MSK education for GP's
SPINE
PLS conference 26/05/16

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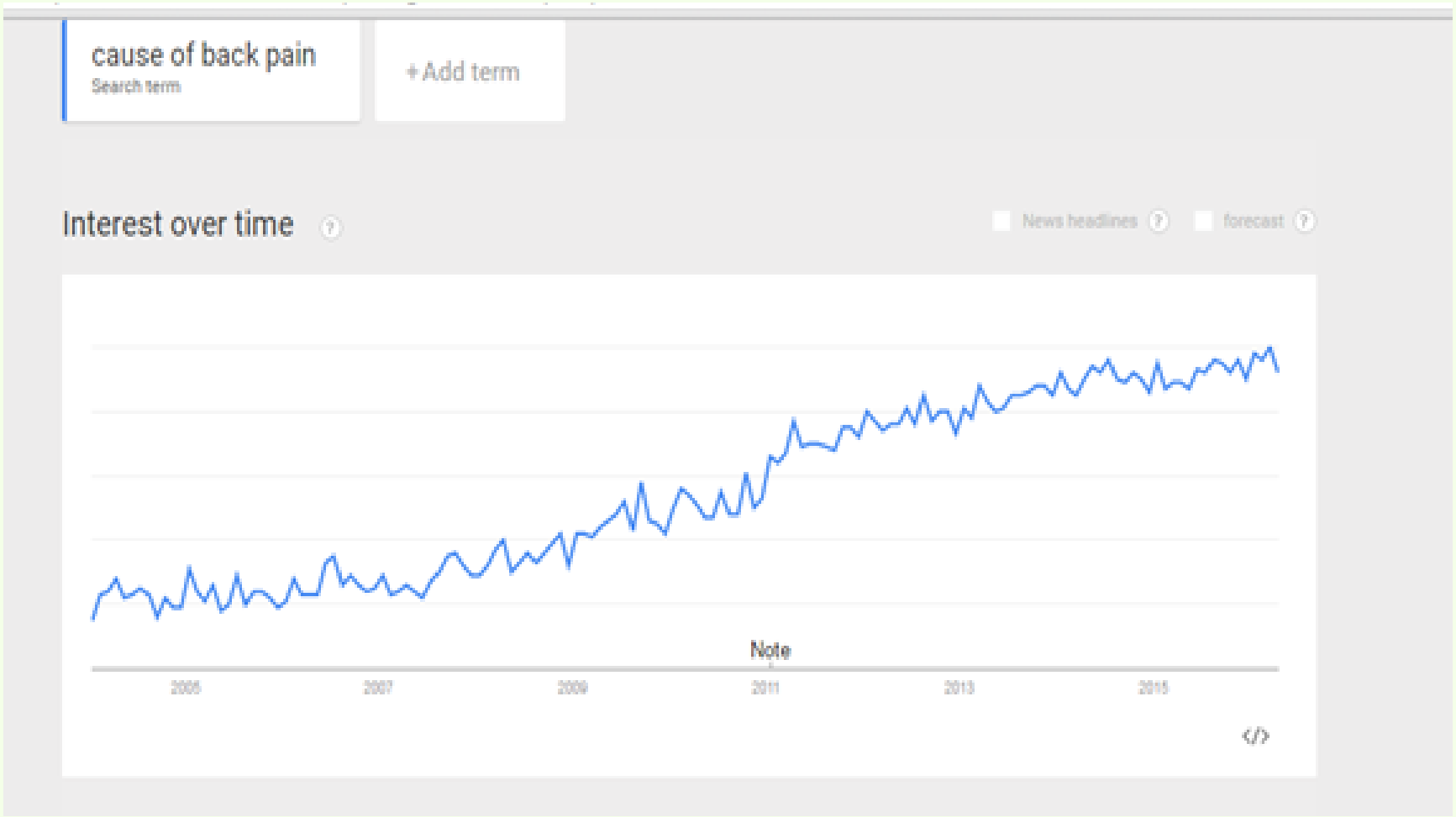
SMSKP

