

Management of Spinal Pain

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Ideal Surgeons perspective



Pain free patient

Neurological recovery

Spinal alignment

Bony healing

Minimally invasive



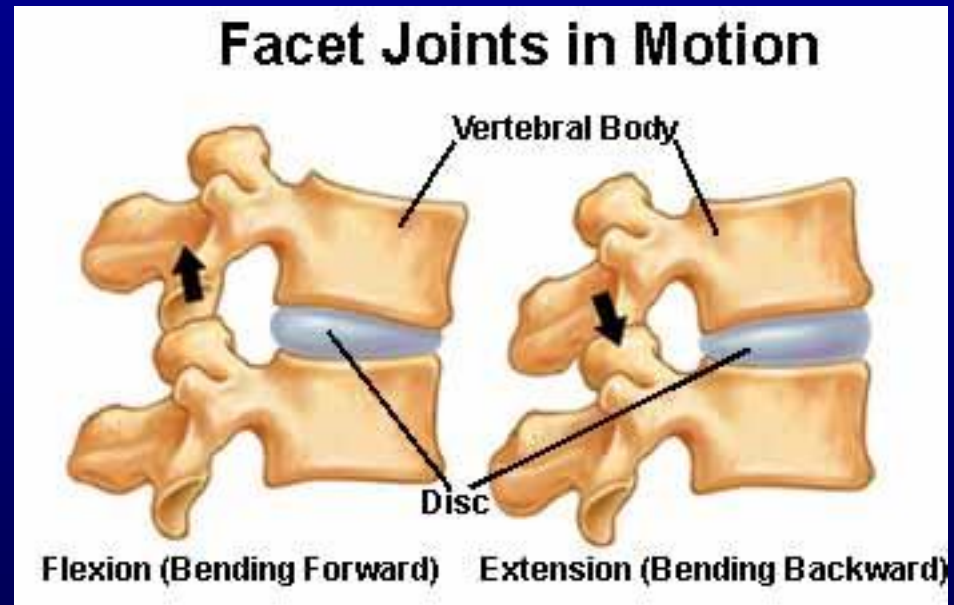
Minimal iatrogenic damage

No infection

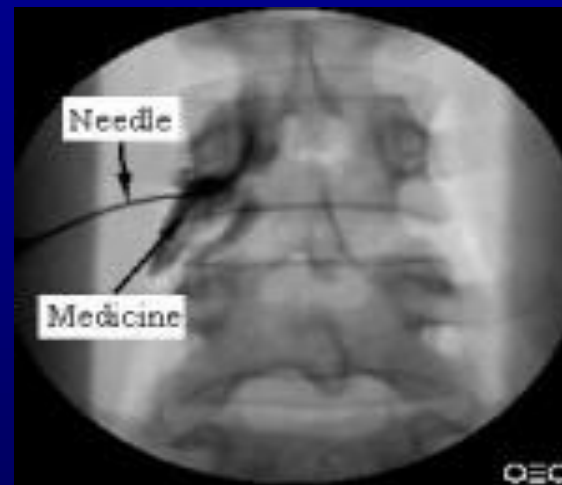


Technology assisted

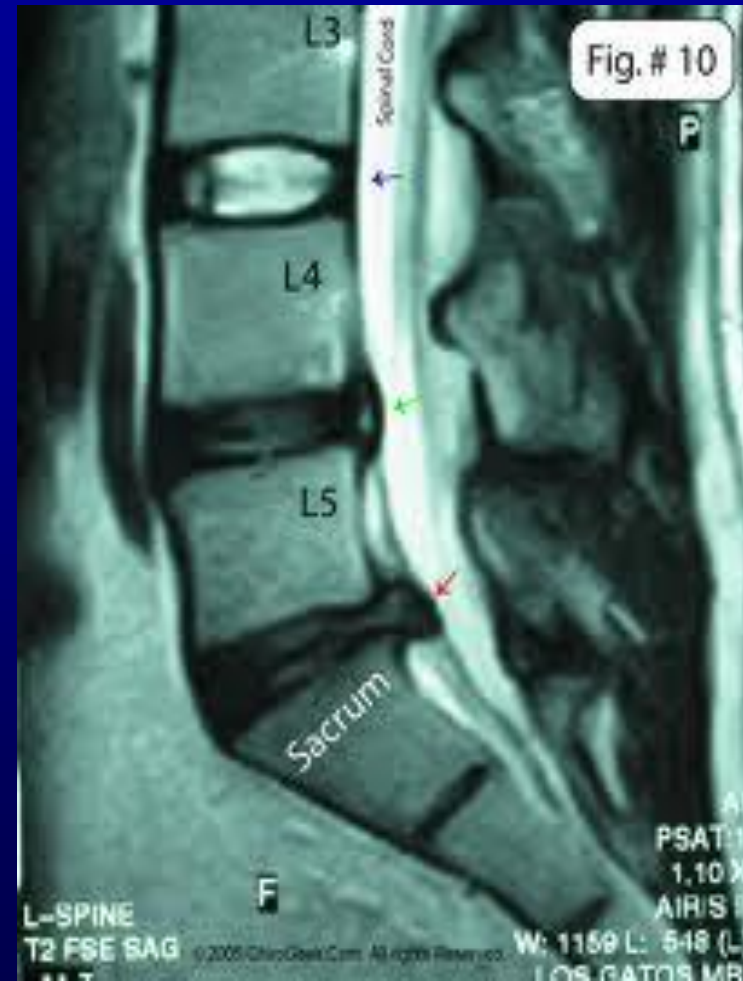
Pain Sources



Pain Sources



Black Disc



Black Disc Disease

- Probably the earliest sign of osteoarthritis.
- Internal disc disruption
- Annular tears and High intensity zones

Current Treatment therapies

