UVM ECHO -- Chronic Pain

Facilitators:

- Mark Pasanen, MD
- Liz Cote

Faculty:

- Patti Fisher, MD
- Amanda Kennedy, PharmD
- Charles MacLean, MD
- Sanchit Maruti, MD
- Rich Pinckney, MD, MPH
- Carlos Pino, MD
- Jill Warrington, MD

Introduction to ZOOM

- Mute microphone when not speaking
  - If using phone for audio, please mute computer
  - If using phone,*6 is used to mute/unmute
- Position webcam effectively (and please enable video)
- Test both audio & video
- Use “chat” function for:
  - Attendance—type name and organization of each participant upon entry to each teleECHO session
  - Technical issues
- We need your input!
  - Use “raise hand” feature; the ECHO team will call on you
  - Please speak clearly

No Relevant Disclosures

Planners:

- Elizabeth Cote
- Joan Devine, BSN, RN
- Sarah Morgan, MD, Medical Director Planner
- Mark Pasanen, MD
- Charles MacLean, MD

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CME Disclosures

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- RECORDING OF SESSION TO BEGIN

Interventional Pain Medicine

Carlos A. Pino, MD, FASA
Professor of Anesthesiology and Pain Medicine
Director, Center for Pain Medicine
Robert Larner MD College of Medicine

Objectives

- Describe basic indications for interventional procedures
- Understand basic anatomy
- Understand differences between diagnostic and neurolytic nerve blocks

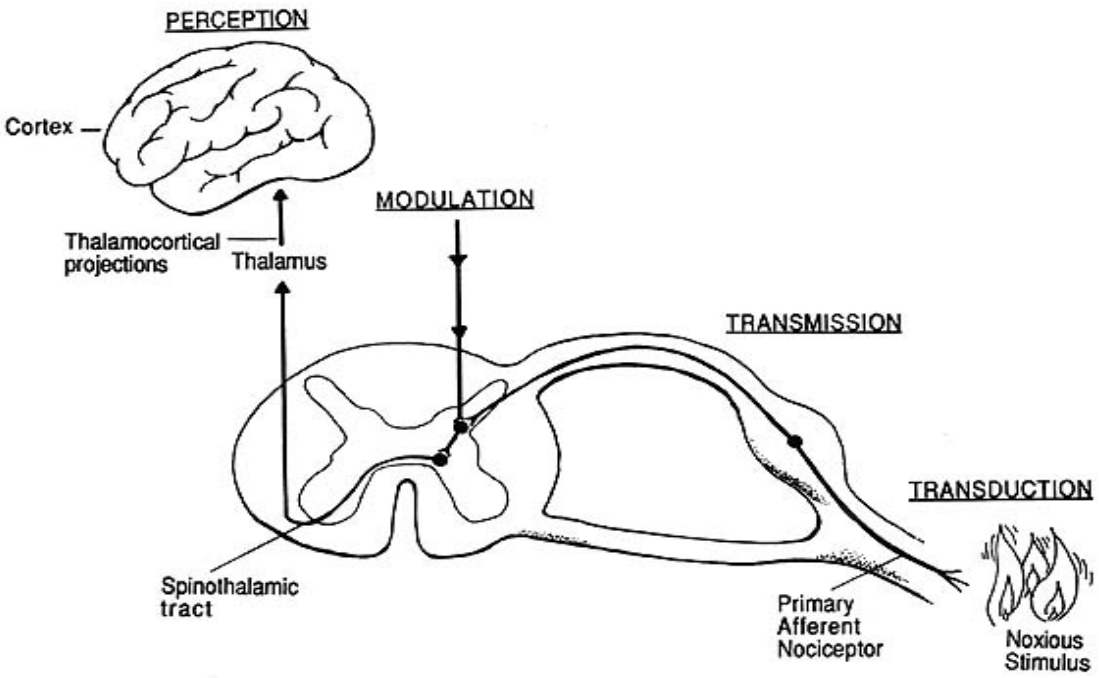
Treatment Options for Chronic Pain

- Pharmacologic
- Behavioral Medicine (CBT, biofeedback, relaxation therapy, counseling, etc.)
- Physical Medicine/Rehabilitation/OT (rehab, PT, chiro, exercise, yoga, massage, etc.)
- Interventional (nerve blocks, neurolysis, neuromodulation,etc.)
- Surgical
- Non-traditional (acupuncture, reiki, etc.)

