

Design Rationale and Advantages: Lateral Access Two Blade

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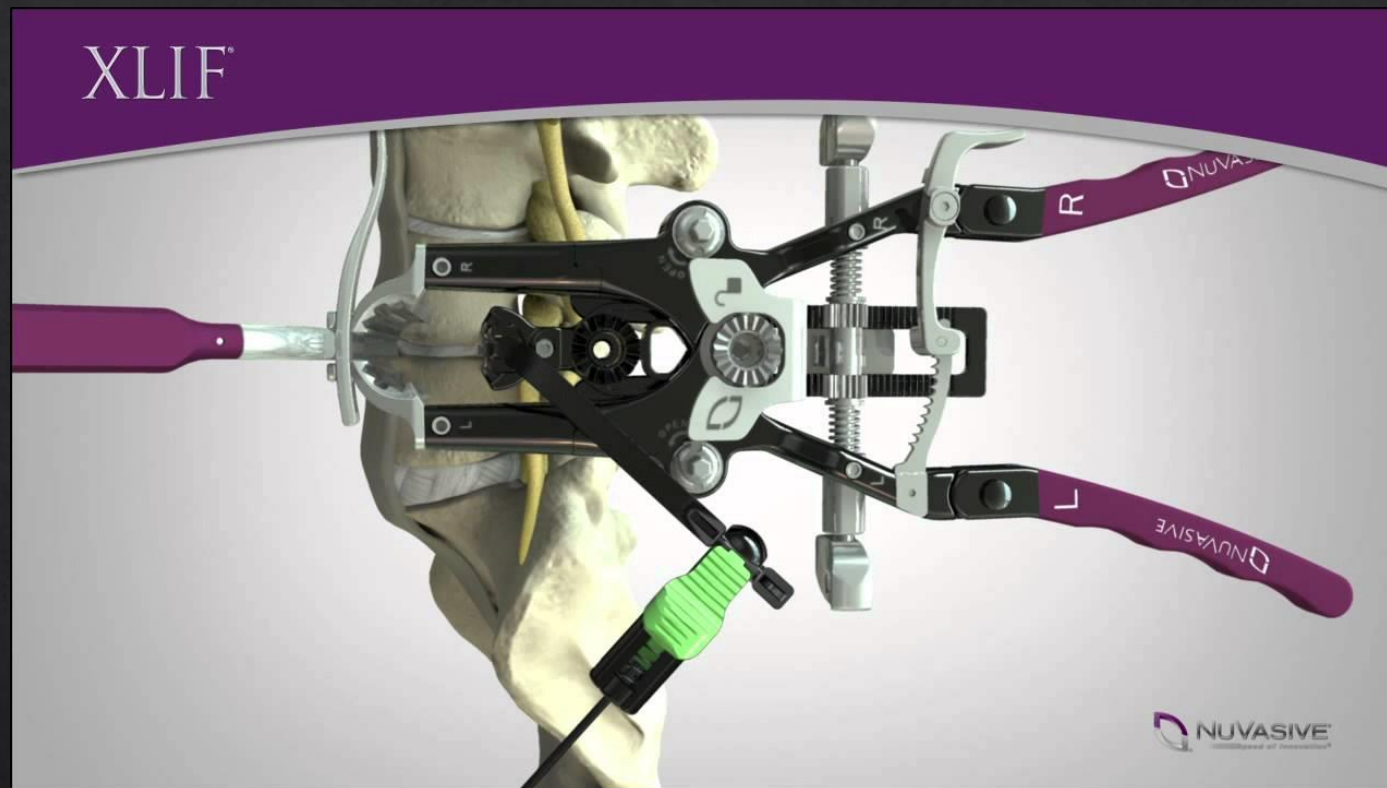