- Patient education
- Anatomic pain generators
- Lifetime exercises
- Passage of time
- Conservative treatment works
- Followup care

Black Disc Disease

- Aetiology of pain-
- Sympathetic chain via sinuvertebral nerves.
- Inflammatory agents

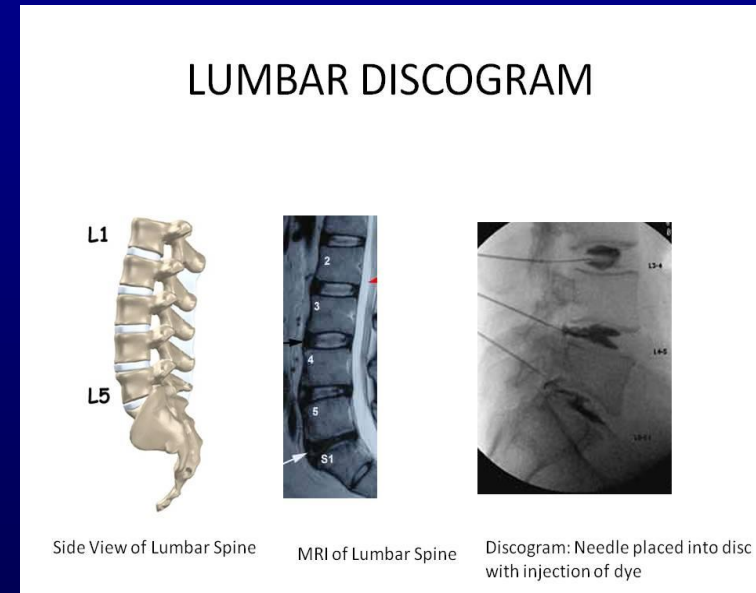
Discography

Controversial subject

Evaluates the morphology of the disc

Pain concordance

MRI is good at establishing disc degeneration but not the pain generator.



Discography

Walsh study

0% false positive and 100%
specificity

Holts Study

36% false positive results



Discography

Proponents-

2 needle technique.

