



Techniques

- ALIF
- TLIF
- LLIF
- Perc Screws

Front Back and Sides

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Indications for Surgery - DRS

- **Decompression**
 - Spinal cord / nerve roots
- **Realignment**
 - Correct deformity
- **Stabilisation**
 - Prevent / Treat
 - Neurological deficit / deformity / pain
 - (Non fusion technology form of "stabilisation")

All may require fusion
Require Instrumentation
Instrumentation increases fusion

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APPS

- Anatomy
- Pathology
- Planning
- Surgery

Recent Topic = Lordosis

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Fusion

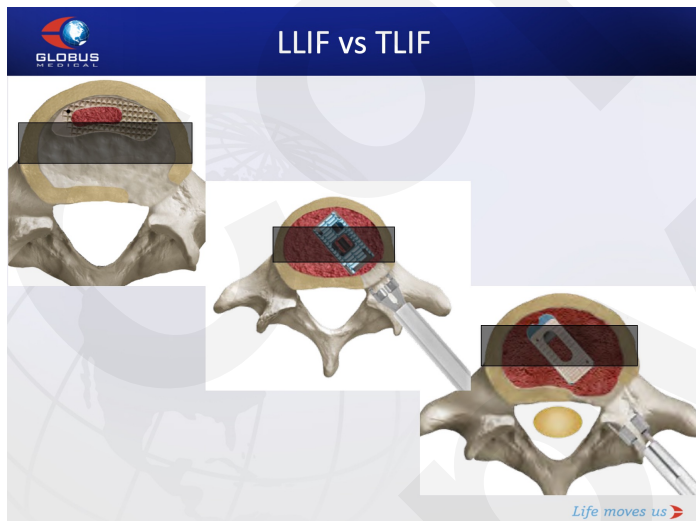
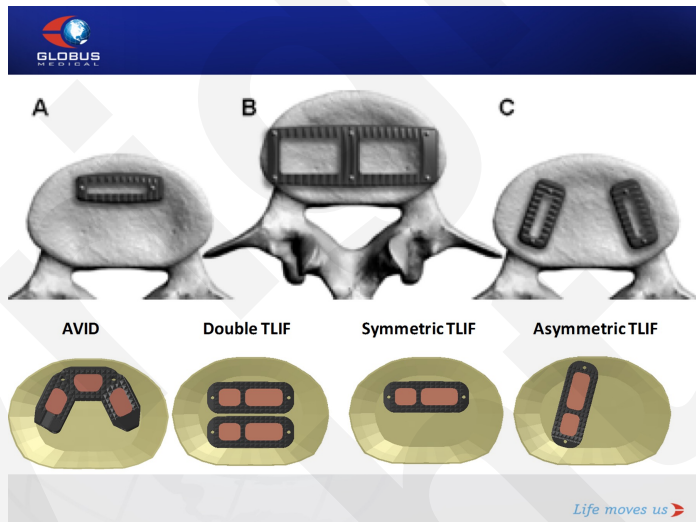
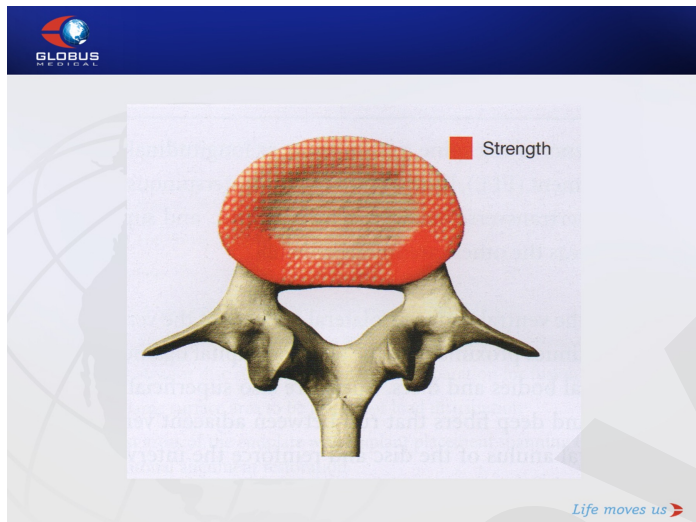
- **Fusion – think:**
 - $\propto$ contact surface area ($1/\alpha$ subsidence)
 - $\uparrow$ compression $\downarrow$ tension
 - autograft > allograft > synthetic
 - vascular > avascular
 - structural graft > non structural
 - BMP...
 - And unfortunately fusion may not be α clinical outcome

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But...

