

# Design Rationale and Advantages: Lateral Access Two Blade

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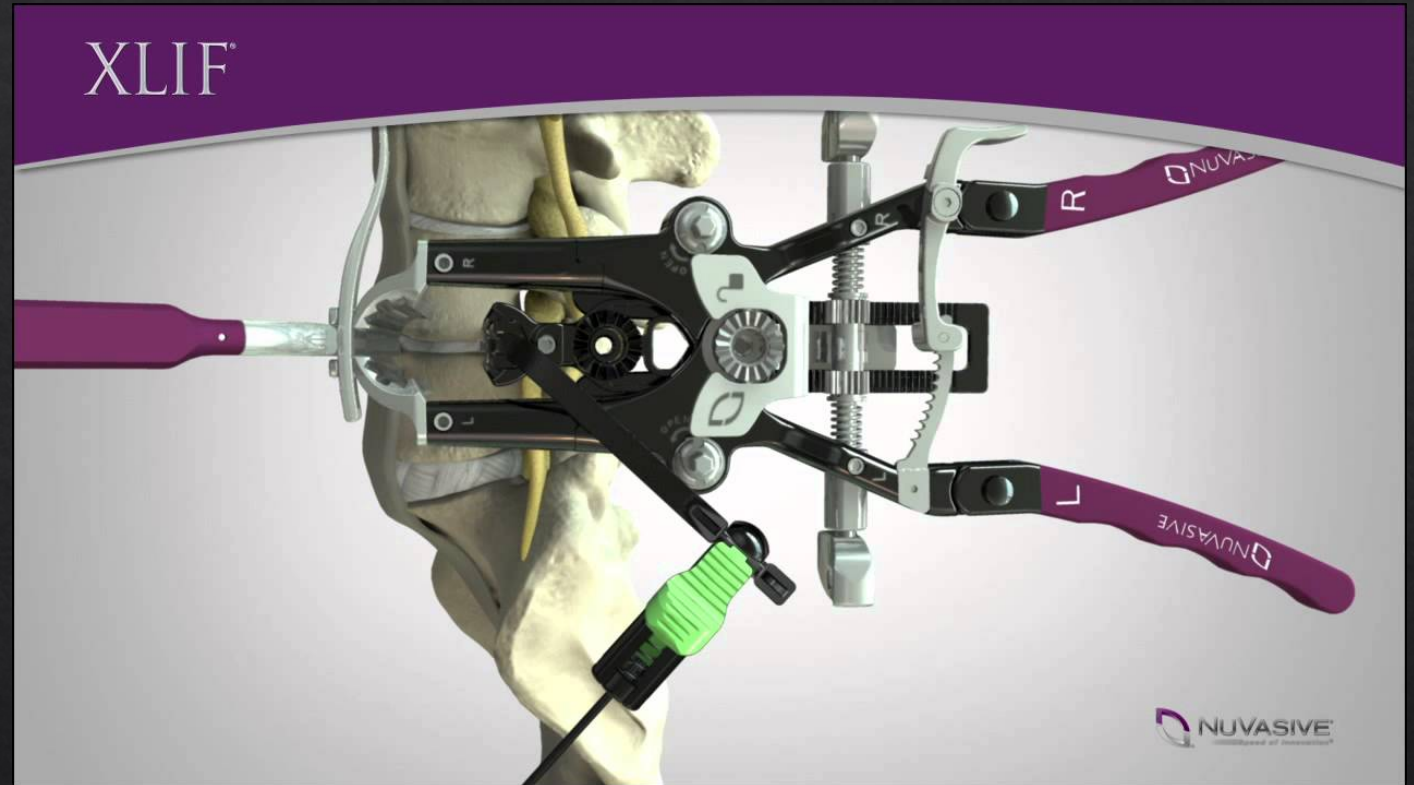


# Disclosures

- ◇ Consultant
  - ◇ Innovasis
  - ◇ Medacta
  - ◇ Silony Spine
  - ◇ Clariance Spine
- ◇ Royalties
  - ◇ Innovasis
  - ◇ K2M

