Overview of Pain Management Procedures

Sakshi Kaul, MD
CentraCare Neurosciences Pain Center
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Providers
& Locations



CentraCare - Plaza Surgery Center ...

No disclosures

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Topics to be covered

1) Review pain management injections - anatomy, indications, complications
   a) Clinic injections with anatomic guidance
   b) Ultrasound injections
   c) Flouro injections

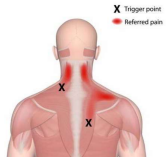
2) Review patient health requirements
   a) ASC vs. hospital
   b) Blood thinner requirements
   c) Sedation requirements
   d) Contraindications to procedures

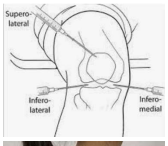
3) Questions!

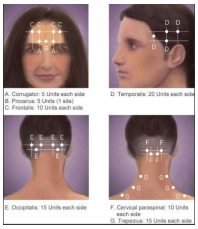
Anatomic guided injections

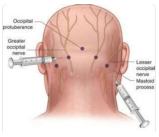
Done in clinic without ultrasound

- Trigger point injections
- Botox injections for migraines, cervical dystonia, bruxism, TMD, spasticity
- Knee joint steroid injection
- Knee joint synvisc injection
- Greater/Lesser Occipital nerve blocks (also done w u/s)
- Greater trochanteric bursa injection (also done w u/s or fluoro)
- Shoulder joint injection (also done w u/s)





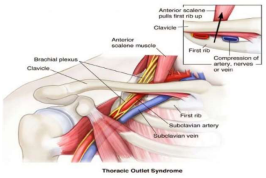


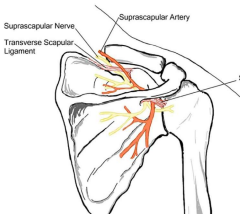


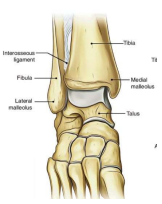
Ultrasound guided injections

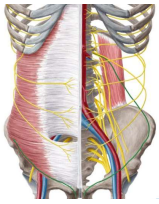
- Shoulder injections ultrasound guided - biceps tendon, AC joint, glenohumeral, subacromial bursa, subscapular bursa
- Ankle joint injection - tibiotalar, talofibular
- Nerve blocks - ilioinguinal, TAP block, genitofemoral, LCFN, carpal tunnel, morton neuroma, suprascapular
- Scalene muscle block for thoracic outlet syndrome

Thoracic Outlet Syndrome







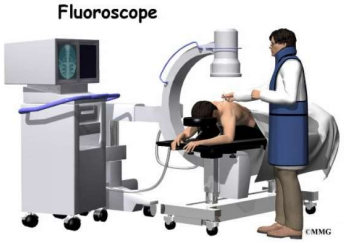


Fluoroscopy guided injections

Done at ASC or hospital

- Medial branch/third occipital nerve (TON) /sacral lateral/genicular/shoulder articular branch, hip articular branch, greater trochanter nerve **diagnostic** blocks
- Radiofrequency ablation (for above)
- Epidural steroid injections (ESIs)
- Hip joint, ischial bursa, greater trochanteric bursa, piriformis muscle
- Sacroiliac (SI) joint steroid
- Facet joint steroid
- Sympathetic blocks (celiac plexus, lumbar sympathetic, ganglion impar)
- Intercostal nerve block
- Pudendal nerve block
- Spinal Cord Stimulation (SCS) Trials & Implants
- Vertebroplasty/Kyphoplasty

Fluoroscope



Health considerations for injections

- BMI limit < 50 at ASC, otherwise hospital
- BMI limit < 45 if getting IV sedation at ASC, otherwise hospital
- ASA class I or II if getting IV sedation at ASC, otherwise hospital
- Some ASA class III ok for MAC anesthesia at ASC, otherwise hospital
- ASA class IV needs hospital setting
- Avoid steroid injections if patient has active wound or infection or is on Abx or acutely ill, or recent surgery or upcoming surgery
- Most injections low risk for bleeding: No need to hold blood thinners, and if they are on warfarin INR goal 3 or under
- Some Procedures with high risk for bleeding - Blood thinner medications need to be held, and if they are on warfarin then INR 1.2 or less

