unformed
- diffused
- difficult to localise
- frequently referred to other intact tissues
- autonomous and motor components are features of it
  - e.g. pallor, sweating, bradycardia, dizziness, hypotension, nausea, fainting

# Pre-procedural risk factors for patient pain

- female gender(more painful, more difficult)
- younger age
- low body mass index
- pelvic operations, previous abdominal surgery
- abdominal pain as indication for colonoscopy
- Diarrhoea
- a history of diverticulitis
- first time colonoscopy/previous painful colonoscopy
- anxiety and nervousness
- May predict colonoscopy patients' pain and difficulty of intubation
- For male patients, the presence of multiple risk > sedation?
- Holme et al. 2013, Ylinen et al 2010, Chung et al. 2007, Park et al. 2007

# In my study

- Patients with **previous pain experience** evaluated colonoscopy as more difficult and painful than patients without previous pain experience.
- **Women** experienced more anxiety than men and they also reported more pain and discomfort than men.
- **The degree of patient's nervousness** was the major factor leading to patients' pain during colonoscopy

# Patient quality indicators for colonoscopy service/Patients' attitudes to their colonoscopy experience

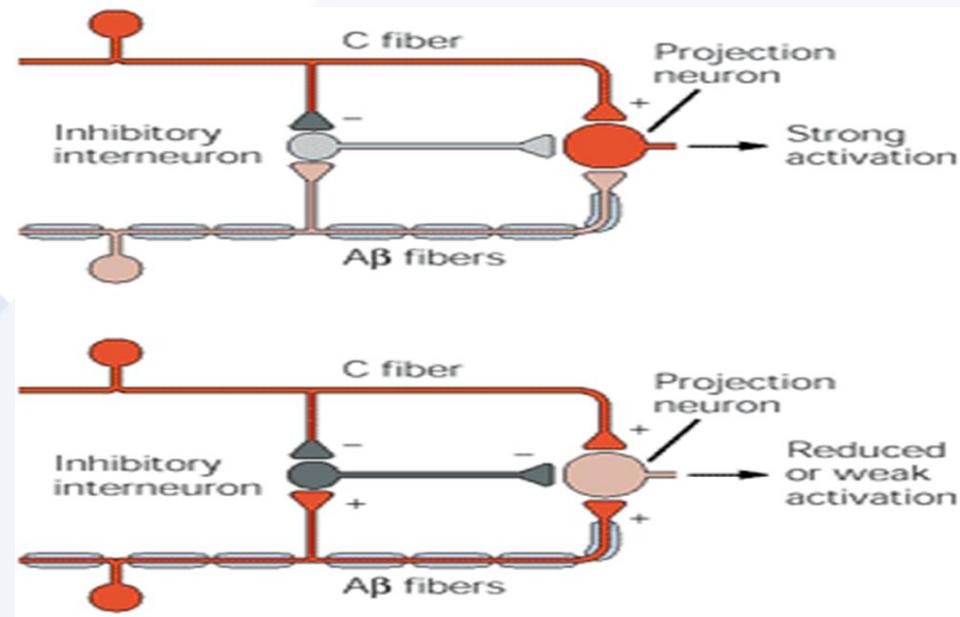
- **Endoscopy unit staff** (friendliness, personal manner, technical skills)
- **Facility environment**
- **Comfort and absence of embarrassment**
- **Short wait times and prompt access to endoscopy**
- **Painless, non-Anxiety**
- **Patient-physician communication**(adequate discussion)about
  - procedure
  - preliminary results
  - with enthusiasm
- McEntire, Sahota, Hydes & Trebble 2013, Sewitch, Gong, Dube, Barkun , Hilsden & Armstrong 2011, de Jong et al 2010, Maslekar et al 2010, Ko et al 2009, Scotto et al 2009, Denis et al 2009, Yacavone et al 2001, Schoen et al.2000

# Pain assessment

- It seems that both physicians and nurses assess pain inadequately
- Ylinen et al.2009, Wilson 2009, van Herk 2009, Lauzon Clabo 2008, Jacobsen et al. 2007,Heins et al. 2006.

# Nonpharmacological interventions

- has its basis in pain mechanism
- thought to be explained through the gate control theory of pain
- Melzack & Wall 1993



# Nonpharmacological interventions

- Methods designed to relieve pain without medication
- They can
  - reduce the emotional components of pain
  - give patients a sense of control over the situation
  - make pain more tolerable

# Nonpharmacological interventions

- Muscle relaxation
- Breathing techniques
- Relaxed posture to patients
- Massage (may lower blood pressure and pulse)
- Listening to music (reduces the patients' anxiety, improves patients' overall experience )
- Stimulation of sense of seeing and hearing (can decrease unpleasant feelings in the abdomen)
- Patient education and guidance (can decrease patients' anxiety and depression before procedures )
- Martindale, Mikocka-Walus, Walus, Keage & Andrews 2014, Bechtold et al 2009, Bytzer & Lindeberg 2007, Lang et al. 2005, Olney 2005, Cooke et al. 2005, Schaffer & Yucha 2004, Hayes et al. 2003, Hayes et al. 2003, , Lee et al. 2002, Allen et al. 2001, Chlan et al. 2000 , Salmore & Nelson 2000, Lembo et al. 1998 , Andrewes et al. 1999.

# Nurses' nonpharmacological interventions to manage pain

According to both female and male patients, both  
anxious and non-anxious patients

- the nurses' peaceful talk to distract the patient's thoughts away from the pain
- explanation of the reason for pain
- their guidance(explanation of the meaning of the patient's symptoms, the cause of pain
- forewarning of upcoming pain during the examination

**Helped**

Ylinen et. al 2009

# Conclusion

- It is important to recognise
  - patients' anxiety
  - gender differences
  - other pre-procedural risk factors for patient pain
- when preparing them for colonoscopy
- It is important to properly select and present patients for a sedation-free colonoscopy, although the practice is acceptable for most colonoscopy patients

# Endoscopy staff

- Be more aware of the positive effects of nonpharmacological interventions
- Acquire knowledge
- Develop these interventions as a part of colonoscopy patients' pain management



 **HVALA !**

 **KIITOS!**

**THANK YOU!**

# Veseli božič in srečno novo leto