# Background

- ◇ Busy lateral surgeon
- ◇ Tried many retractor designs
- ◇ Like many, started with NuVasive, 3 blade retractor design





# Issues

- ◇ Bulky
- ◇ Need for table mount
- ◇ Clean disc visualization without futzing
- ◇ Increased dilation required for larger footprint implant
- ◇ Fixation to patient
  - ◇ Gradual anterior retractor “creep”
  - ◇ Posterior shim near lumbar plexus or foramen
  - ◇ Annulotomy may compromise posterior anchor
  - ◇ Several systems anchor to at least one vertebral body for added stability





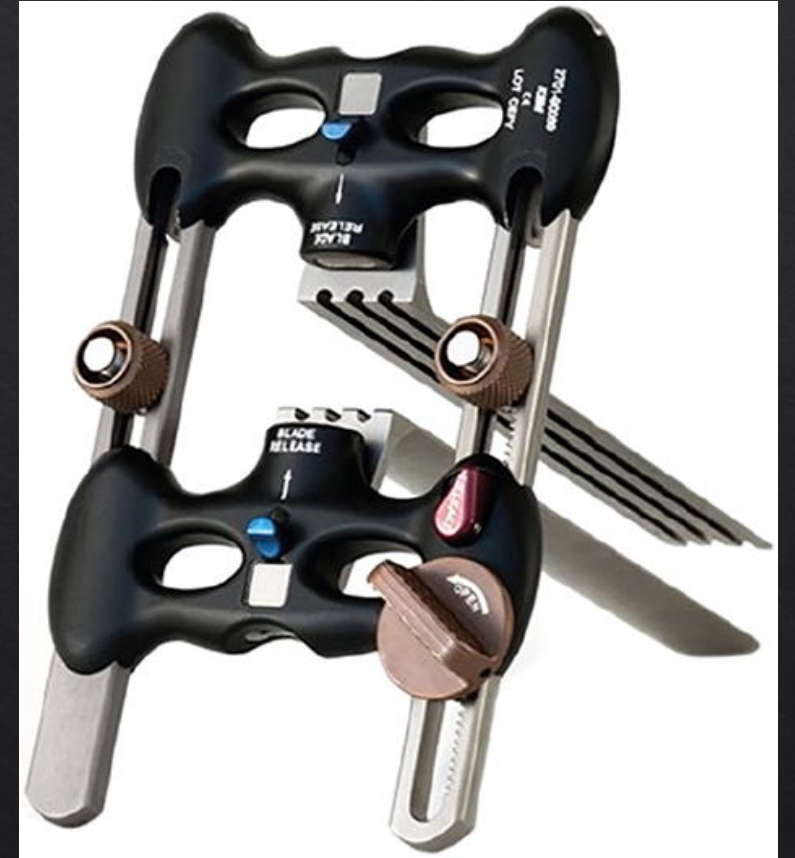
# What I Wanted

- ◇ Minimize trauma to psoas
- ◇ Less bulky retractor
- ◇ No retractor migration
- ◇ Clean disc visualization...the first time
- ◇ Ability for small adjustments to retractor position
- ◇ Implant with bulleted tip



# Two Blade Retractor

- ◆ It looked different...
- ◆ Is it robust enough?
- ◆ What protects me anteriorly and posteriorly?
- ◆ Fixation pins...
  - ◆ Won't I hit the segmental vessels?
  - ◆ Bone bleeding?
  - ◆ Will they pull out during trialing?