Interventional Pain

- Complementary role
- Part of a multidisciplinary and integrative approach
- Inconsistent results (heterogeneous populations)
- Most nerves can be blocked, BUT not permanently
- Many procedures not covered by insurances
  - Cost to the patient

Nociception

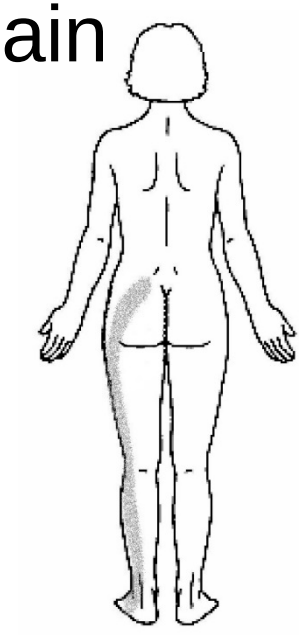


Overview of nociceptive pathways. From: Katz NL, Ferrante FM. Nociception. In: Ferrante FM, VadeBoncouer TR (eds), Postoperative Pain Management, 1993.

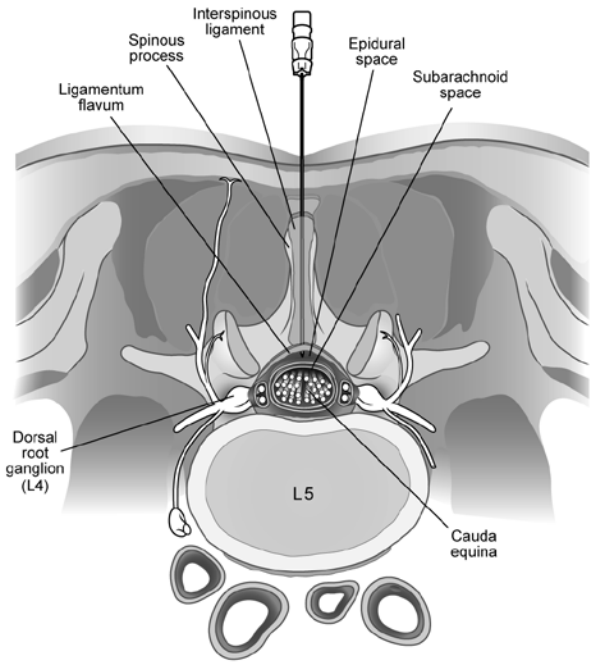
Nerve Blocks

- Block a specific nerve that needs to be identified (diagnostic)
- Local anesthetics of varying duration
- Steroids (anti-inflammatory effects & blunt c nociceptive fibers)
- Neurolytics (alcohol or phenol)
- Thermal neurolysis (RFA)
- Neuromodulation