- Joints are designed to move
- Fusion is abnormal
- Beware – nature against you!

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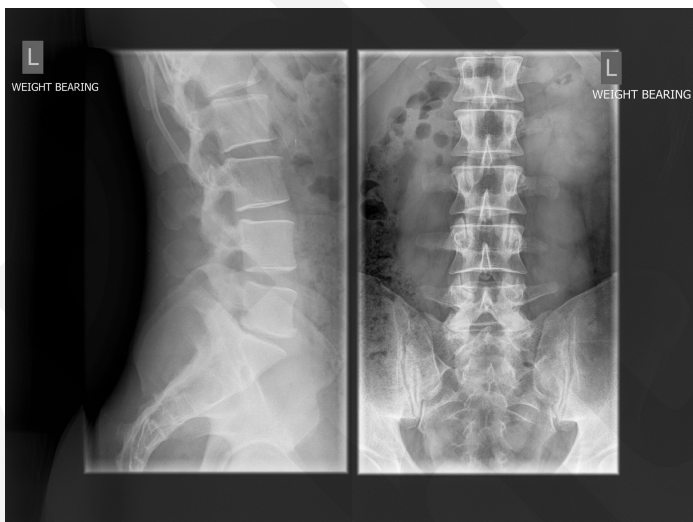
Surgical Options		
	Advantages	Disadvantages
PLIF	Bilateral access to canal, restores lordosis	Painful, infection, neural / dural injury scarring, limited higher up
Mini Open and MIS PLIF	Less painful, low infection, less blood loss, faster recovery	Fusion?, neural / dural injury scarring, limited higher up
Open TLIF	Access, fusion	Painful, infection, neural / dural injury scarring, endplate damage / subsidence
Mini Open TLIF	Less painful, low infection, fusion, less blood loss	Neural / dural injury scarring, disc preparation, endplate damage / subsidence
MIS TLIF	Even less pain, low infection, avoids paraspinal muscle damage, less blood loss, faster recovery	Fusion?, neural / dural injury scarring, disc preparation, endplate damage / subsidence
LLIF + Perc Post	Good fusion, less painful, low infection, T5-L5, avoids canal, less visceral vessel injury then ALIF, avoids paraspinal muscle damage, less blood loss, faster recovery	L4/5??, L5/S1 – No, endplate damage / subsidence, plexus injury, diaphragm injury, pneumothorax
ALIF + Perc Post	Best fusion, best restoration lordosis, less painful, low infection, avoids canal, avoids paraspinal muscle damage, mostly less blood loss than a TLIF	Access Surgeon, ilio-lumbar vein, visceral vessel injury, ileus, not above L3

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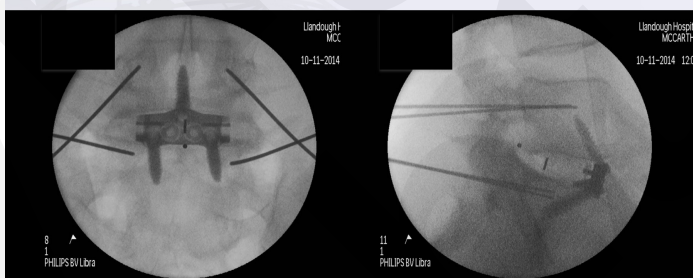


- 35 year old man
- Worsening low back pain 5 years
- No leg symptoms
- Failed conservative management
- Facet injections temporary relief

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- 30 year old man
- Bilateral severe L5 pain some LBP
- Finished family
- Responded well to root blocks
- Pain keeps coming back and wants an operation

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• 50 year old male
• Severe right L5 pain
• Responded well to root block
• Wants a permanent solution

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