# Well, I tried it...

## ◇ What I LOVED

- ◇ **Amazing disc visualization from the outset**
- ◇ No migration of retractor
- ◇ No table mount
- ◇ Minimal psoas trauma – muscle splitting
- ◇ I could dock where monitoring was best and adjust retractor position
- ◇ **Less Disposables → Less Cost**

## ◇ What I HATED

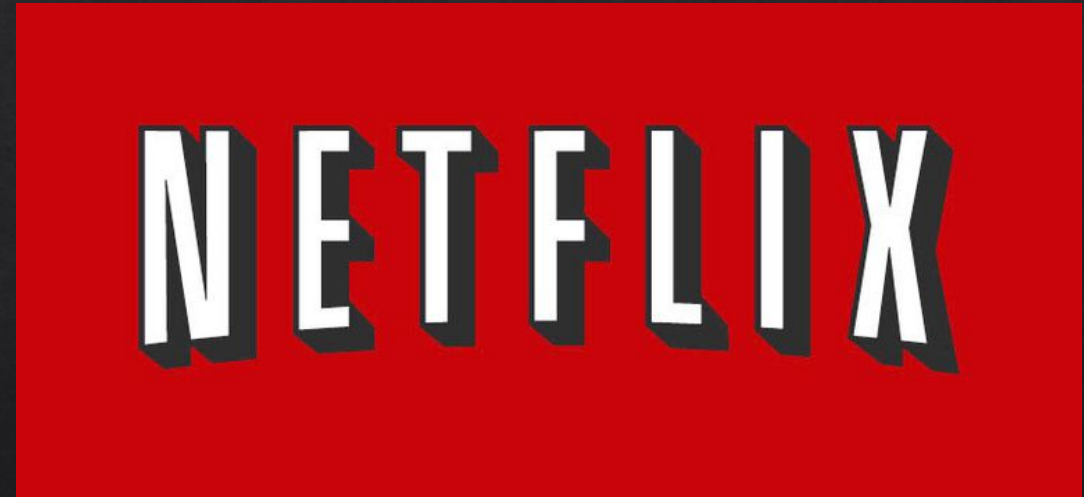
- ◇ Xray visualization could be better
- ◇ Retractor architecture could be more open
- ◇ Could be simpler

# Why it was a game changer for me

- ◆ Clean disc prep without muscle creep
- ◆ 3 channels in blade allows for easy and precise retractor positioning
  - ◆ Allows for safe fixation pin placement with monitoring probe
- ◆ Controlled dilation
  - ◆ One blade dilates at a time
- ◆ If the retractor fits...you can accommodate a 22mm implant or more
  - ◆ Easy to upsize to 26mm without additional circumferential retractor dilation