Disclosures

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

Background

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



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



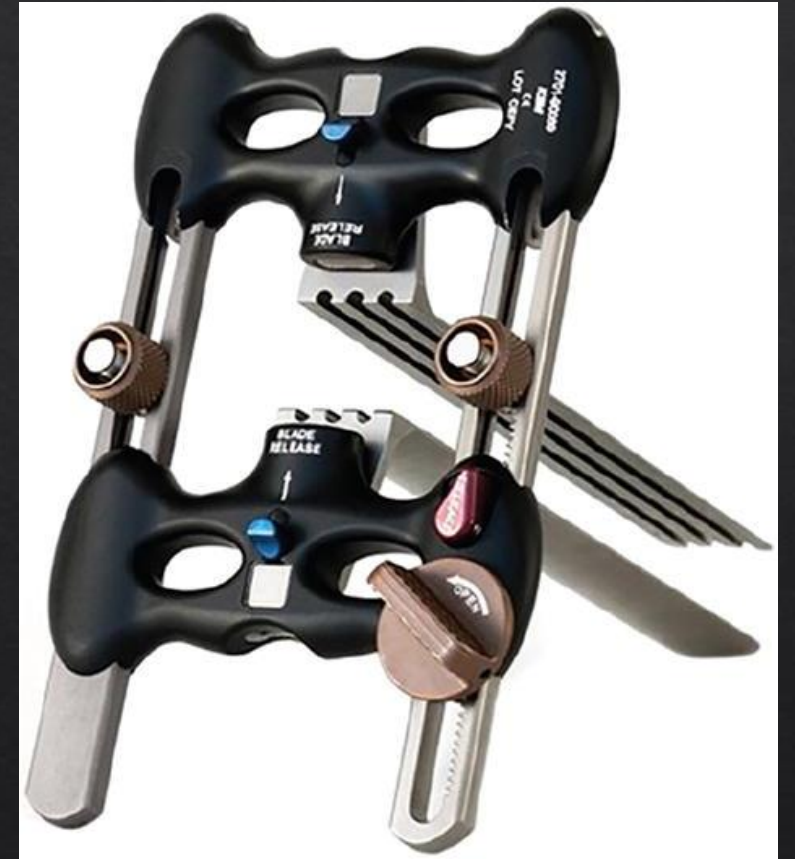
What I Wanted

- ◇ 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**

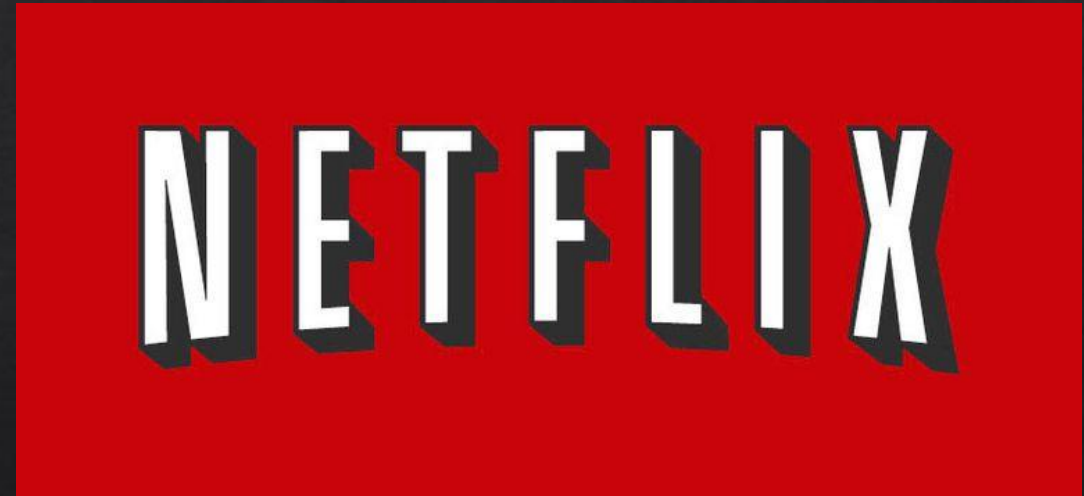
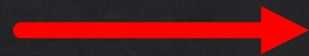
◇ What I HATED