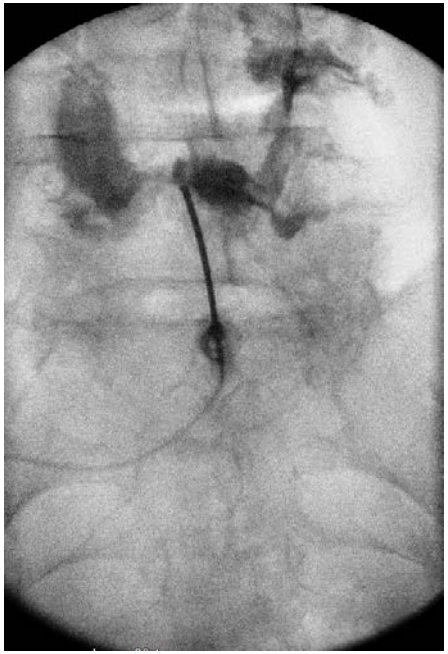
Radicular Pain

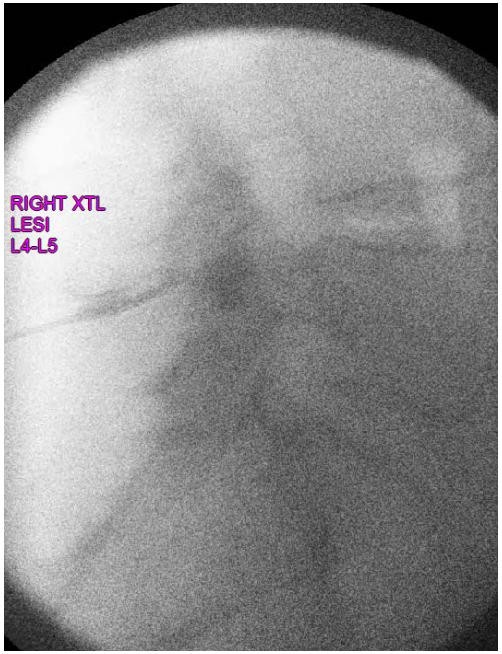


Lumbar epidural

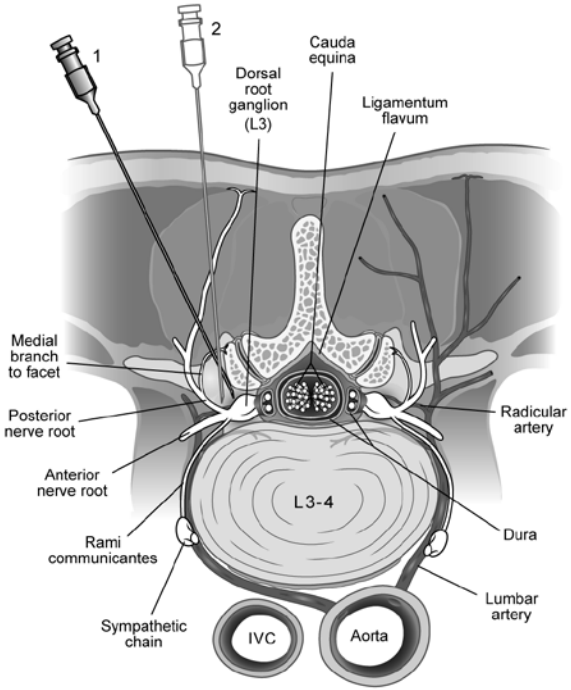


Lumbar Epidural Steroid Injection

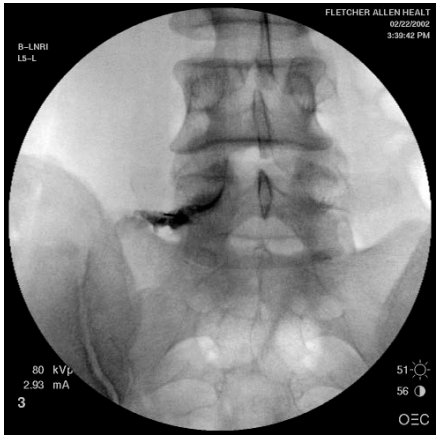




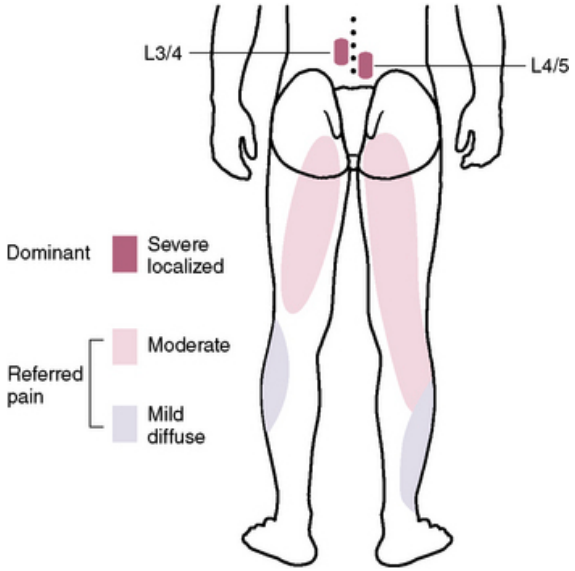
Transforaminal epidural

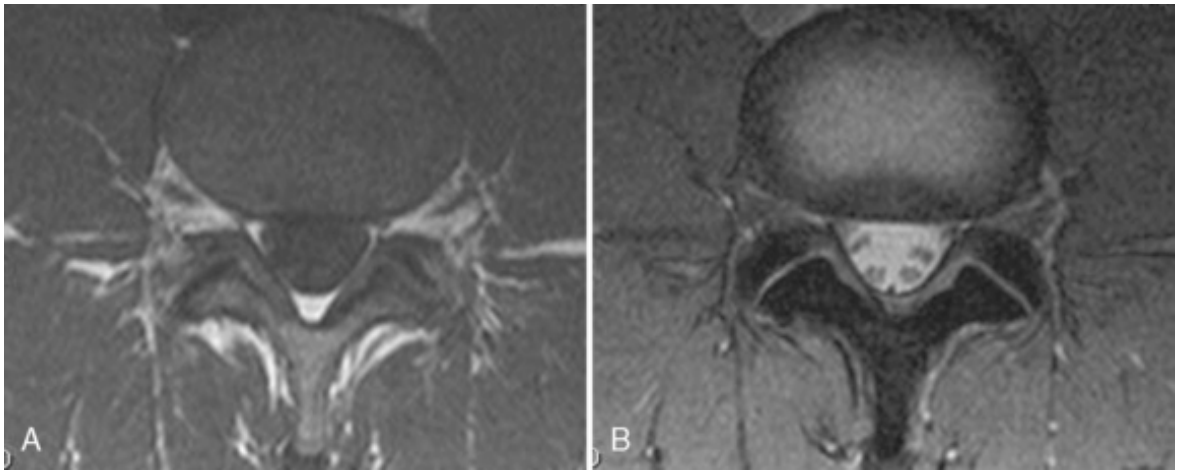


Transforaminal Injection of Steroids



Facet Pain

