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# Back Pain, Leg Pain, Psychology & Surgery



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# Back Pain, Leg Pain, Psychology & Surgery

Perspectives of a Surgeon



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# Back Pain, Leg Pain, Psychology & Surgery

Perspectives of a Surgeon

Discussing some Old and some New Concepts



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# Back Pain

- Non-Radicular Low Back Pain
- Very common
- Acute or chronic
- Often non-specific
- Leading cause of disability
- Enormous economic impact



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# Back Pain – Risk Factors

- Obesity
- Smoking
- Age
- Repetitive movements
- Lifting heavy loads



# Back Pain – Red Flags

- Cancer
  - History of Cancer, weight loss, night pain
- Fracture
  - History of trauma, osteoporosis
- Infection
  - Fever, night sweats, IV drugs, immunosuppression
- Cauda equina



# Cauda equina

- A surgical emergency
- Any space occupying lesion compressing the cauda equina causes loss of function
  - Large disc, tumor, fracture, infection
- Urinary retention
- Saddle anaesthesia
- Worsening neurology





# Referred Pain

- Retroperitoneal organs
  - Renal colic
  - Abdominal aneurism



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# Back Pain - Psychology

- Associated with anxiety and depression;  
Bidirectional Comorbid Association
- Observation and Evidence
  - Longitudinal study 2109 patients with back pain, but no depression, and 1790 patients with depression, but no back pain
  - At 9 years both groups had almost double the incidence of the other condition



# Back Pain - Treatment

- Education and reassurance
- Return to activity
- Physiotherapy and exercise
- Paracetamol and NSAIDs
- Tai Chi, Yoga, Pilates



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# Back Pain - Treatment

- Short period of rest
- Avoid opiates
- Modify activities at work
- Core strength
  - More than walking
  - Lifestyle changes – hard to achieve



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# Back Pain - Treatment

- Formal rehabilitation
- Multi disciplinary approach
- Psychologist
- Antidepressants
- Injections
- Tramadol and Tapentadol



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# Tramadol and Tapentadol

- Opiate like drugs
- For more persistent pain
- Tramadol effective for short term pain
- Cochrane review found it is safe and effective for chronic low back pain
- Less addictive

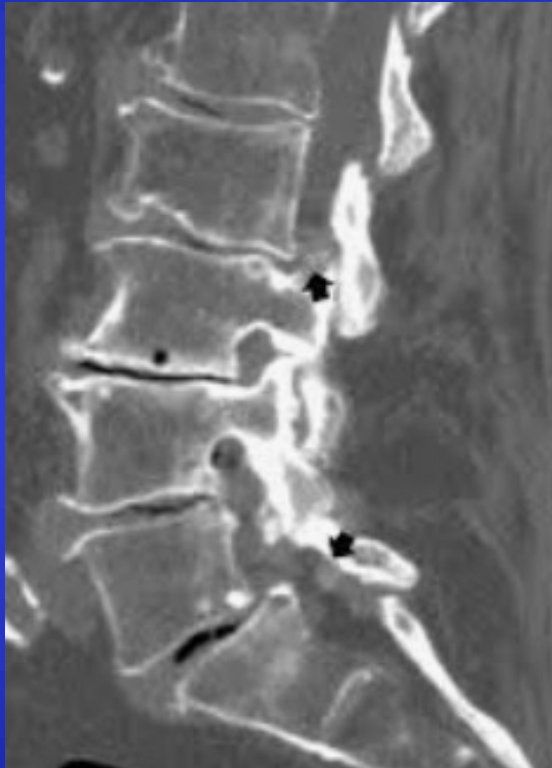


# Back Pain - Surgery

- After at least 1 yr. non-operative treatment
- One- or two-level pathology
- Disc replacement or fusion
- Anterior, posterior, or both
- Variable outcome
  - Reports of 40 - 90% success
  - Adjacent segment degeneration



# Degenerate Spine



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# Degenerate Spine



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# Leg Pain

- Some back pain precedes or results in leg pain
- Lifetime incidence between 13 - 40%
- Sciatica mostly resolves
- Some have intractable pain
- Some don't resolve
- Some have progressive weakness



