

Pain management

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Definition

“An unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage”.

Merskey 1967, WHO, IASP

**„Pain is, what patient feels,
when he says, that he feels
pain “**

Margo Mc. Caffery

„Pain is.“

Wall

CENTRUM PRO LÉČBU BOLESTI



Pain management centre

- Algeziologist 2 x 1,0 working load
- Nurse 4 x 1,0
- attendant 1 x 0,5
- Psychologist 1 x 1,0
- Psychiatrist 1 x 0,2

- Neurologist 1 x 0,5









Patophysiology of pain

- Nociceptors, polymodal nocisensors
- C fibre nociceptors
- A fibre nociceptors
- Posterior horns of spinal cord
- Tractus spinothalamicus, spino-bulbo thalamicus, spinoreticularis
- Brain pain centers (gyrus precentralis....)
- Supressive mechanisms (GABA, opioids..)

Pain - division

- Acute pain x chronic pain
- Nociceptive pain x neuropathic pain
- Psychogenic pain
- Malignant pain x non-malignant pain

Acute pain

- Useful pain, physiologic pain
- AP is symptom of disease
- Fulfill basic role of pain – protect organism against injury, disease ...
- Short duration – hours, days.. max 3 months
- Duration of acute pain is adequate to causality of this pain
- Sharp, itching, localized pain,
- Localization is the same as causality
- Stimulation of sympathetic syst.
- Main risk of AP is its chronification

Chronic pain

- CHP is syndrome , disease
- Long duration – more than 3 months
- Usually connected with depression
- Parasympathetic stimulation
- constipation
- Social isolation

Neuropathic pain

- *cause:* dysfunction of nerve systems (peripheral, central, vegetative).
- *types:* periferní (peripheral nerves, nerve roots) Trigeminal neuralgia, post herpetic neuralgia, centrální (braine, spine) cental post stroke pain
- *Character:* stabile pain, paroxysmal pain with intensive pain atacks, alodynia) triheminal neuralgie, postherpetic

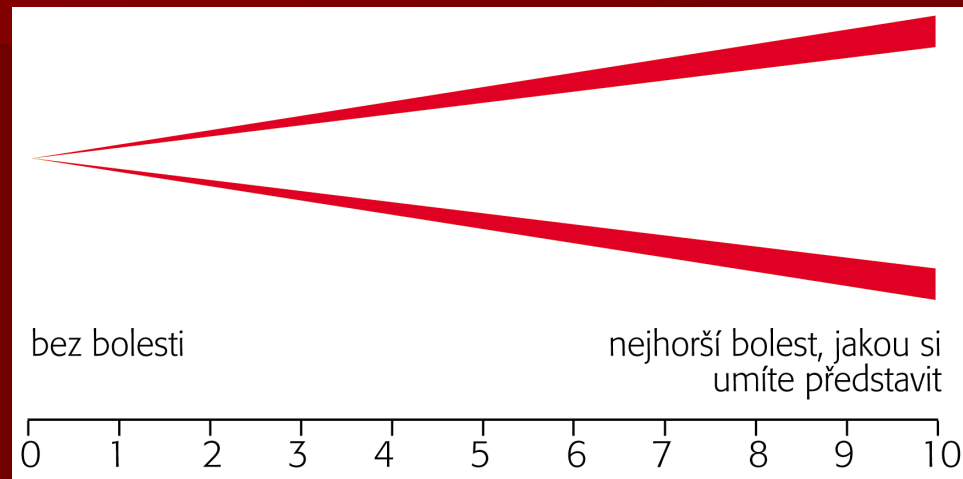
Nociceptive pain

- *Cause:* stimulation of nociceptors
- *Types:* somatic (muscles, skin, articulations)
visceral (inner organs)
- *Character:* somatic pain is good localized, sharp.
Visceral: dull and difficult for localization, sometimes referred pain.