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

Why it was a game changer for me

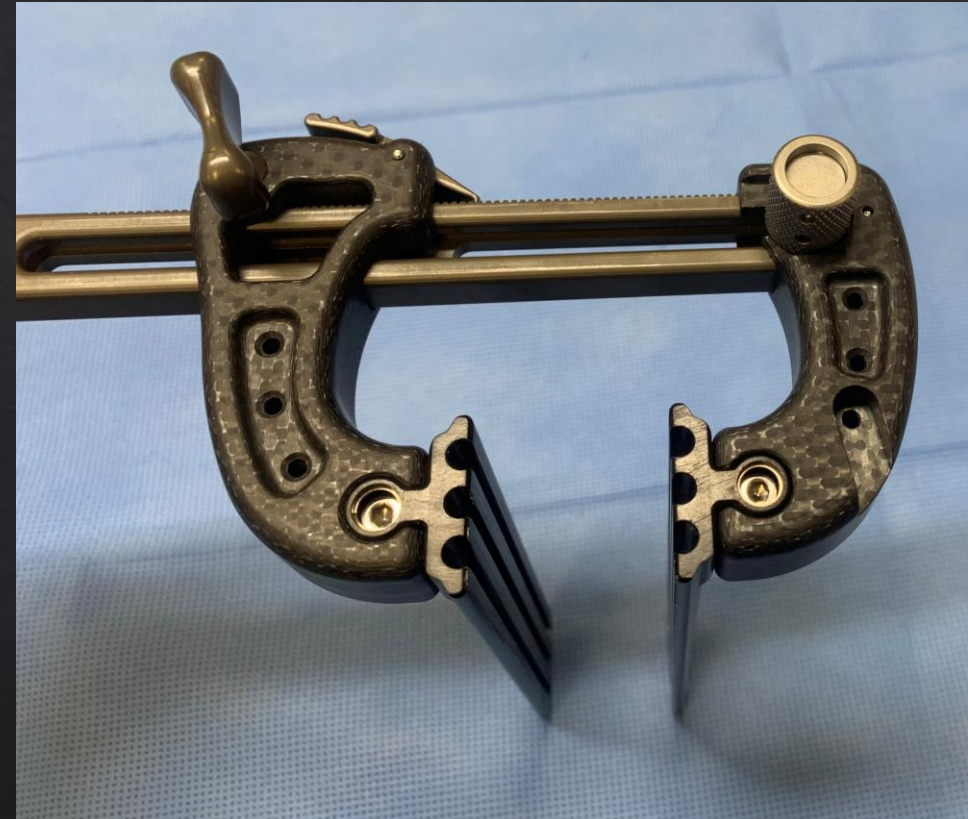
- ◆ Clean disc prep without muscle creep
- ◆ 3 channels in blade allows for easy and precise retractor positioning
 - ◆ Allows for safe fixation pin placement with monitoring probe
- ◆ Controlled dilation
 - ◆ One blade dilates at a time
- ◆ If the retractor fits...you can accommodate a 22mm implant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