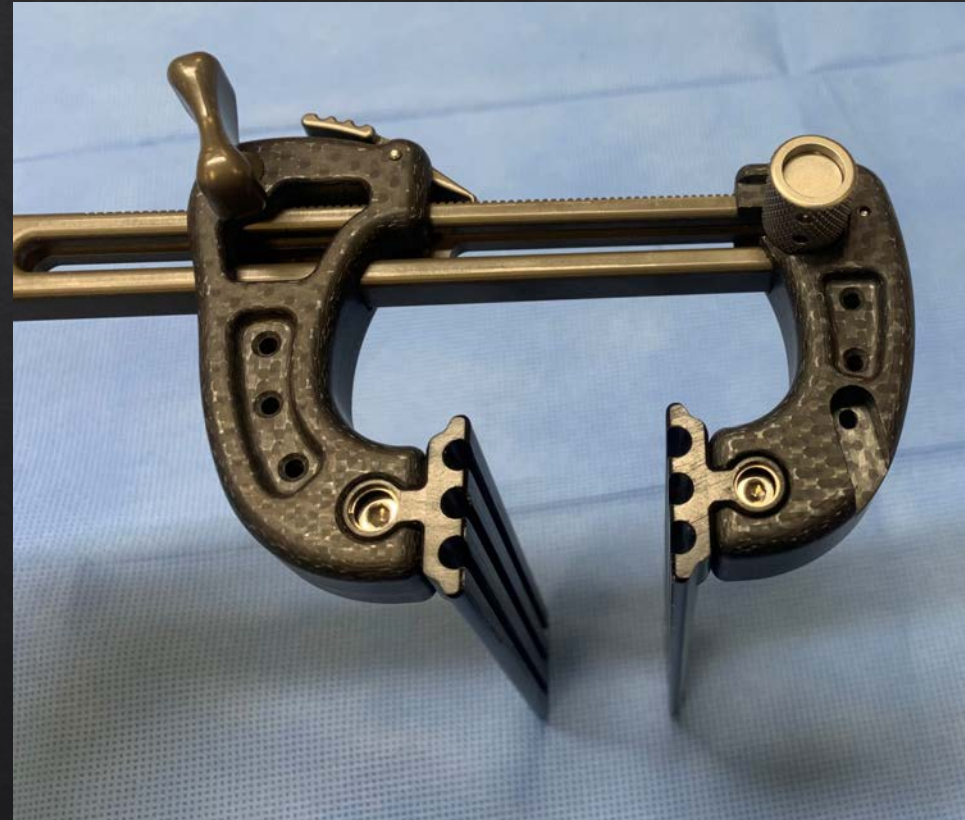


But...It Can Be So Much Better



# Building It Better

- ◆ Keeps the benefits of 2 blade retractor
- ◆ Allows for table mounting if needed/wanted
- ◆ Maximal radiolucency, minimal footprint
  - ◆ C-shape
  - ◆ Less retractor body to impinge on crest/ribs
  - ◆ Tapered aluminum blades
  - ◆ Carbon fiber body
- ◆ HA-PEEK Implants with large graft window and bullet tip