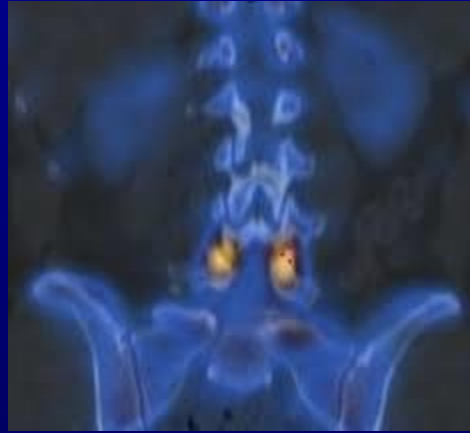
More accurate placement

CT as opposed to X-ray

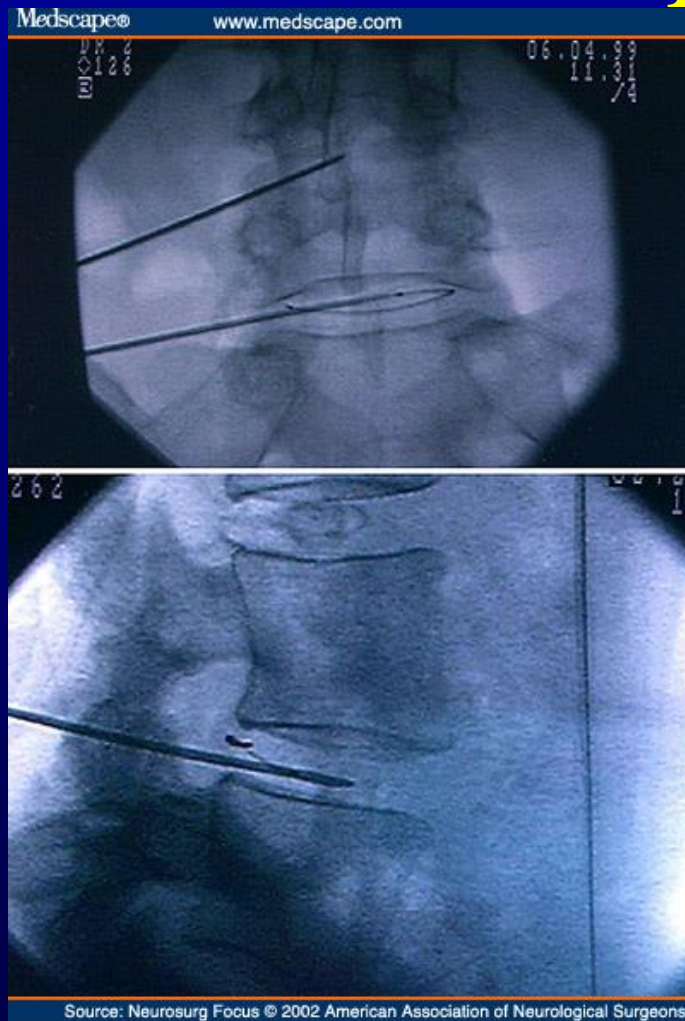
Less toxic contrast agent



SPECT CT SCAN



INTRADISCAL THERAPY and FUSION



DISCUSSION

- **What Is Minimally Invasive Spine Surgery?**
- **(MISS)**

In essence, minimally invasive spine surgery is the performance of surgery through small incision(s), usually with the aid of endoscopic or microscopic visualization. Percutaneous techniques for pedicle screw insertion and cement procedures are also MISS.

DISCUSSION

- **Why Is Minimally Invasive Spine Surgery Needed?**

Minimally invasive spine surgery has developed out of the desire to effectively treat disorders of the spinal discs with minimal muscle related injury, and with rapid recovery.