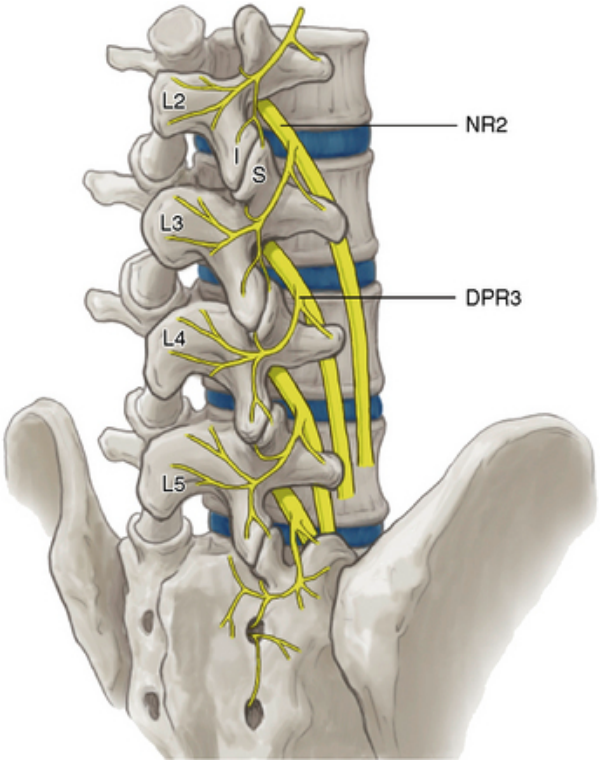

L3/4
L4/5
Dominant
Severe localized
Referred pain
Moderate
Mild diffuse


A
B

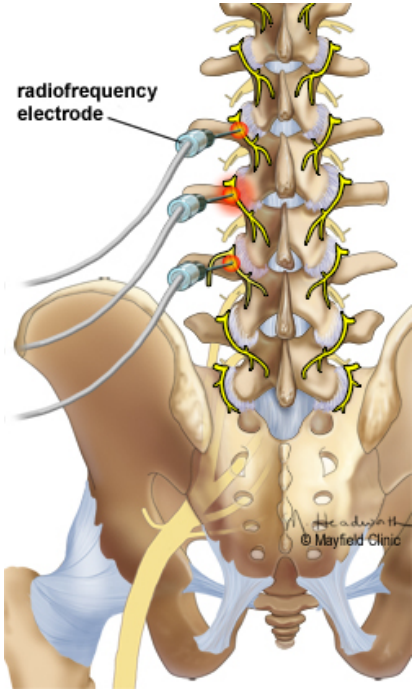
Neuromodulation

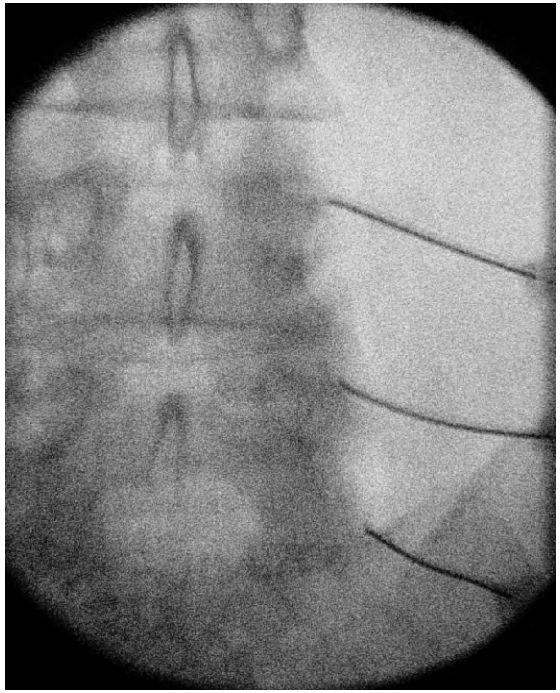
- Gate control theory
- External – TENS
  - High frequency vs. Low frequency vs. burst
- Internal/implantable
  - Central – deep brain stimulation
  - Spinal cord stimulation
  - Peripheral stimulation