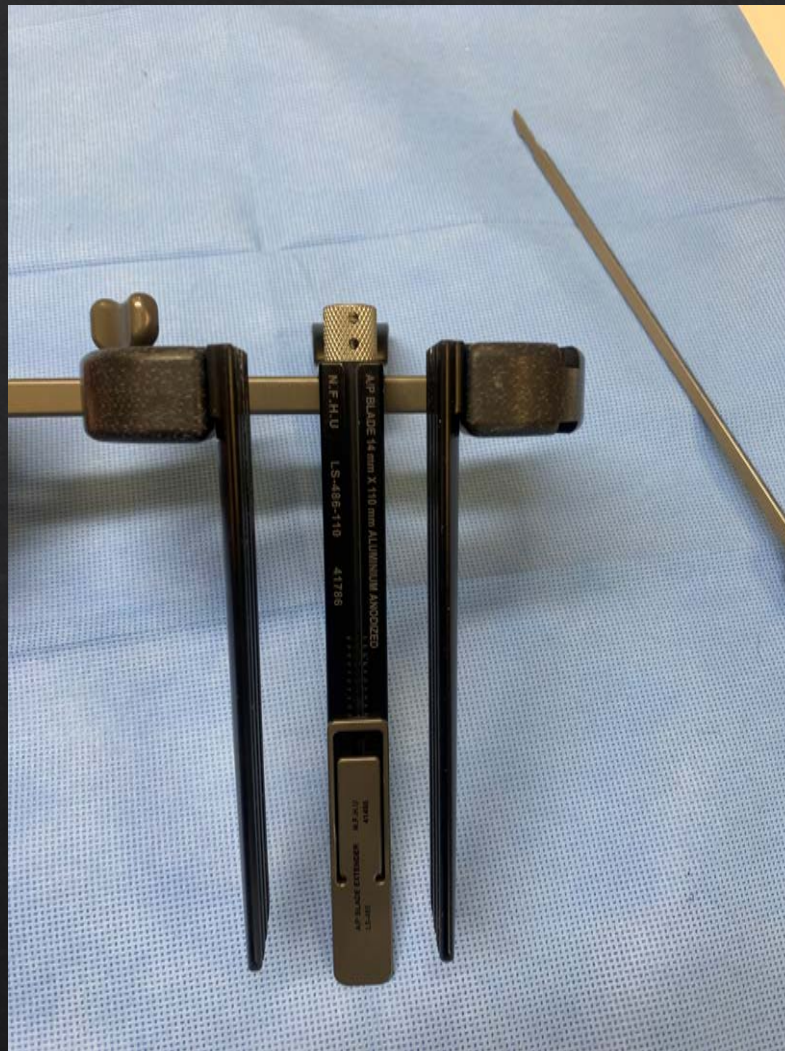






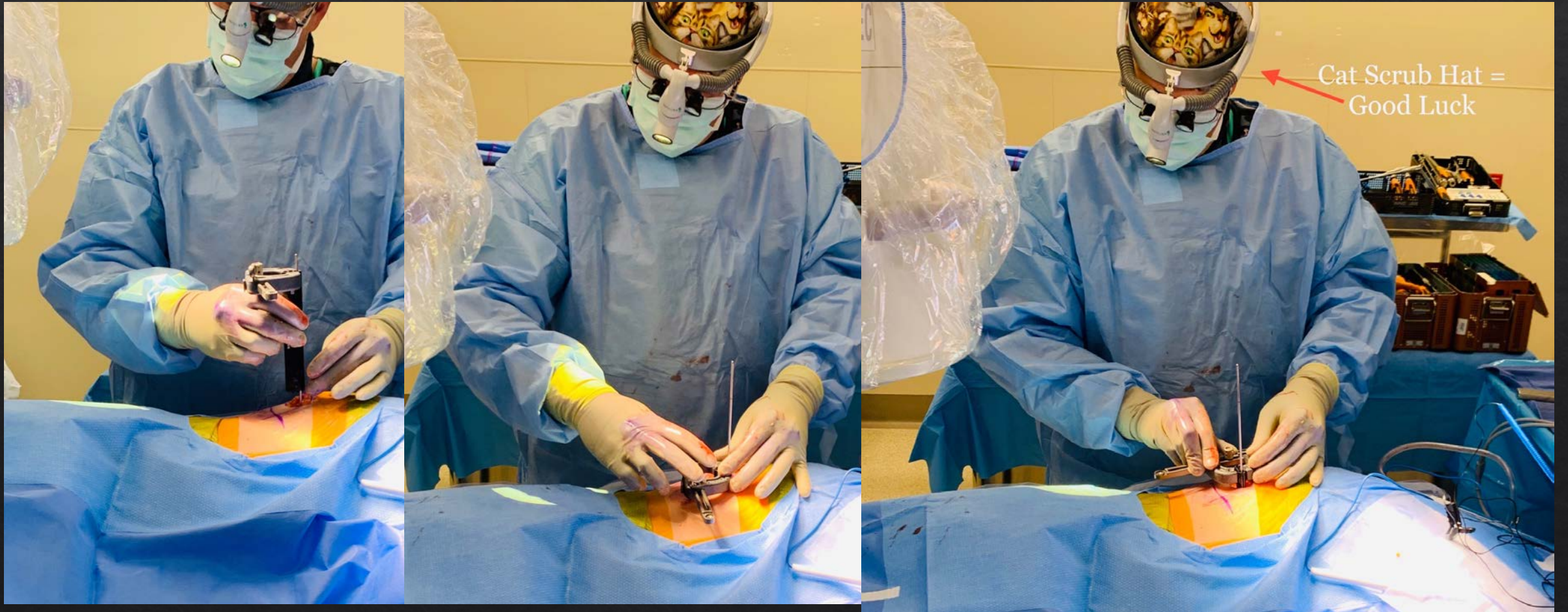
# Use What You Need

- ◇ Easily converts to 3 or 4 blade retractor
- ◇ Anterior and posterior blades can be added (with shims)
- ◇ >90% of the time I don't need A/P blades (unless the anesthesiologist lets the patient cough...)