DISCUSSION

- Minimally invasive spine surgery (MISS)
- Less invasive spine surgery (LISS)
- Computer assisted technology (CAT)
- Percutaneous techniques ie Cementing and pedicle screw insertion

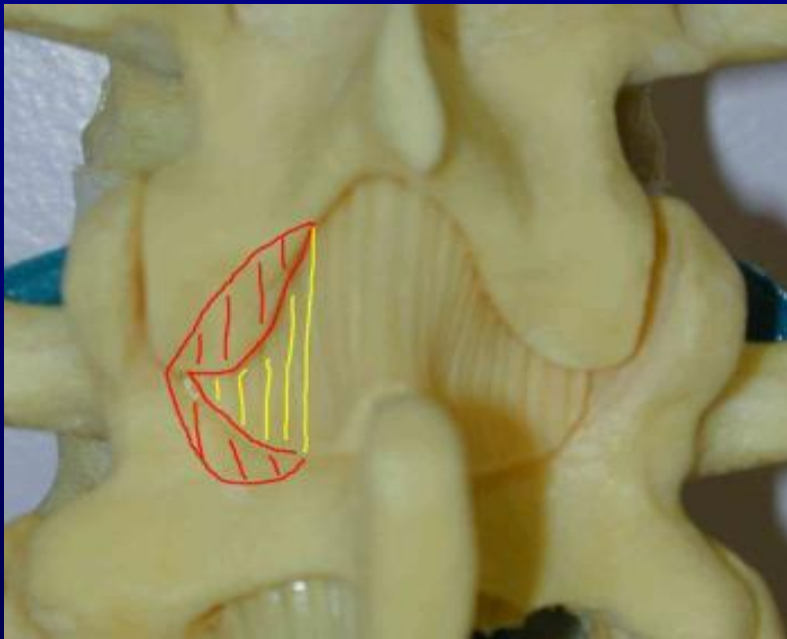
Basic introduction

Small incision.

LISS

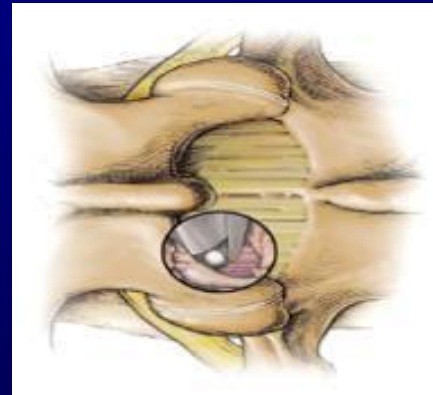
Lumbar microdiscectomy

Less invasive spine surgery



Basic introduction

Microscopic Endoscopic
Discectomy (MED)