Pain Management Drug Holds

#1 NO HOLDS NECESSARY (but if patient on warfarin, INR needs check, goal 3.0 or less)

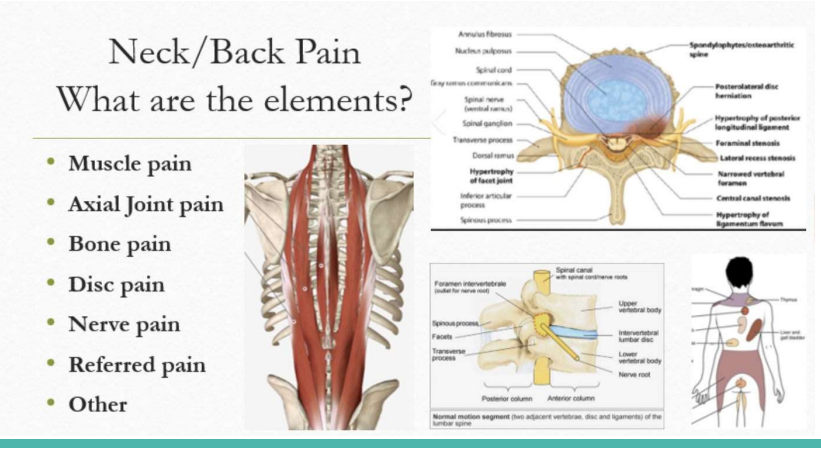
- Thoracic/Lumbar MBB/RFA, Sacral LBB/RFA, Thoracic/Lumbar Facet Joint injections
- Sacroiliac joint injections, Sacrococcygeal joint injections
- Peripheral Joint or Bursa injections (Hip/Knee/Shoulder/Elbow/Hand/Ankle)
- Peripheral Nerve Blocks/RFA (Hip/Genicular/Shoulder/Ilioinguinal/Genitofemoral/TAP/Intercostal/Coccygeal/Hand/Ankle)
- Trigger point injections

#2 MED HOLDS NECESSARY (if on warfarin, INR needs to be 1.2 or less, if liver disease PTT needs to be 1.5 or less)

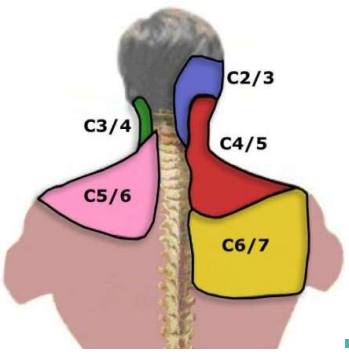
- ALL epidurals - Interlaminar and Transforaminal Cervical Thoracic Lumbar Sacral Caudal
- ALL Sympathetic blocks (stellate, splanchnic, celiac, lumbar, hypogastric, ganglion impar)
- ALL Spinal cord stimulation (trials*, implants, battery revision)
- Third Occipital Nerve (TON), Cervical MBBs/RFAs, Cervical facet joint injections
- Vertebroplasty/Kyphoplasty