Pain - division

- *Mixed pain* – pain contained nociceptive and neurophatic type of pain (FBSS).
- *Psychogenic pain*

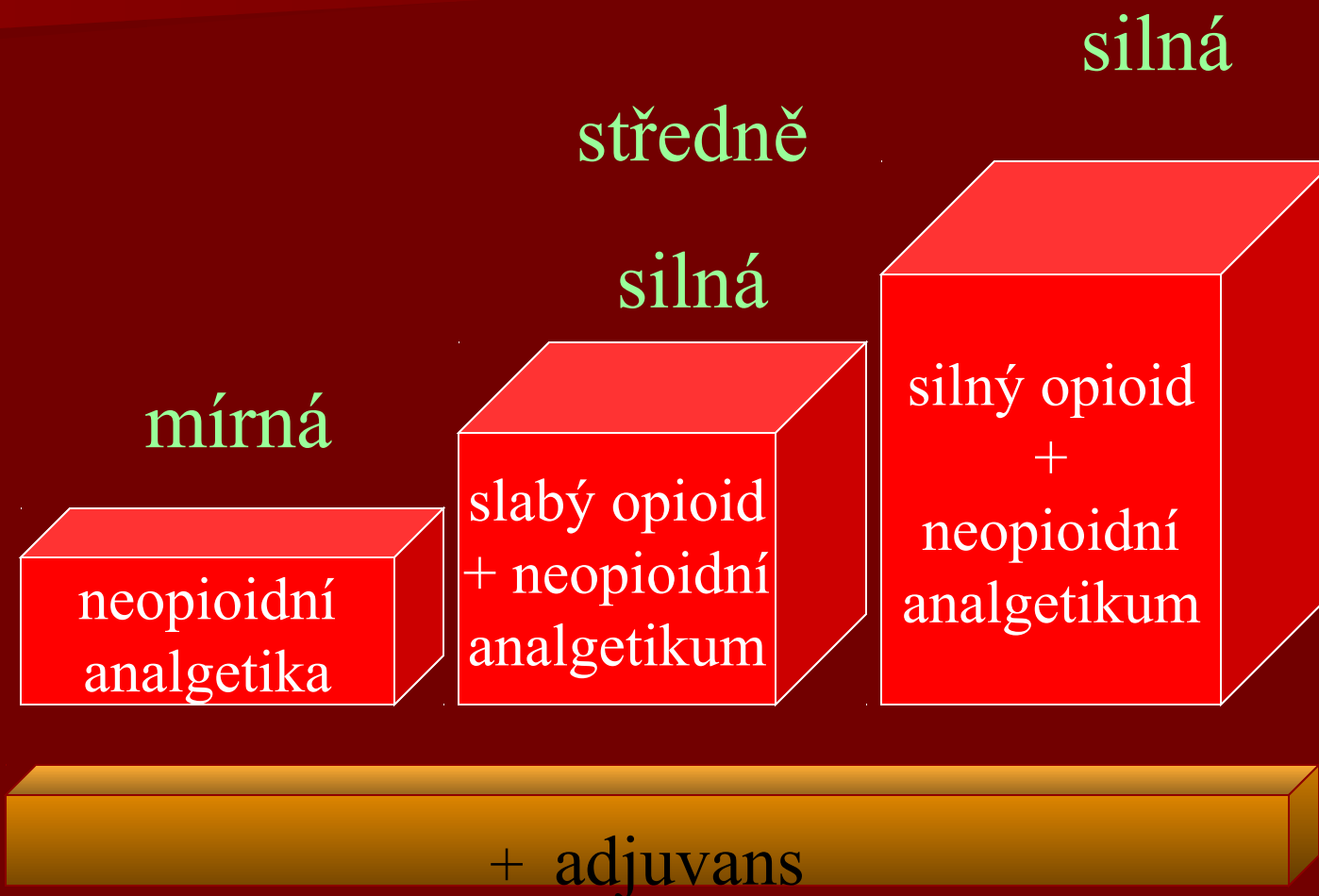
Pain measurement - VAS



Possibilities of pain treatment

- Pharmacotherapy
- Physical treatment and rehabilitation
- Psychotherapy
- Invasive pain treatment methods
- „Alternative“ treatment approaches (homeopathy, acupuncture)

WHO leader of pain treatment



Analgetic of the I step of WHO leader

Analgetic - antipyretic:

- paracetamol, ASA, pyrazolony

NSA (non steroid antiphlogistic):

non selective COX inhibitors

- ibuprofen, diclofenac, naproxen, indometacin

COX II preference inhibitors

- nimesulid, meloxicam

COX II selective inhibitors

- celecoxib, parecoxib (Dynastat), valdecoxib (Arcoxia)