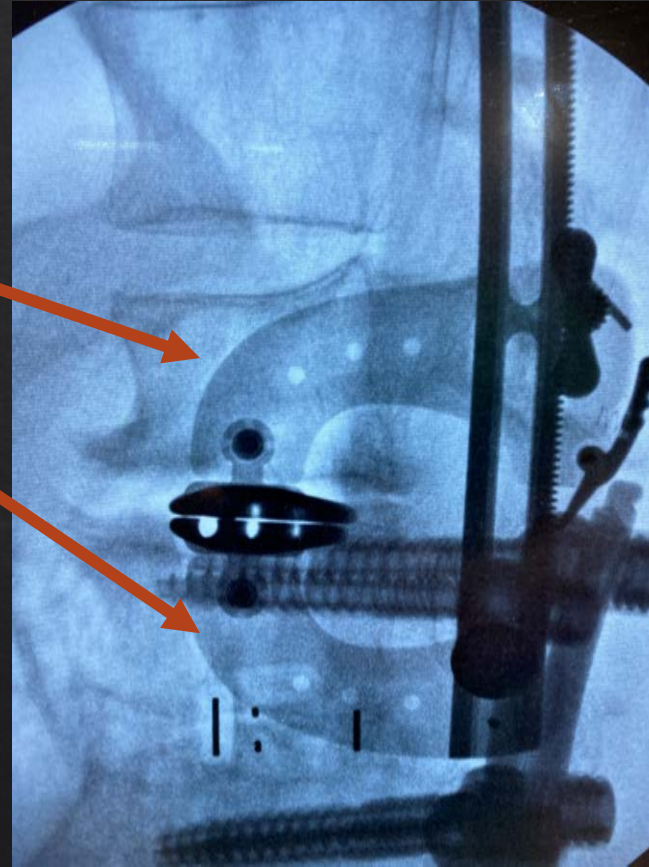
# Retractor Placement





# In practice

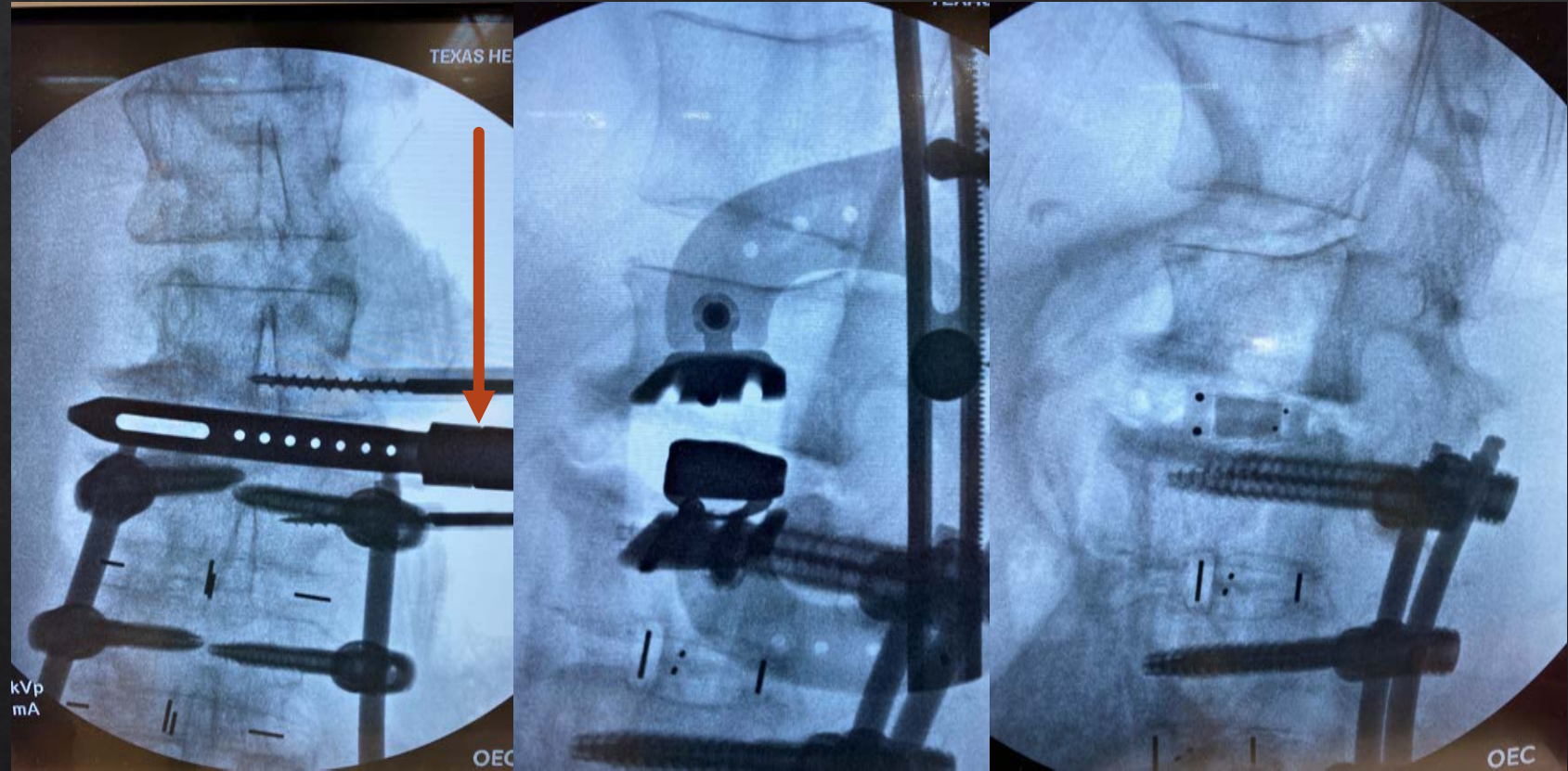
- ◆ Visualization of vertebra through CF retractor is impeccable
- ◆ Exact knowledge of where you are anterior/posterior
- ◆ Trial dictates where additional discectomy/annulotomy can be performed
  - ◆ Retractor gives you the freedom to do this without additional dilation