Med to hold for procs that require med holds (#2 above)	Hold for:	Resume if no bleed, after:	Notes:
Aspirin, Clopidogrel (Plavix)	5 days	24 hours	ONLY aspirin may be continued in patients of HIGH cardiac risk
Warfarin (Coumadin)	5 days	Same evening	INR goal 1.2 or less
LMWH (Lovenox), Heparin	24 hours	12 hours	
Cilostazol (Pletal), Dipyridamole (Persantine)	2 days	24 hours	
Apixaban (Eliquis), Edoxaban, Rivaroxaban (Xarelto)	3 days	12 or 24 hours	Depending on next scheduled time
Dabigatran, Fondaparinux (Arixtra)	4 days	24 hours	
Brilinta, Pentosan Polysulfate (Elmiron)	5 days	24 hours	
Ibuprofen, Voltaren, Ketorolac, Etodolac, Indomethacin	2 days	24 hours	No need to hold for CMBB/CRFA/Cfacet
Naproxen, Meloxicam	4 days	24 hours	No need to hold for CMBB/CRFA/Cfacet
Vitamin E >400IU	5 days	24 hours	No need to hold for CMBB/CRFA/Cfacet
Nabumetone, Fish oil	6 days	24 hours	No need to hold for CMBB/CRFA/Cfacet
Oxaprozin, Piroxicam	10 days	24 hours	No need to hold for CMBB/CRFA/Cfacet

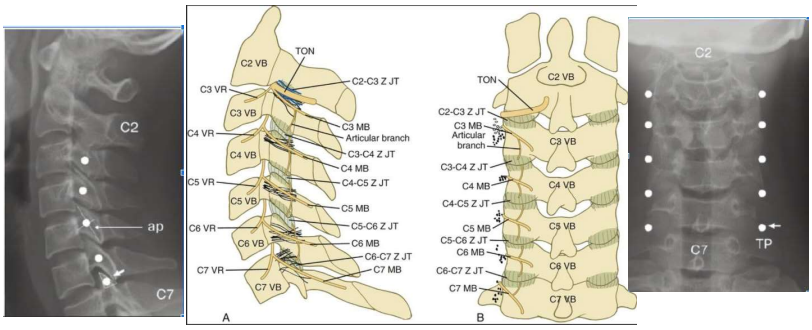
Classification	Description
ASA 1	Healthy patients
ASA 2	Mild to moderate systemic disease caused by the surgical condition or by other pathological processes, and medically well controlled
ASA 3	Severe disease process which limits activity but is not incapacitating
ASA 4	Severe incapacitating disease process that is a constant threat to life
ASA 5	Moribund patient not expected to survive 24 hours with or without an operation
ASA 6	Declared brain-dead patient whose organs are being removed for donor purposes