Risks of Perineural Procedures

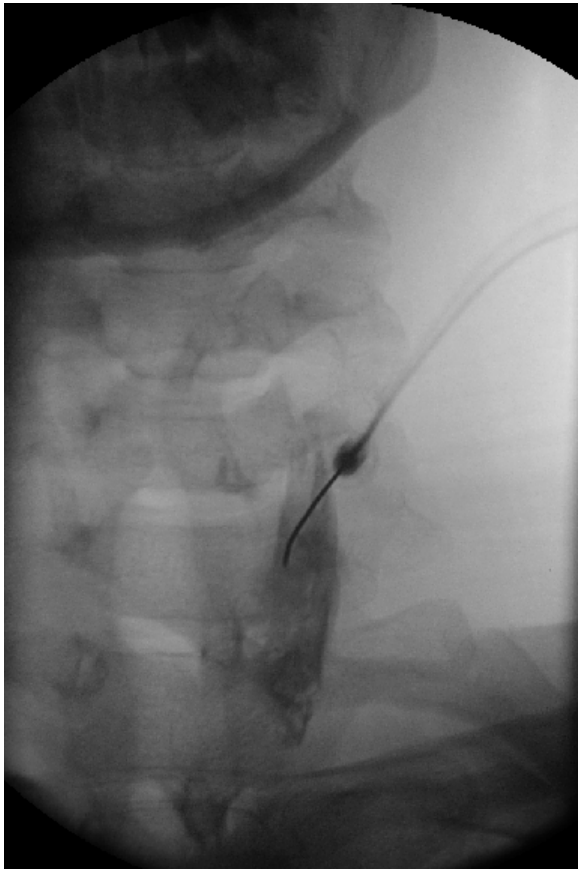


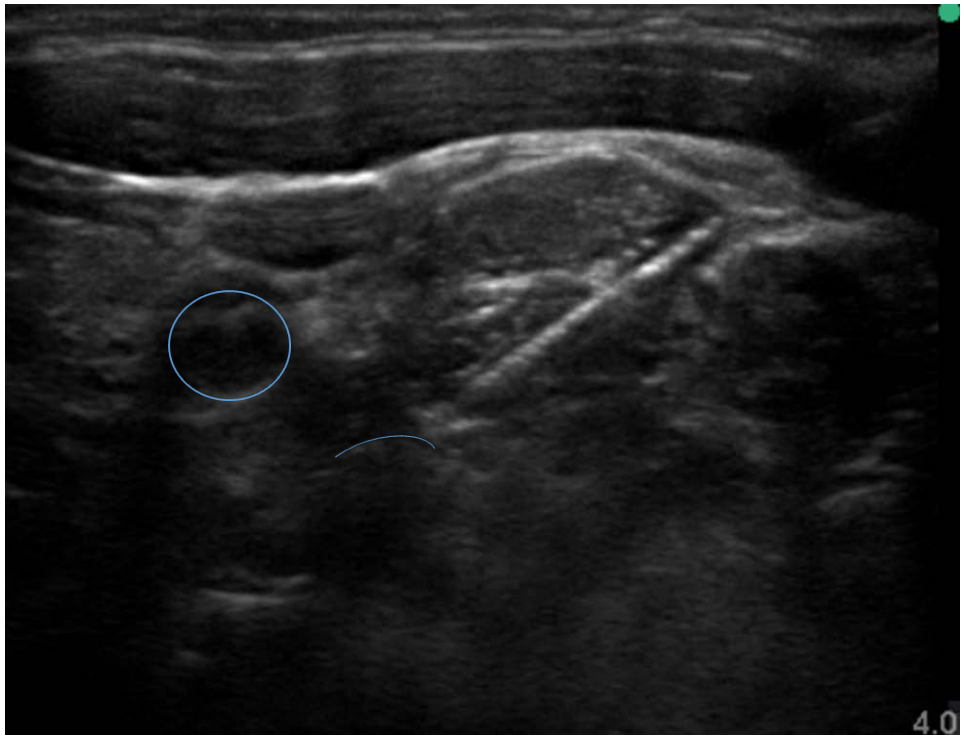
Radiofrequency Ablation





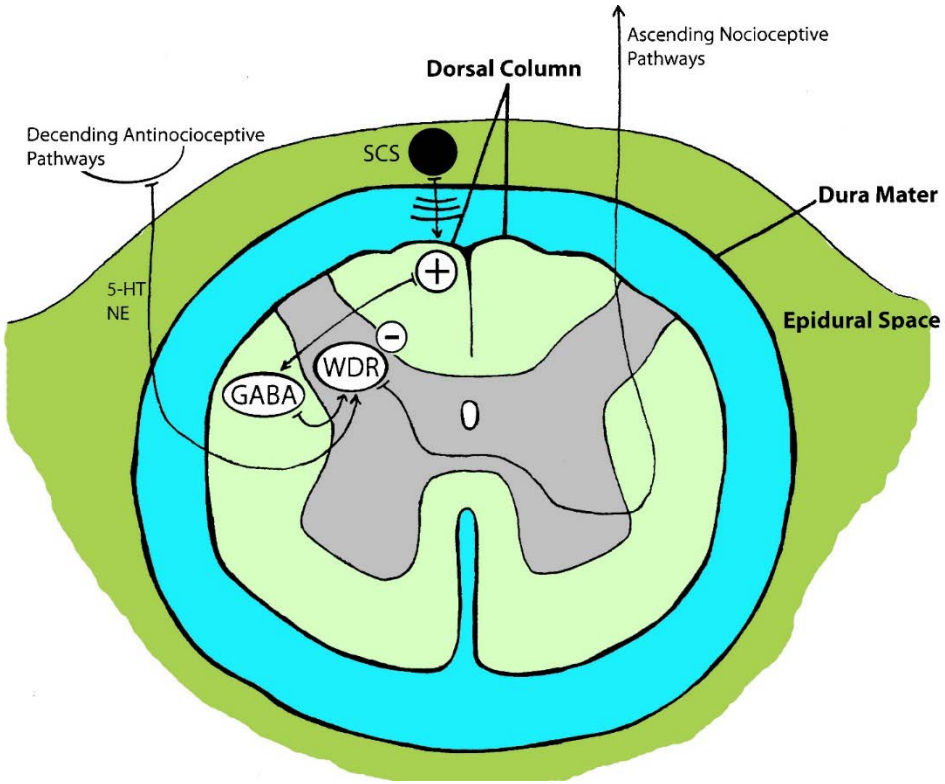
Left C7 Stellate



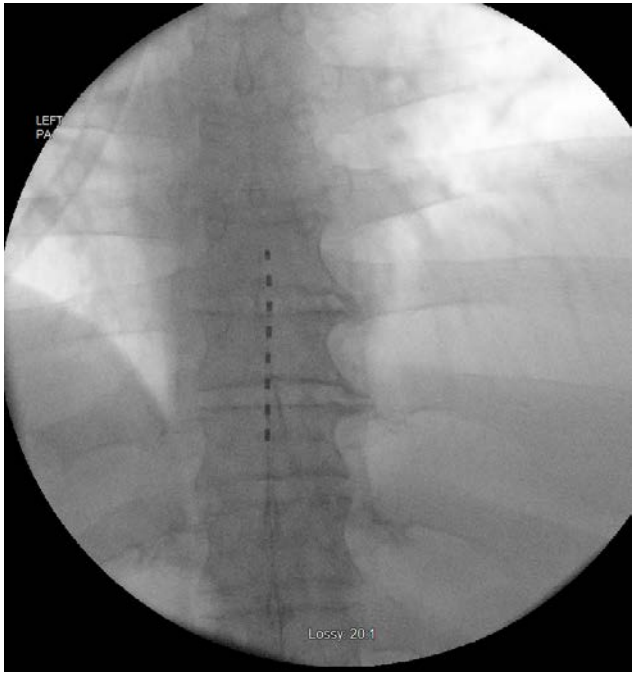


Dorsal Column Stimulation

Dorsal Column Stimulation

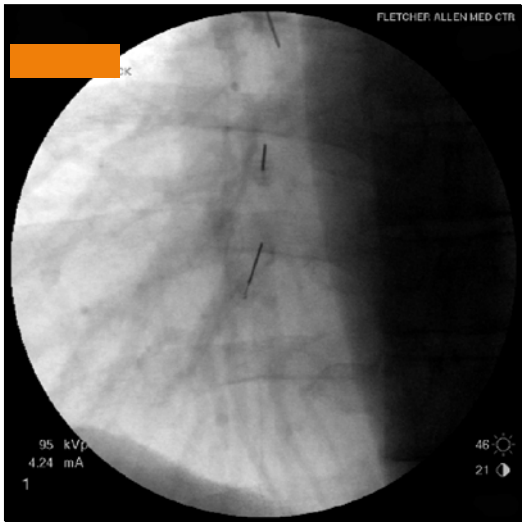


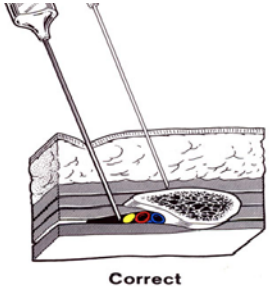
Spinal Cord Stimulation



Dorsal Root Ganglion Neuromodulation

Intercostal Neurolysis