Mechanism of action of NSA

Kyselina arachidonová

Cyklooxygenáza

NSA



Prostaglandiny

Podpora ledvinných a
destičkových funkcí

Ochrana
žaludeční sliznice

Zánětlivá reakce a
bolest

Protizánětlivý účinek
Analgetický účinek
Nežádoucí účinky v
žaludku, ledvinách a
při srážení krve

Analgetic of the II step of WHO leader

- codein do 240 mg/d
- tramadol do 400 - 600 mg/d
- dihydrokodein (DHC) do 240mg/d

Oxfordská liga analgetik

<http://www.jr2.ox.ac.uk/bandolier/booth/painpag/Acutrev/Analgesics/Leagtab.html>

Tramadol

- Number of application forms
- Dual effect – serotonin inhib, opioid agonist.
- Very good analgetic effect in nociceptive and neuropathic pain
- Low occurrence of AE
- Long time experience (1956)

Analgetic of the III step of WHO leader

- morphin SR
- fentanyl
- oxykodon
- morphin IR
- buprenorphin
- hydromorfon

The most frequent mistakes in chronic pain treatment

- Doctors don't use advantageous combinations of different analgetics groups (opioids+ NSA, NSA+paracetamol)
- In case of increasing analgetic combinations (step up on the WHO ladder) change non opioid remedy to weak opioid – instead to **add** weak opioid
- Dosage of drug inappropriate to pharmacokinetics of drug (tramadol 50 mg twice daily – but effect of 1 cps is only 8 hours)
- Insufficient dosage of opioid, they are untimely changed
- Combinations of different NSA (indometacin supp + ibuprofen)
- Untimely canceling treatment due to AE, opioids related AE disappear during 2 weeks (exclude constipation)

Occurrence of AE is reason for its treatment – no canceling

Invasive Pain treatment - indications

- In case of leak of effect of pharmacotherapy
- Pharmacotherapy with severe adverse event
- Supplement of Pharmacotherapy

Types of blockades

- Reversible x irreversible
- Vegetative x somatic
- single x repeated x continual
- Diagnostic x prognostic x therapeutic

Division of blockades due to localisation

- Local application of LA (reflexive blockades, trigger points, tender points, painful scars, intraraticular applications (SI? ...))
- Peripheral nerve blockades (axilar, and intercostal nerv block)
- Paravertebral blocks
- Central (spinal) block (epidural, subarachnoidal)

Epidural application of steroids

Indication

- Acute (days) and subacute (weeks up to 3-6 months) radicular pain (pain irradiating down leg) and caused by intervertebral disc herniation.
- CT exam.
- Patient is not indicated to back surgery

Breivik, Pain Digest 1999



Recommendation after a application

- 2 weeks of resting regime
- First improvement of pain during 2-3 weeks
- 4 weeks next visit in pain amb.
- From 6 th moth after appl. Started rehabilitation
- Recommended daily exercising (15-20 min) - improve body muscle unbalance