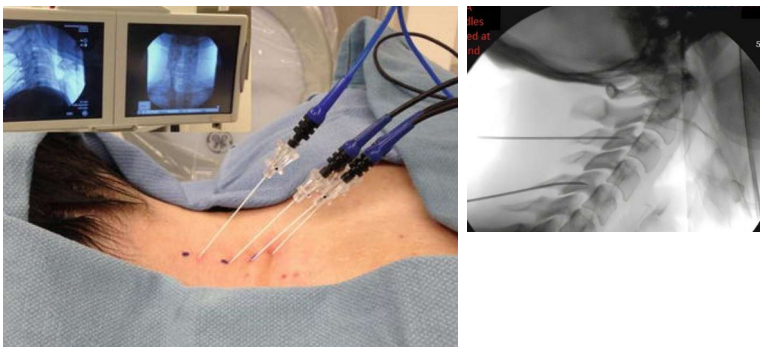
Cervical Facetogenic pain



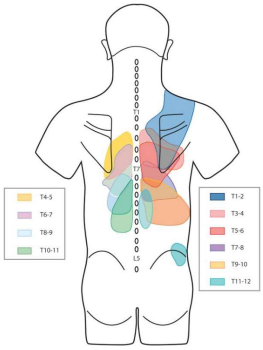
Cervical Medial branch blocks



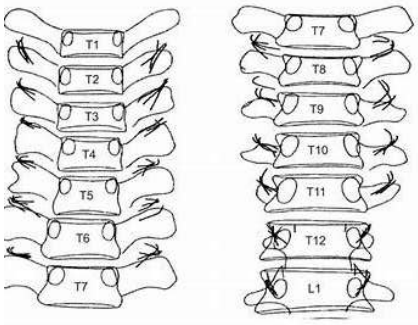
Cervical Radiofrequency Ablation



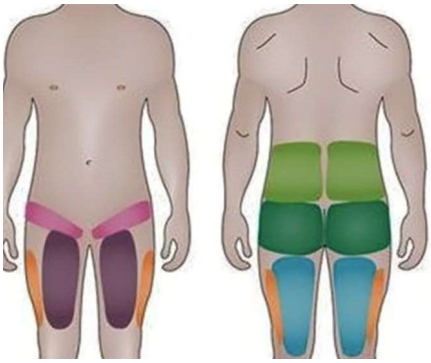
Thoracic Facetogenic Pain

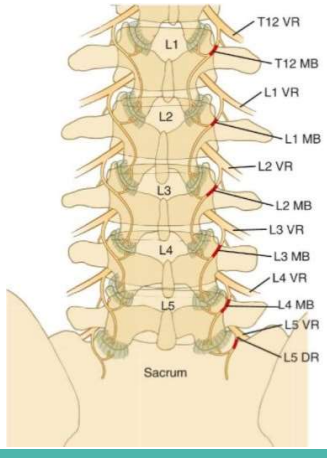


Thoracic Medial Branch Blocks

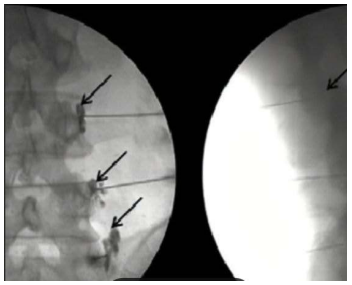


Lumbar facetogenic pain

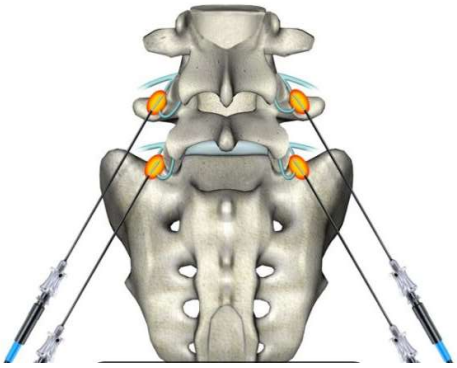




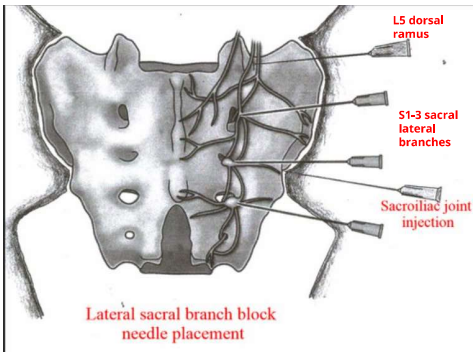
Lumbar Medial Branch Blocks

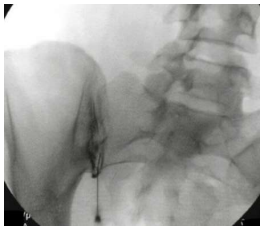


Lumbar Radiofrequency Ablation

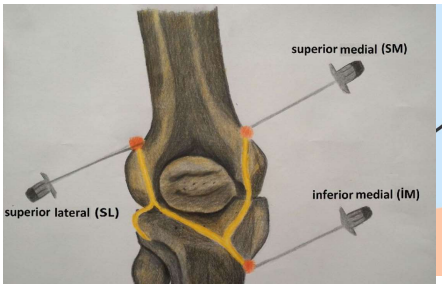


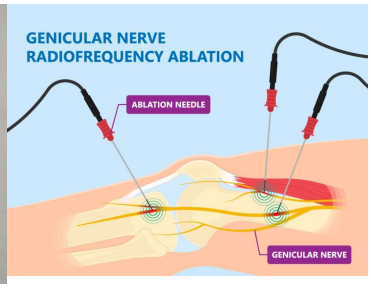
Sacral Lateral Branch blocks VS. SI joint steroid injection