But...It Can Be So Much Better



Building It Better

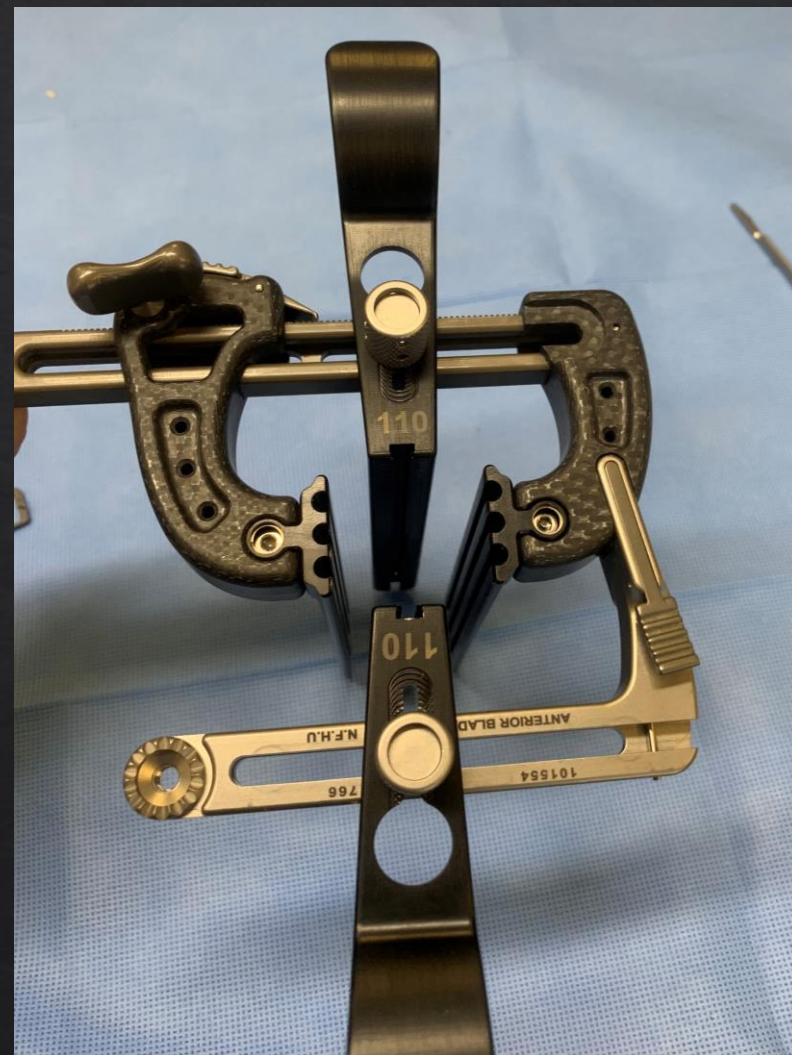
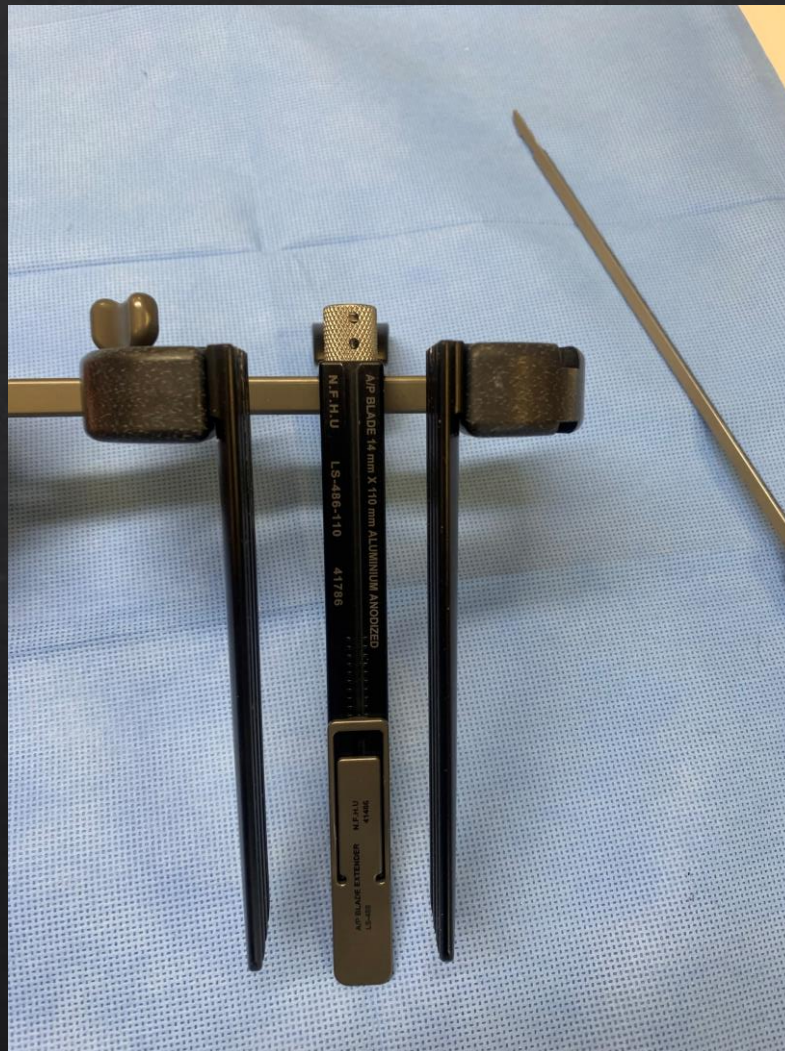
- ◆ Keeps the benefits of 2 blade retractor
- ◆ Allows for table mounting if needed/wanted
- ◆ Maximal radiolucency, minimal footprint
 - ◆ C-shape
 - ◆ Less retractor body to impinge on crest/ribs
 - ◆ Tapered aluminum blades
 - ◆ Carbon fiber body
- ◆ HA-PEEK Implants with large graft window and bulleted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