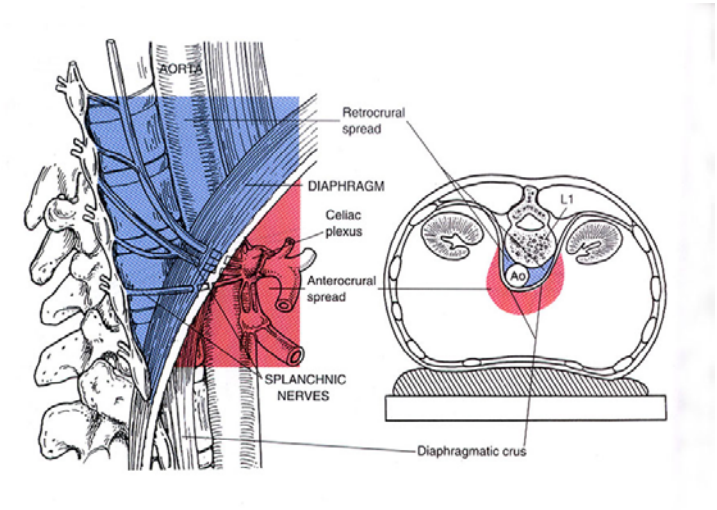




- 60% pts. pain-free 1-8 weeks
- Complication rate (<0.1%)
  - Pneumothorax
  - Neuritis (alcohol)
- <40% pts. no relief

- Antila H et al. Acta Anaesthesiol Scand,1998;42:581
- Doyle D. Practioner, 1982;226:539

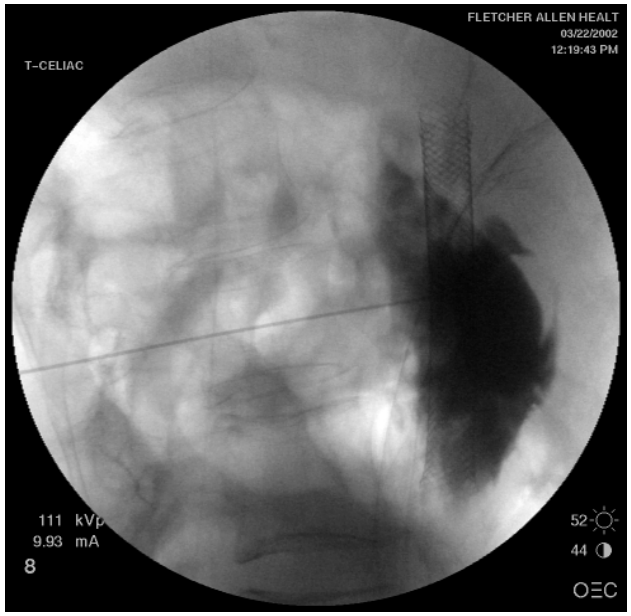
Celiac Plexus Neurolysis



Brown DL. Atlas of regional anesthesia, 2nd ed. Philadelphia, PA: WB Saunders: 288, 1999

- Described by Kappis in 1919