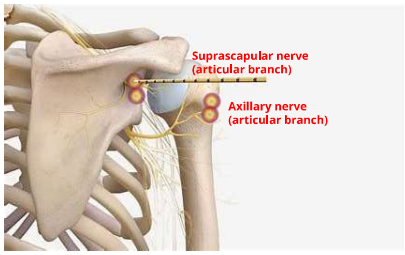


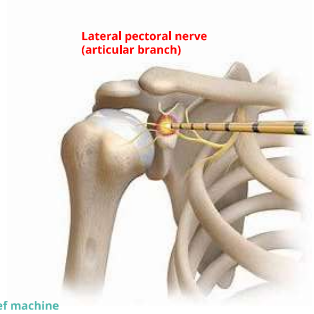
Genicular nerve blocks and RFA





Shoulder articular branches RFA

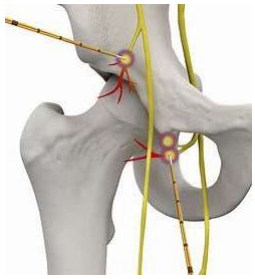




These are done at Monticello hospital, where we have the Avanos Coolief machine

Hip articular branches RFA

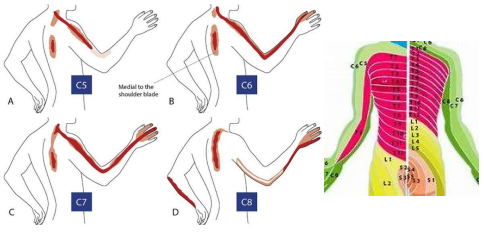
Femoral nerve (articular branch)

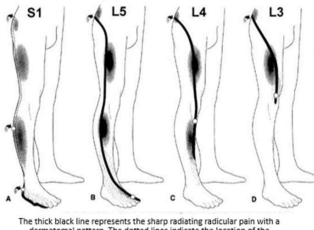


Obturator nerve (articular branch)

These are done at Monticello hospital, where we have the Avanos Coolief machine

Cervical, Thoracic, Lumbar Radiculopathies

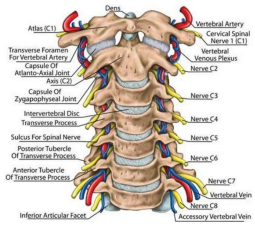


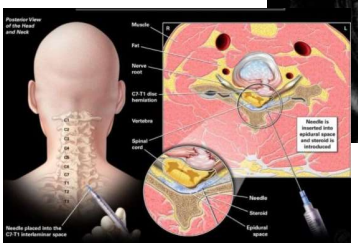


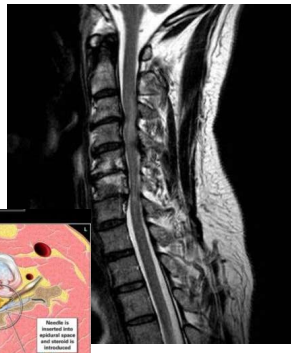
The thick black line represents the sharp radiating radicular pain with a dermatomal pattern. The dotted lines indicate the location of the numbness or tingling sensations

Cervical Epidural steroid injections

typically only do C7-T1 interlaminar ESI, provided there is room for injection safely - the med will spread bilateral and to multiple cervical nerves

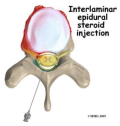




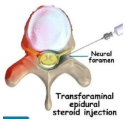


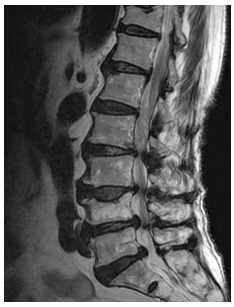
Lumbar Epidural steroid injections

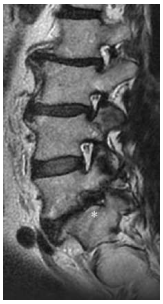
For **interlaminar** - avoid level with significant spinal canal stenosis - higher risk of dural puncture



For **transforaminal** - avoid level of significant NF stenosis - higher risk of nerve pain/injury