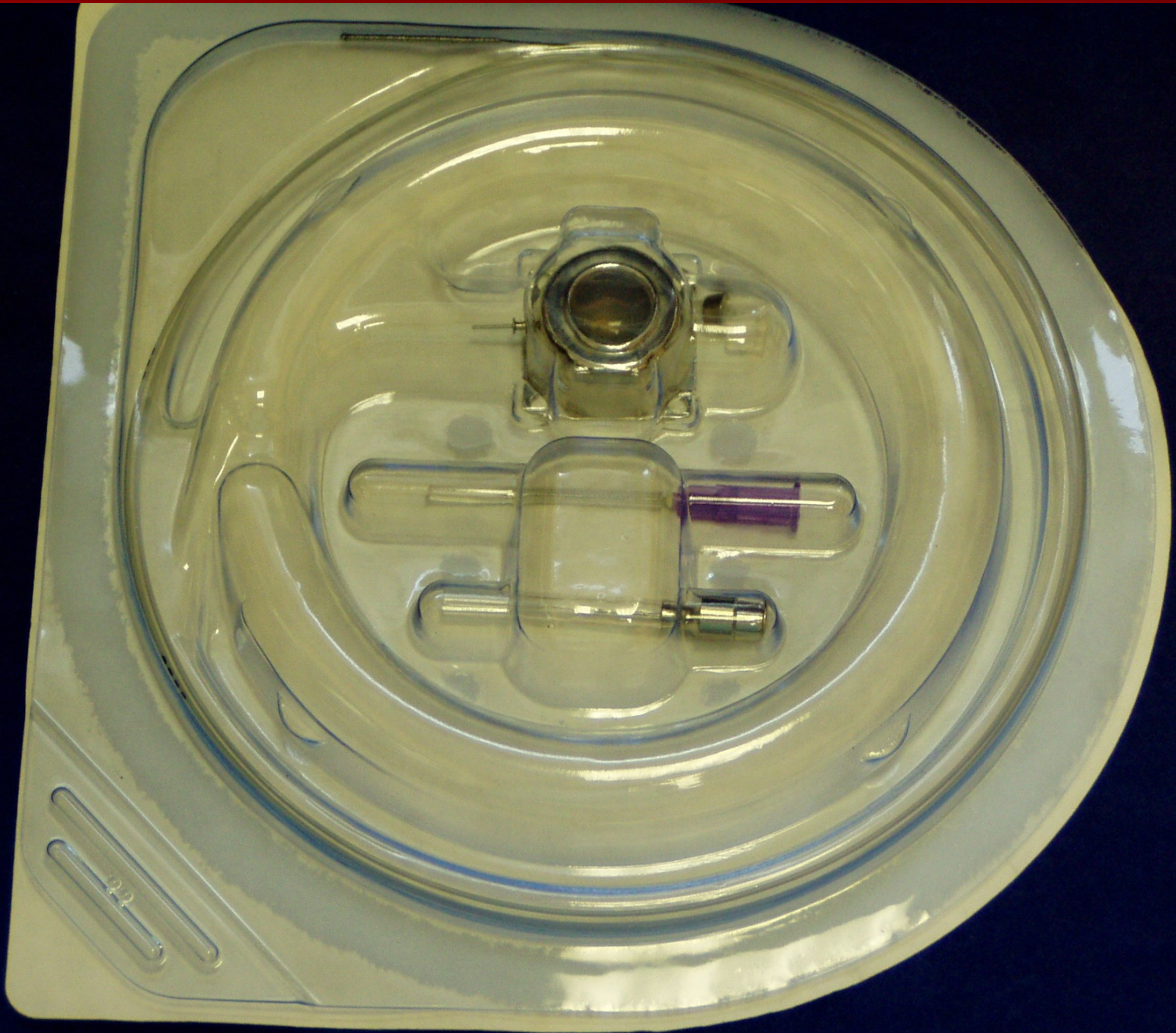
Subarachnoidal analgesia

- Single shot – before surgery – 24 hours post surgery analgesia
 - LA + morphin spinal 0,2-0,3 mg
- Subarachnoidal catheters
 - Spinocath
- Subarachnoidal ports



Subarachnoidal ports

- Treatment of chronic pain – months, years (FBSS. Cancer)
- Patient or his family training of applications
- Be prepare to solve complications of this treatment method (CNS infections, local infections, technical complications, withdrawal syndrome)