- Formed by greater, lesser & least splanchnic nerves originating in rami communicantes T5-12
- Pre/post ganglionic sympathetic efferents, preganglionic parasympathetic & visceral afferent fibers
- Superior & inferior to celiac artery
- Percutaneous, surgical, endoscopic

Celiac Plexus Neurolysis

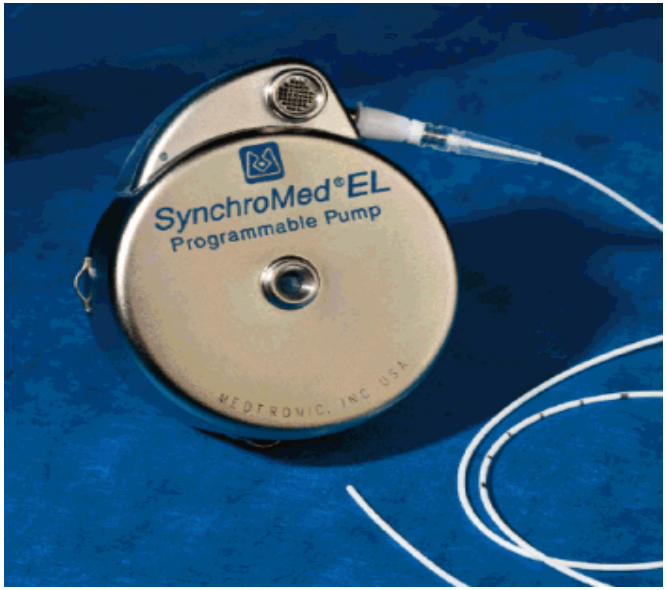


- Retro/transcrural
- Fluoroscopy/CT
- 90% pain-relief 1 week
- 90% partial/complete relief at 3 months
- 70-90% adequate relief until death
- ↓ Opioid consumption