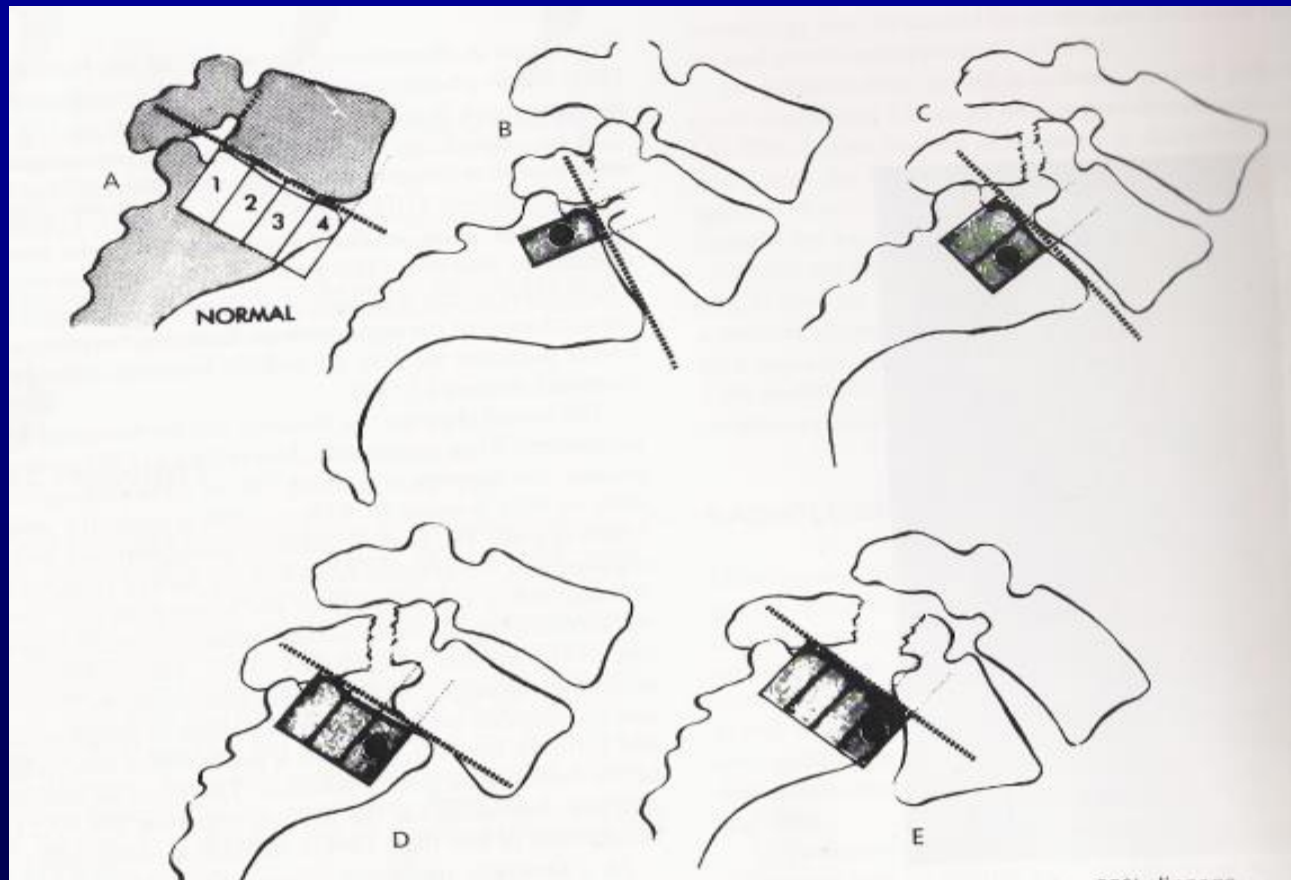
Advantages

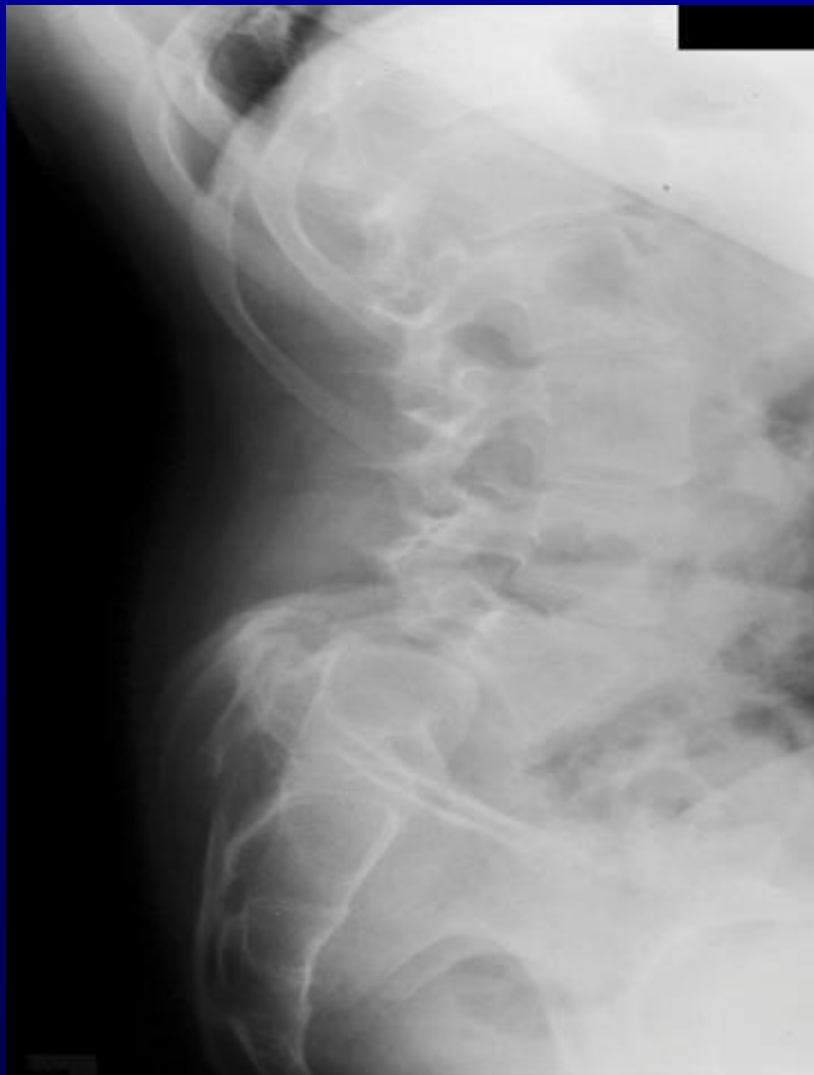
- Small Scar
- Short hospital stay
- Less postoperative pain
- Shorter recovery time