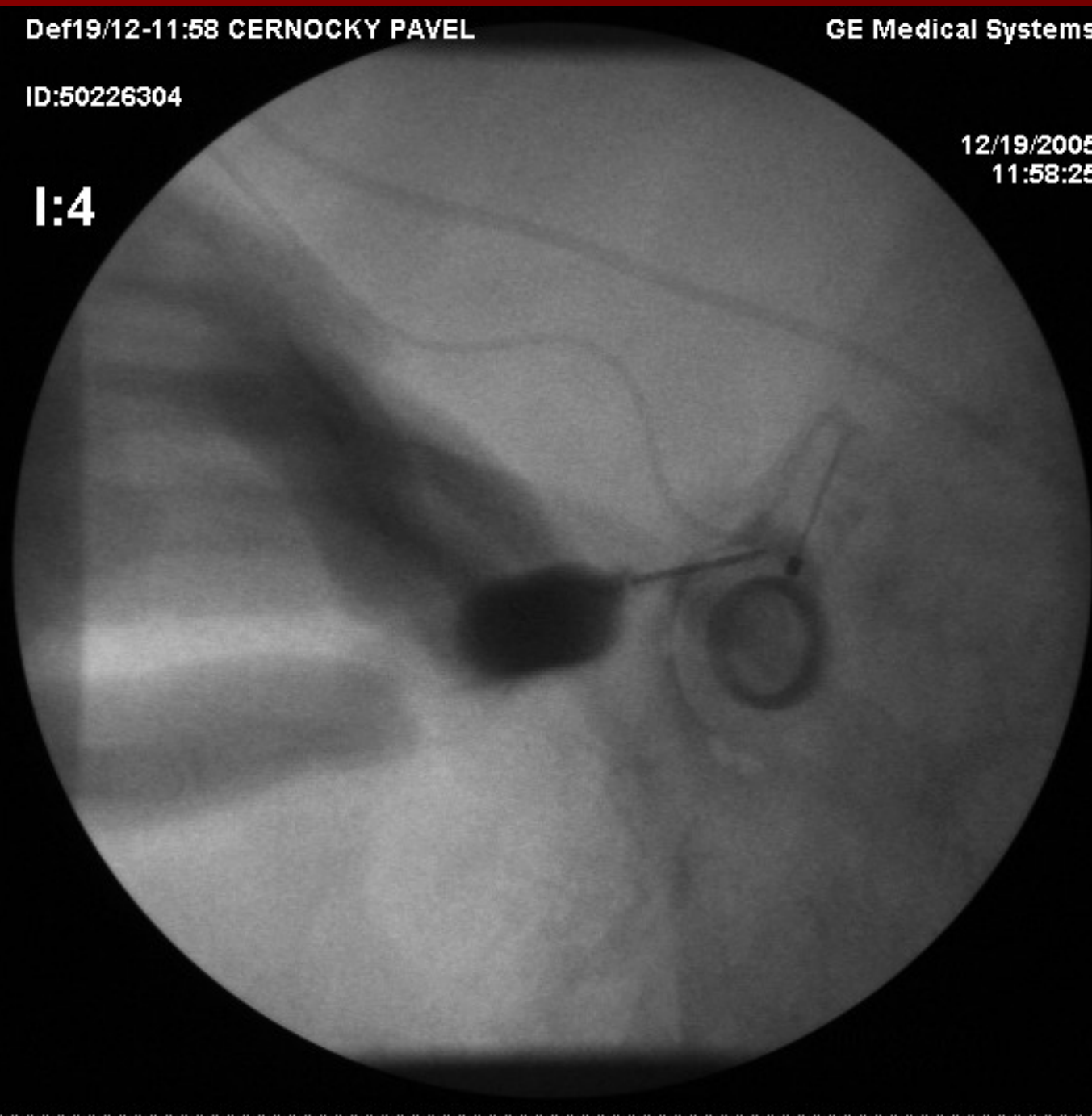




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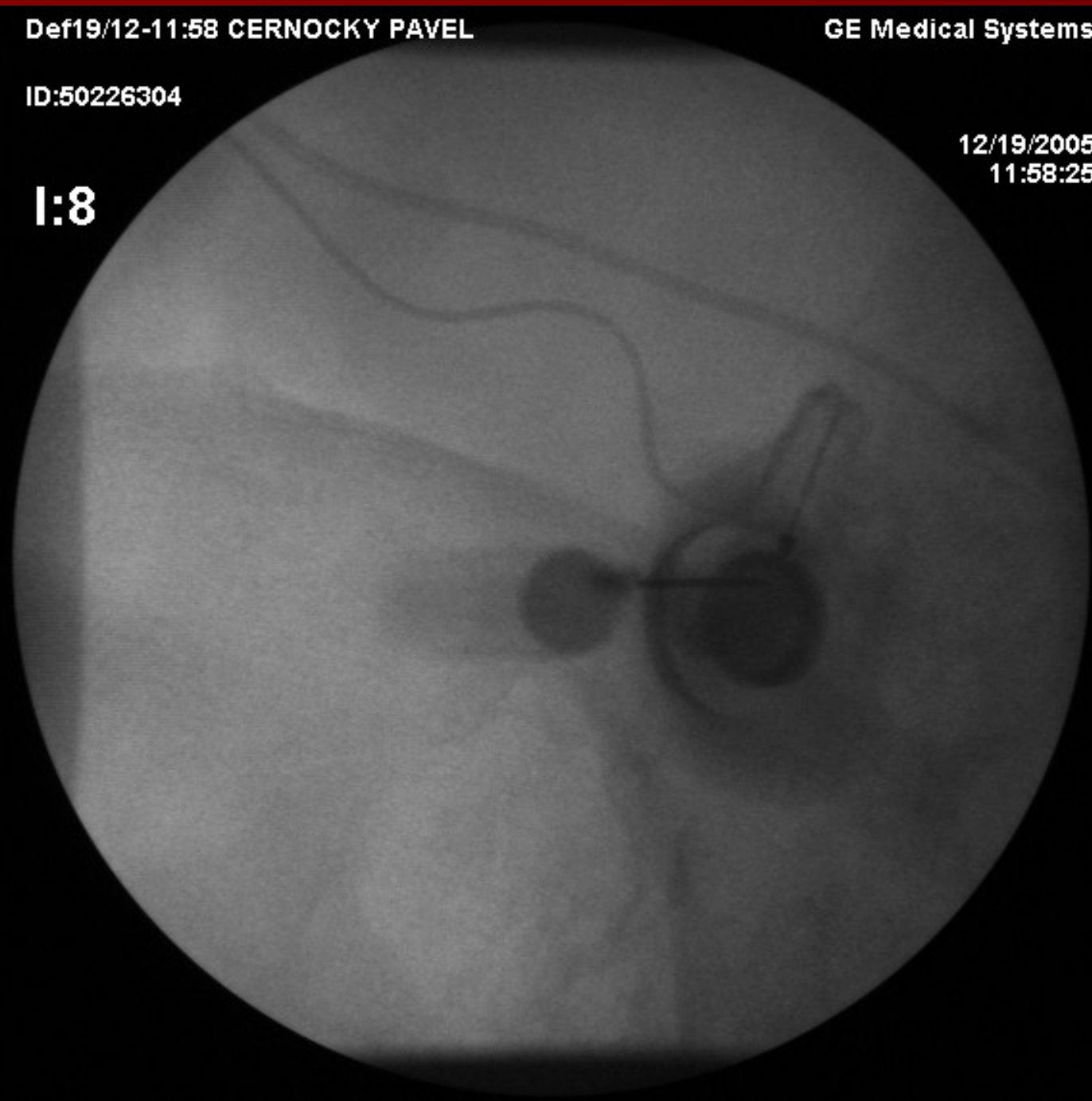
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Neuromodulation

Neuromodulations centres in CR

- FN Homolka
- FN Motol
- ÚVN Praha
- FN Olomouc
- FN Brno
- FN u sv. Anny v Brně



Necessary pre-implantation examinations

- Neurologic
- Psychologic !!!!
- Psychiatric
- Immunologic
- Ortopedic or neurosurgery
- Summary of health condition from GP
- Algeziologic exam
- Positive result of test period