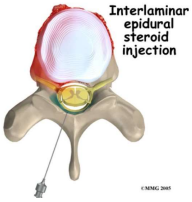


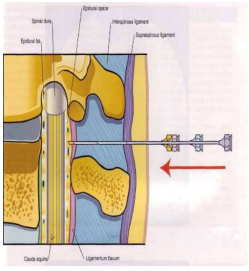


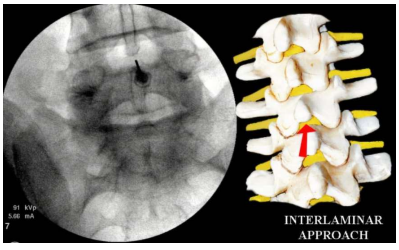
Interlaminar Epidural steroid injections

Provide bilateral and multilevel coverage

Can't do if laminectomy or severe spinal stenosis at level



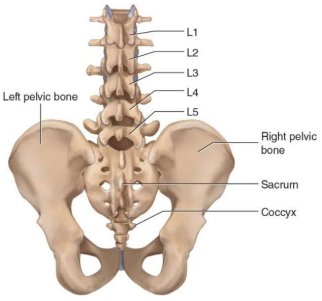


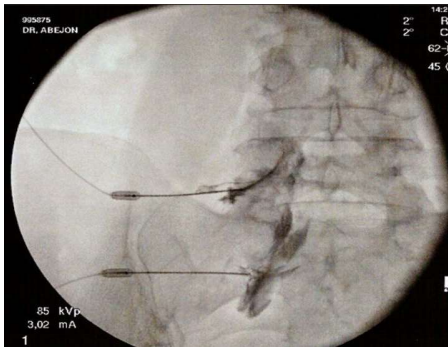


Lumbar or Sacral Transforaminal epidural injection

Provide great targeted coverage

2 levels, or single level bilateral

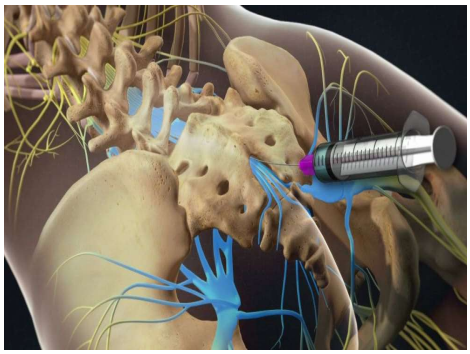




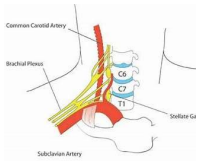
Caudal epidural steroid injection

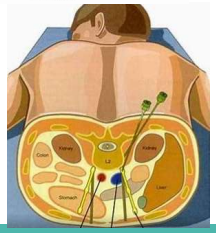
bilateral and multilevel coverage

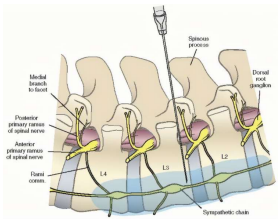
Limitations - elderly or chronically ill - calcified sacrococcygeal ligaments prevent access

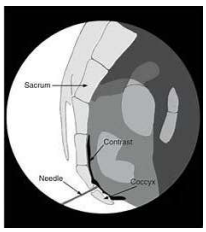


Sympathetic Blocks









Stellate ganglion C6 - arm or face pain

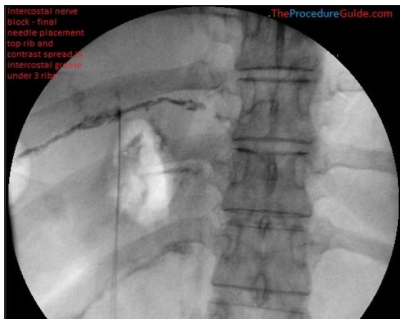
Splanchnic plexus at T11 - abdominal pain