# In Practice

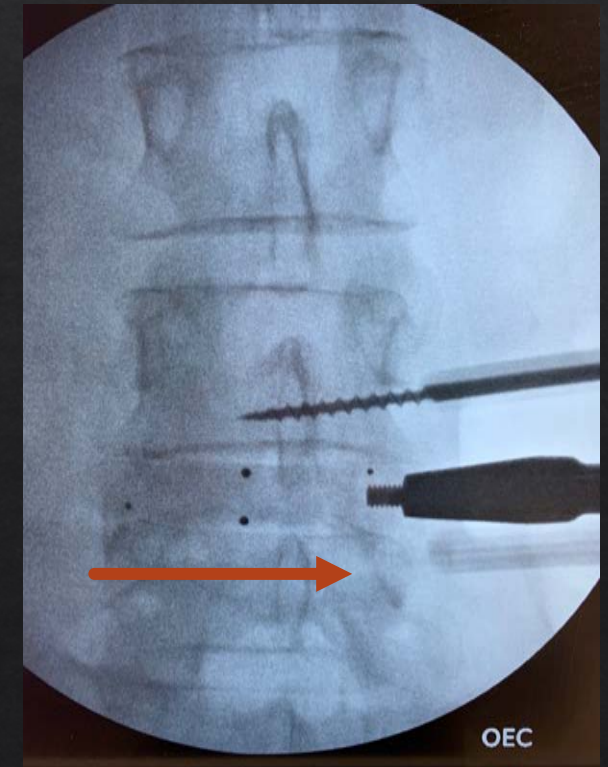
- ◇ Sizing off of trial easy
- ◇ Trial disconnects (and reconnects easily) for better visualization on lateral without artifact from inserter





# Answering Concerns

- ◆ Having done over 500 levels (degen, scoli, trauma, L4-5 most common level):
  - ◆ Pin site bleeding: Not an issue. I've used bipolar occasionally (as I did with traditional retractors)
    - ◆ Floseal and a sponge stick
  - ◆ Pin pull out: Doesn't happen
  - ◆ Retractor strength: One pin fixation often sufficient (if monitoring issues)
  - ◆ Segmental vessel injury: zero
  - ◆ Will I cut the psoas/plexus??
    - ◆ Retractor protects you, and there's an option for a posterior blade
    - ◆ Fraser tip sucker during annulotomy offers additional protection
    - ◆ Don't cut bad things (i.e. vascular injuries on ALIF's, exiting root on TLIF)





◆ **I was a skeptic of this technology**

◆ Change is hard, but rewarding

◆ **JUST TRY IT ONCE AT L3-4**

◆ The benefits are best realized by hands-on experience