Eisenberg et al. Neurolytic celiac plexus block for treatment of cancer pain: A meta-analysis. Anesth Analg 80:290, 1995

Mercadante S. Pain, 1993;52:187-192

Implantable Intrathecal Delivery

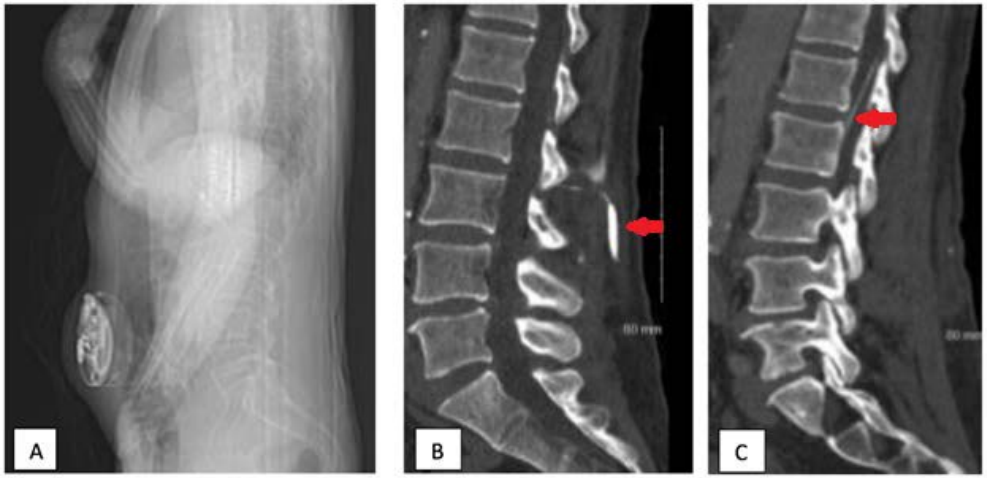


Copyright Medtronic, Inc

- Completely implantable
- Low dose → minimize side effects
- Reservoir → Infrequent refills
- Initial high cost
- Cost effective if survival > 3 months (compared to epidural)

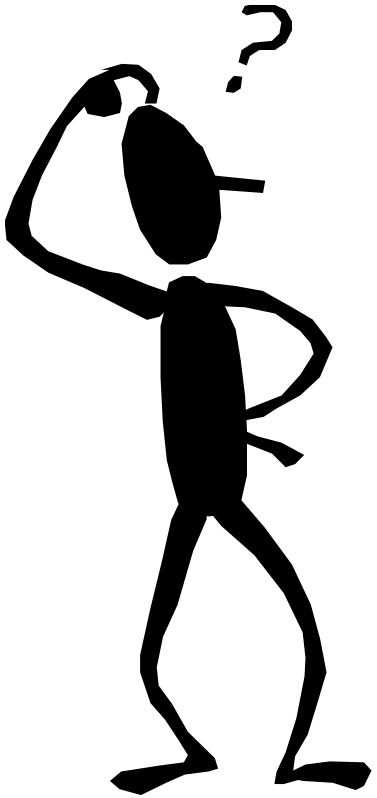
- Bedder MD et al. J Pain Symptom Manage 1991;6:368-373

Intrathecal Pump



Thank You

Questions



- RECORDING TO BE STOPPED

Case Presentation

The discussion and materials included in this conference are confidential and privileged pursuant to 26VSA Section 1441-1443. This material is intended for use in improving patient care. It is privileged and strictly confidential and is to be used only for the evaluation and improvement of patient care.

ECHO Reminders

- Volunteers to present cases
  - Use the case presentation form template
- Please complete evaluation forms for each session
  - CME will be processed once session evaluation form is received at UVM
- UVM Project ECHO materials available at www.vtahec.org
- Please contact us with any questions/suggestions
  - Mark.Pasanen@uvmhealth.org
  - Elizabeth.Cote@uvm.edu
  - ahec@uvm.edu