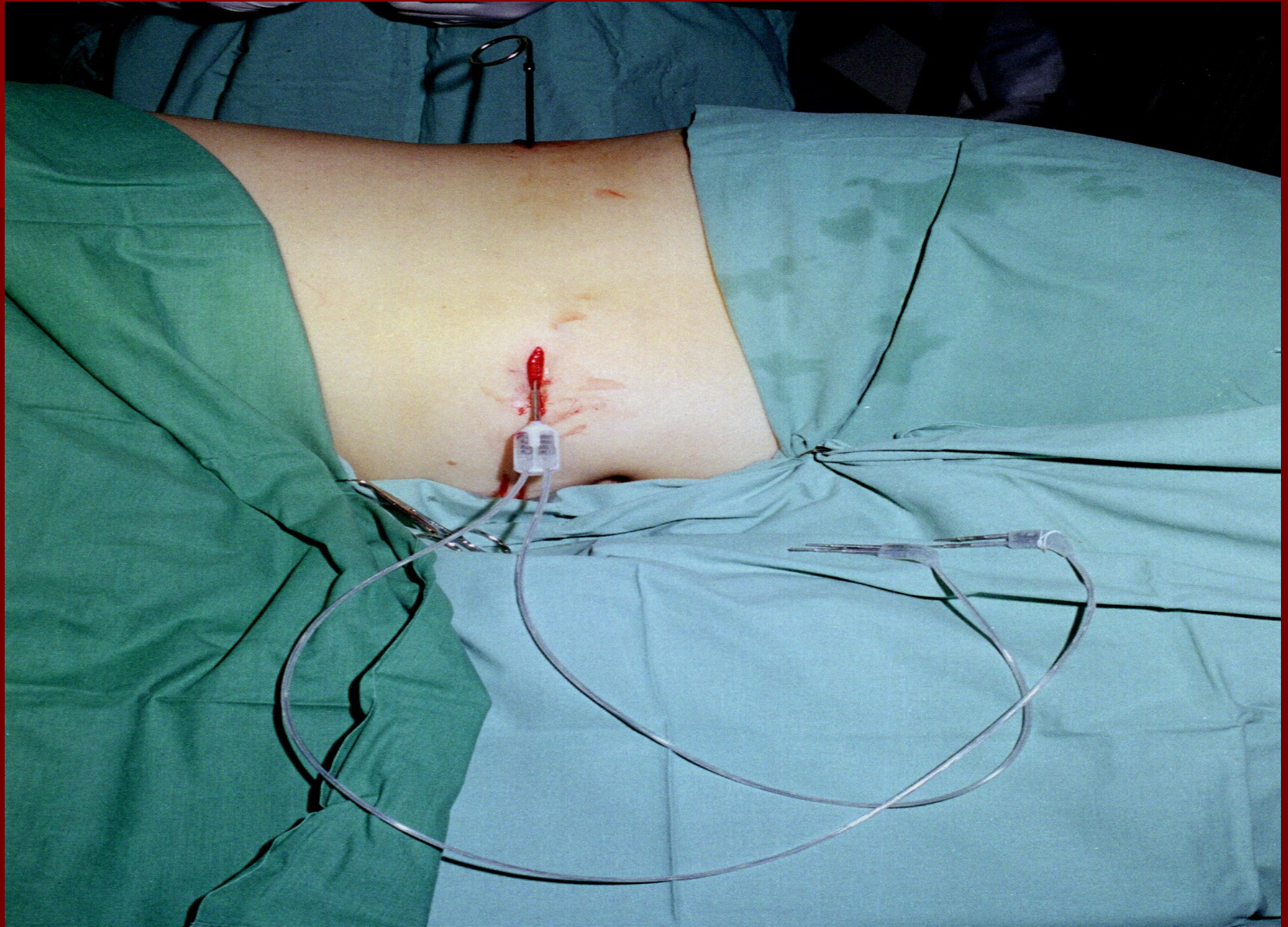
Indikacation

SCS – spinal cord stimulation

- Predominant neuropathic lower limb pain

Subarachnoidal pumps

- Predominant low back pain



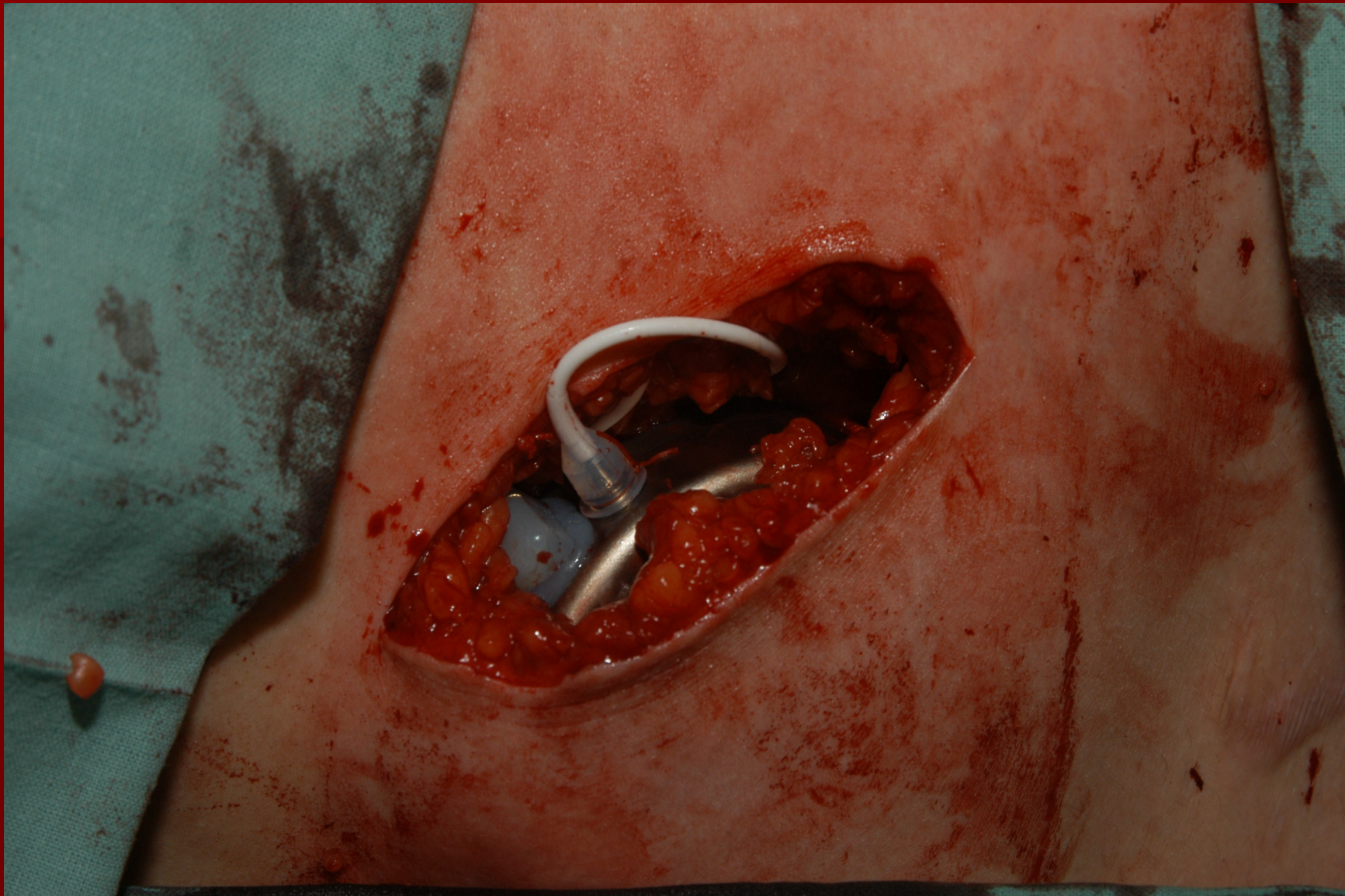
Subarachnoidal programmable pump – test period

- Insertion of subarachnoidal catheter
- Connecting of external programmable pump
- Setting of adequate mode for application
- 1 week in patient, 1 week out patient (better simulation of normal daily life of pat.)



11 4 2005







Sympathetic blocks

- Reversible
 - Lokální anaesthetic
- Irreversible
 - Etanol 50–80%
 - Fenol 6-8%

Ganglion stellatum – cervical sympathetic syst.

- Upper cervical ganglion (C2-C3)
- Middle cervical ganglion (C4-C6)
- Lower cervical ganglion, ggl. Stellatum (C7 -Th1)



C7, location of the stellate ganglion

Indication

- CRPS I. a II. Type (after surgery or injury, prolonged healling and edema, followed with muscle atrophy and articulation freezing
- Postherpetic neuralgia
- Phantom pain
- Morbus Paget
- Postirradiation neuritis
- Raynauld ´s didease



Therapy

- Series of 10 blocks, Marcain 0,25% 10- 15 ml
- Possibility of blockades of other nerves in this region (n. glossopharyngeus, n. recucurent – gulping disorder, huskiness)
- Presence of Horner ´s trias

Neurolysis of ggl. coeliacum

- Epigastrical pain
(painfull attacks in case of chronic pancreatitis, cancer of pancreas – very painful type of cancer)
- Blockade under CT controle

Thank you for your attention

www.pain.cz

www.poradna-bolesti.cz

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Děkuji za pozornost



www.pain.cz