# Leg Pain – Risk Factors

- Age ( 30s, 40s, and 50s)
- Genetic predisposition
- Smoking
- Repetitive bending, lifting and twisting
- Working above shoulder level
  
- Not obesity



# Leg Pain - Pathophysiology

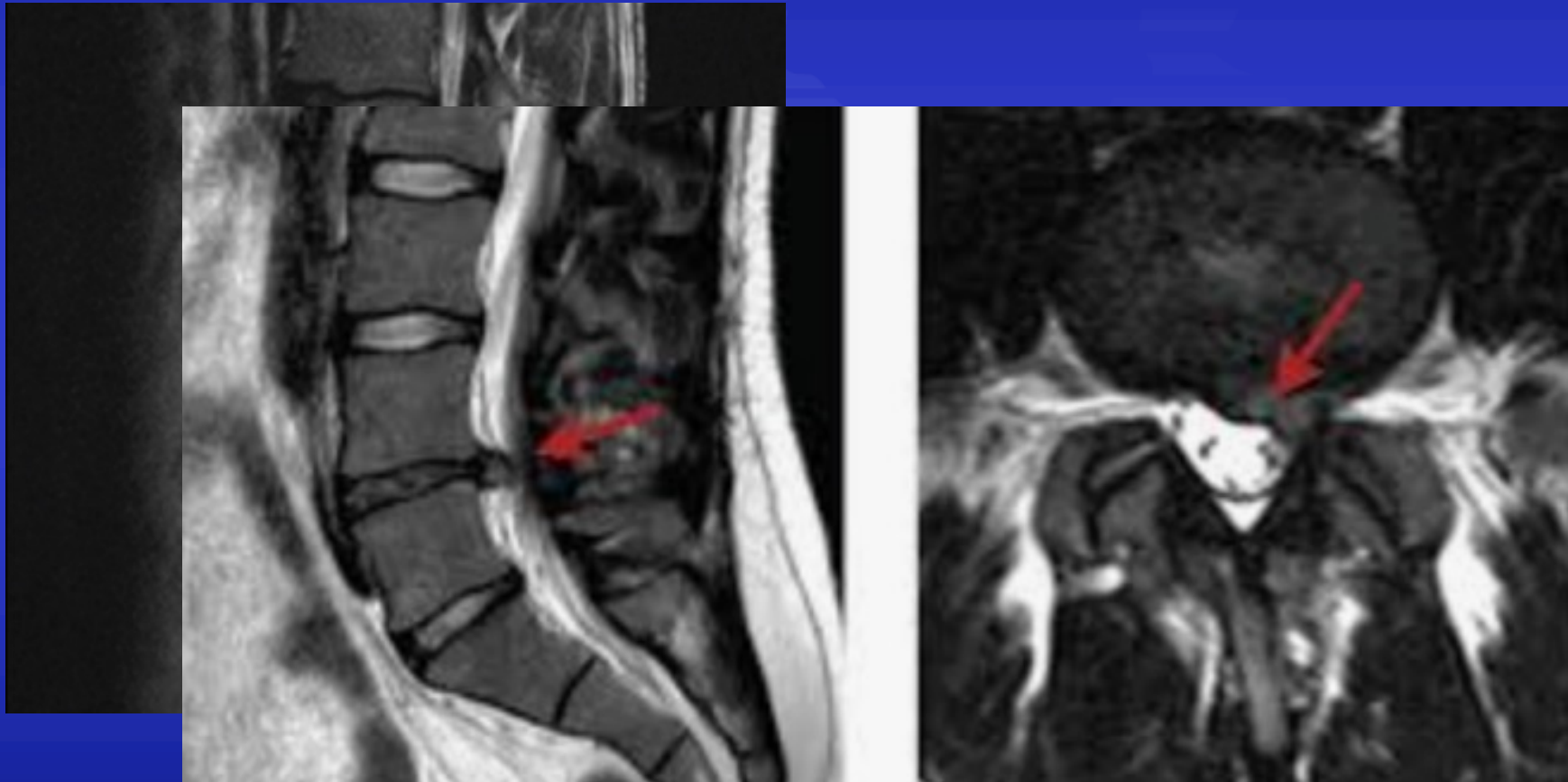
- Pressure causes numbness and weakness
- Inflammation causes pain
- Common delay 1-2 days between incident and pain
- Ectopic activation of nociceptive fibers in nerve root or ganglion
- Chemical irritants and immune modulators