Minimally invasive TLIF

- A procedure by which a lumbar fusion is done for LBP and leg pain through a percutaneous approach.
- Spinal Trauma and Spinal Tumours

MEYERDING CLASSIFICATION





Minimally invasive Translaminar Interbody fusion



DISCUSSION

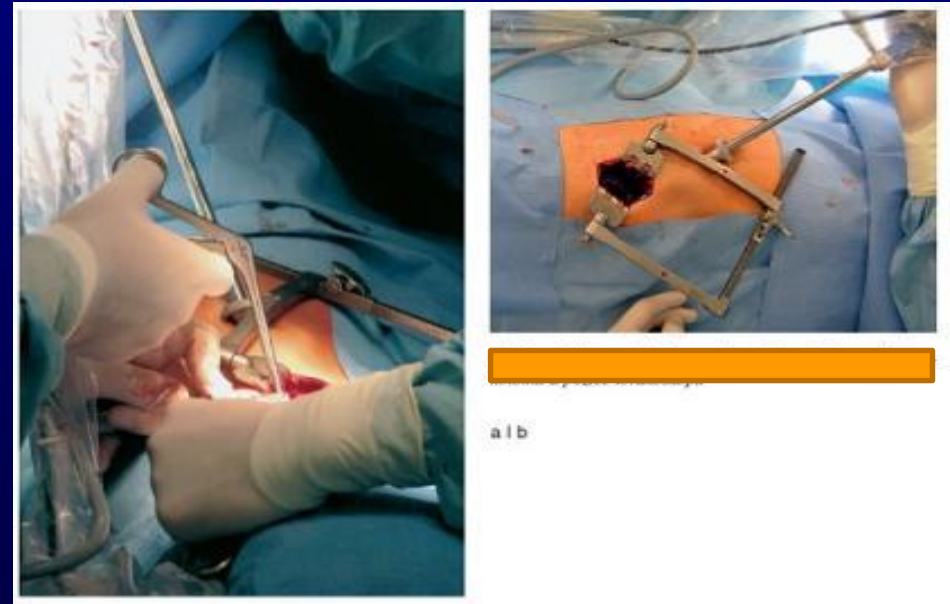
- Access Technology
- Implant technology
- Fusion material

Computer navigation

- STEREOTAXIS.
- THE PROCESS BY WHICH TARGETS VISIBLE ON NEURO IMAGING ARE ACCURATELY LOCALIZED DURING SURGERY EITHER BY ATTACHING A FRAME AND USING A MATHEMATICAL CONCEPT OR USING POWERFUL COMPUTER WORKSTATIONS TO PROCESS IMAGING DATA.

SYSTEM OVERVIEW

- Infrared camera.
- Computer workstation.
- Numerous tracking instruments



IMPLANT TECHNOLOGY