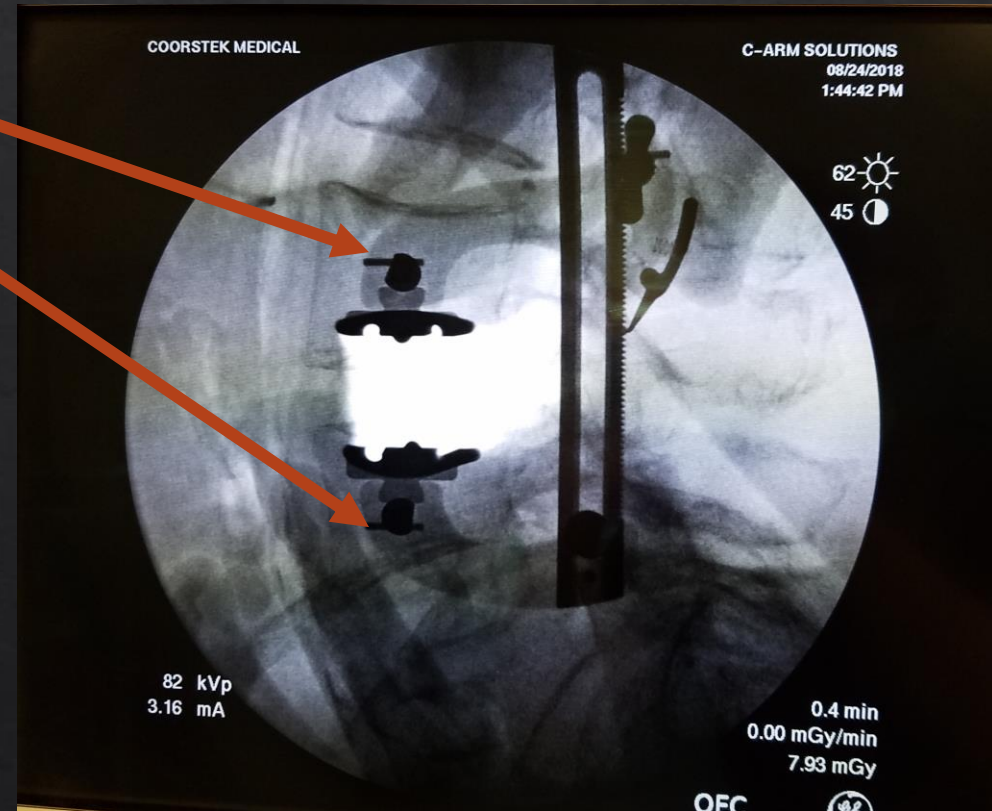
Use What You Need

- ◇ 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...)



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



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