# “Slipped Disc”



# “Slipped Disc”



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# Leg Pain - Psychology

- Fear
  - Tumour, paralysis, loss of control
- Anger
- Frustration and helplessness
- Existential worries
  - Financial stress
  - Permanent incapacity





# Psychology

- “Glass half empty”
- Catastrophizers
- Secondary gains
- Somatization
  - Distress manifesting as physical pain
- Functional symptoms
  - Pseudoparalysis



# Oliver Sachs

- Famous neurologist and writer
- Book: A Leg to Stand On
- Unable to walk
  - Pseudoparalysis
- Clever and daring physio
  - Pushed into pool



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# Physios as Psychologists

- Think body - think mind
  - Injury, pain, tears & fears
- Trust enables reassurance
- The power of hypnosis – **You will get better!!**
- Hypnosis allows relaxation
  - Psychological or emotional state
- Plan for recovery - physical and mental



# “Sciatica”

- Known to the ancient Greeks – a condition which usually improves within 40 days
- Prolapsed disc first described in 1934
- Toothache in the leg
- Dermatomal pain and numbness
- Occasional weakness



# Spinal Stenosis



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# Spinal Claudication

- Leg pain after standing or walking
- Mostly in elderly people
- Gradual onset over months or years
- Postural and completely relieved by sitting
- Caused by stenosis in one or more segments
- Causing venous stasis in nerves



# Leg Pain - Investigations

- Most patients improve – no rush
- X-rays
  - Deformity, fracture
- CT
  - Bony pathology, fracture, tumor
- MRI
  - Disc, soft tissue lesions, tumor, infection
  - Multiple sequences, no radiation, expensive



# Leg Pain - Surgery

- Cauda equina – probably within 24 hrs.
- Intractable pain
- Progressive weakness
- Persistent pain and disability > 4-6 weeks
- Economic considerations
  - Ability to work





# Leg pain - Surgery

- Evidence – not much
  - Sweden 1981, 281 patients with leg pain randomized; at 1 yr. surgical group better
  - SPORT study 2006, 501 patients randomized; both groups improved, but surgery had consistently better results
  - Both studies had a high number of cross-over patients, weakening power of the studies



# Leg Pain – What Surgery?

- Endoscopic vs open discectomy
- Evidence – very little
  - Retrospective 38 000 open vs 175 endoscopic; little difference
  - Prospective study learning curve; first 10 endo cases took average 3 hrs. vs less than 1 hr. open
  - Few studies comparing costs – theatre time, disposables, return to work



# Australian Spine Registry

- Spine Society of Australia
- About 45 000 spinal operations per yr.
- 2022 report on first 3733 patients
- Captures
  - Demographic data, type of surgery, PROMs, revision surgery



# Oswestry Disability Index

<b>ODI Score</b>	<b>Level of Disability</b>
<b>0 - 20</b>	Minimal disability
<b>21 - 40</b>	Moderate disability
<b>41 - 60</b>	Severe disability
<b>61 - 80</b>	Crippled
<b>81 - 100</b>	Bed bound