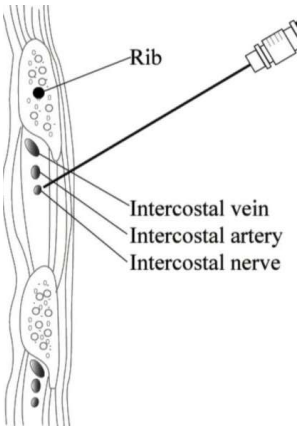
Celiac plexus at L1 - abdominal pain

Lumbar sympathetic at L2-4 - leg pain from vascular disease or Complex Regional Pain syndrome (CRPS)

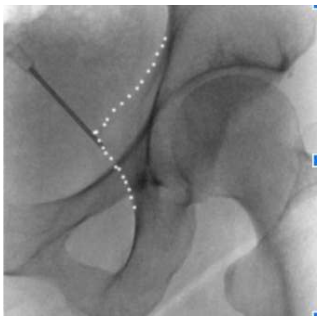
Ganglion impar at sacrum- rectal pain

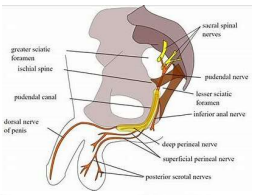
Intercostal nerve blocks

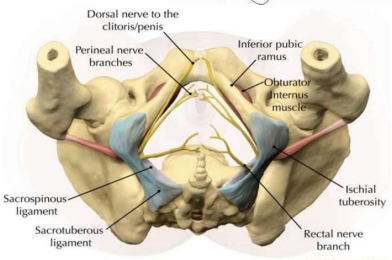




Pudendal nerve blocks

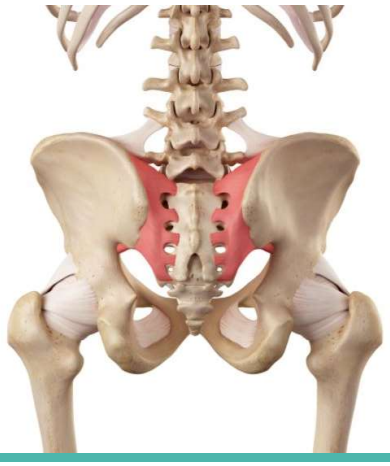






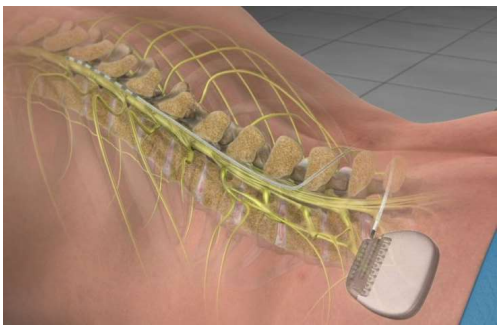
Other injections

- Facet joint
- SI joint
- Ischial bursa
- Hip joint
- Greater trochanter
- Piriformis muscle or other hip muscles
- Pudendal nerve
- Cluneal nerves
- Sacrococcygeal joint/coccygeal nerves



Spinal Cord Stimulation - Trial, Implant, or Replacement

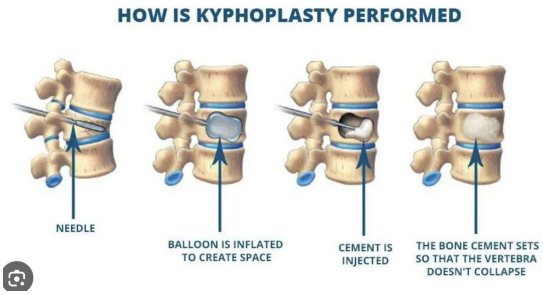
- Severe neuropathic pain, post lami pain, chronic radiculopathy, CRPS
- Failed all conservative tx limiting function
- 5-7 day trial, if effective can get implant
- Medical considerations
- Psych considerations



Kyphoplasty

Indications:

Severe acute compression fracture pain limiting function (walking, ADLs), and osteoporosis



Questions?