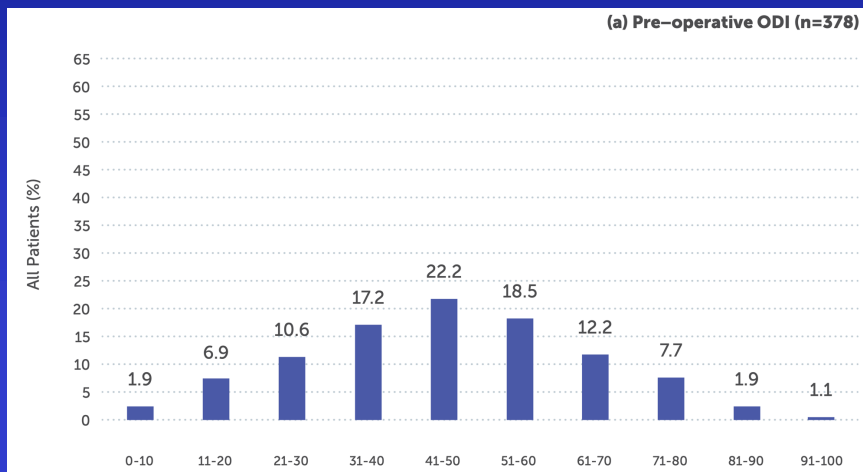


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# ASR - Discectomy

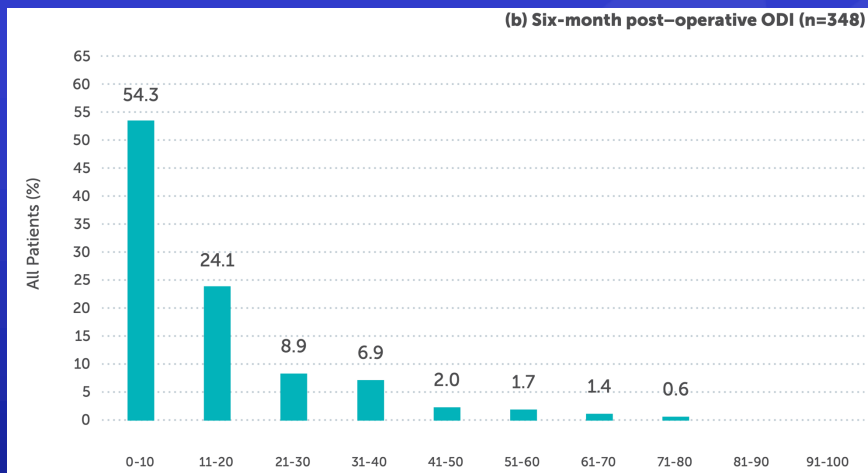
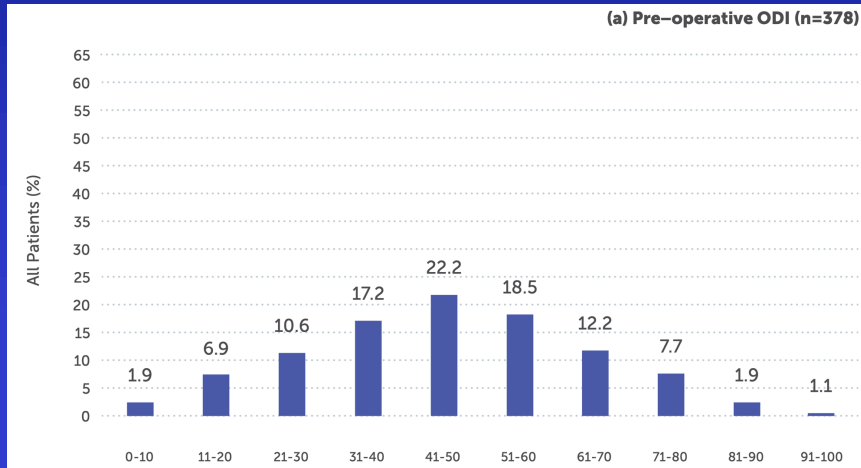


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# ASR - Discectomy

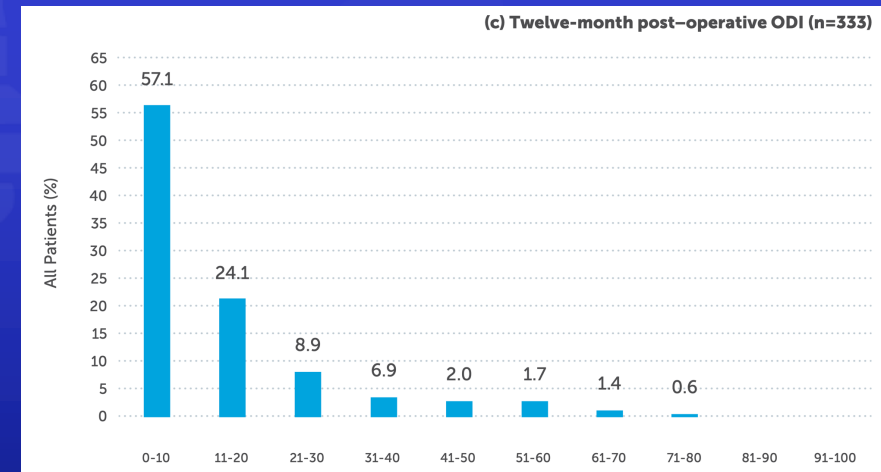
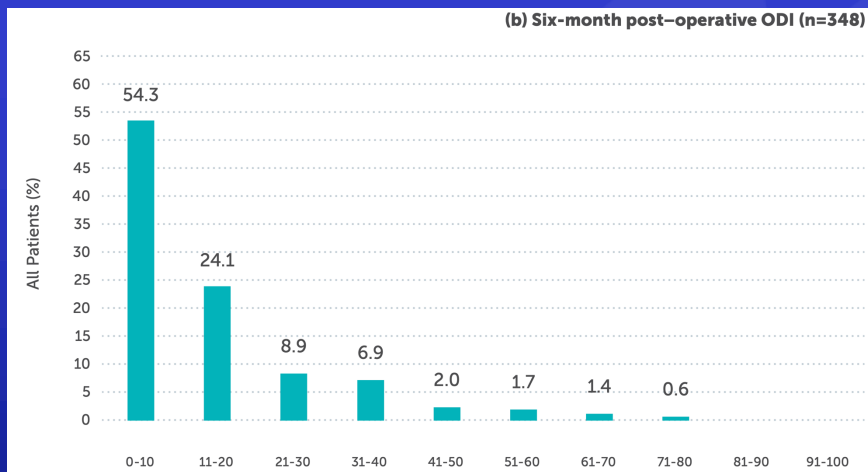
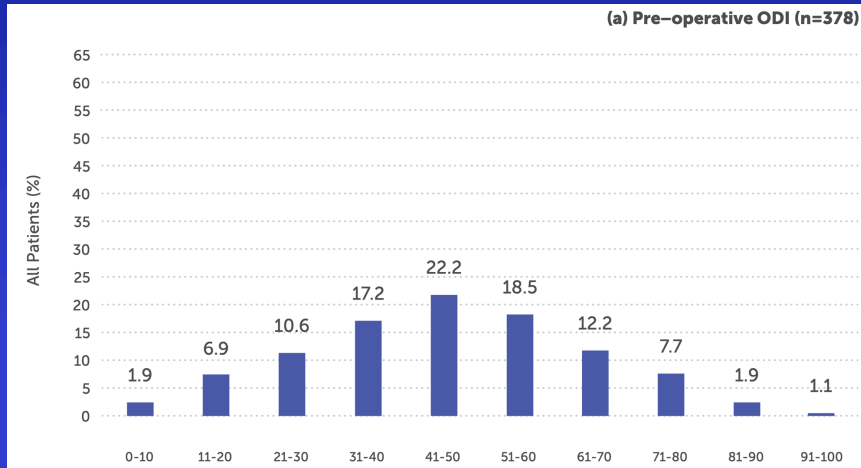


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# ASR - Discectomy



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# What do I do?

- In past 30 yrs. over 2500 open discectomies
- Small, safe, predictable operation
- Patients with persistent pain and disability
- After failed non-operative treatments
- Realistic expectations
- Occasional recurrence requiring redo
- Rarely progress to fusion





# What should You do?

- Be mindful of psychological factors
- Address the physical and emotional issues
- Mobilize and reassure
- Counsel and hypnotize: You will get better!
- Remember **Red Flags**



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# What should You do?

- Be mindful of psychological factors
- Address the physical and emotional issues
- Mobilize and reassure
- Counsel and hypnotize: You will get better!
- Remember **Red Flags**
- **Discuss or refer**
  - **Serious, uncertain, difficult, failure to improve**



Thank you.



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