Session plan

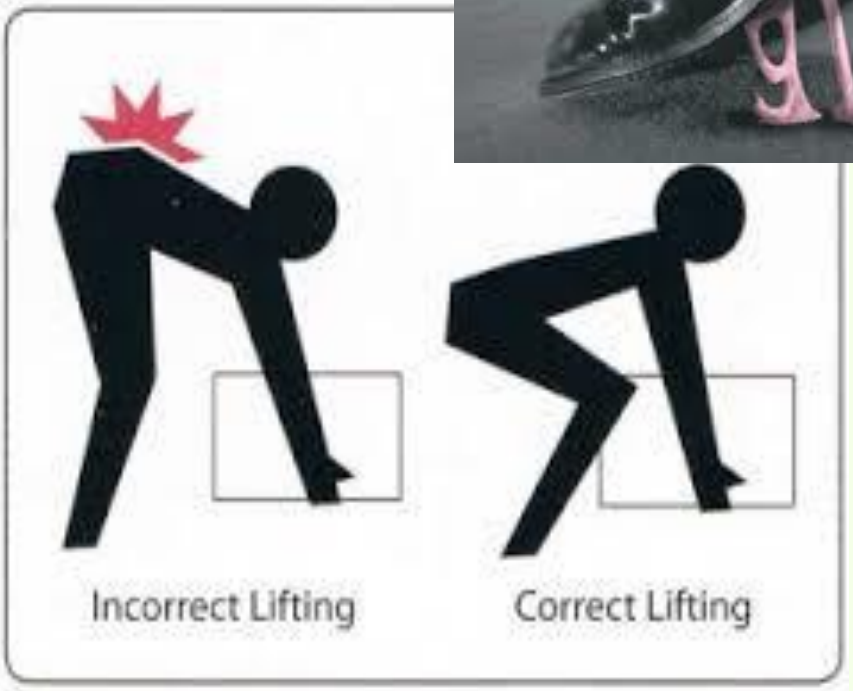
- LBP is multi dimensional
- Relevant history taking and differential diagnosis
- Imaging
- When to refer and where
- Useful resources
- Examination and practical

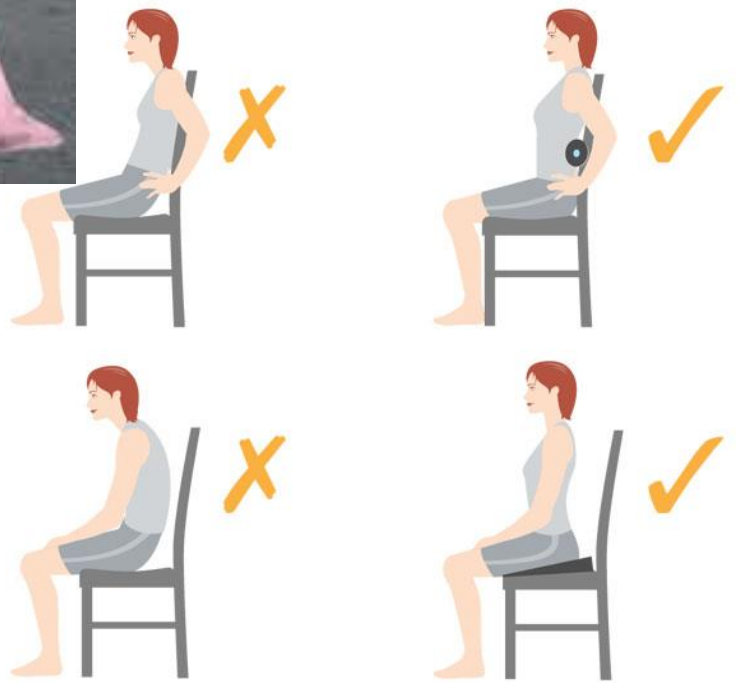
No. 1 Google hit

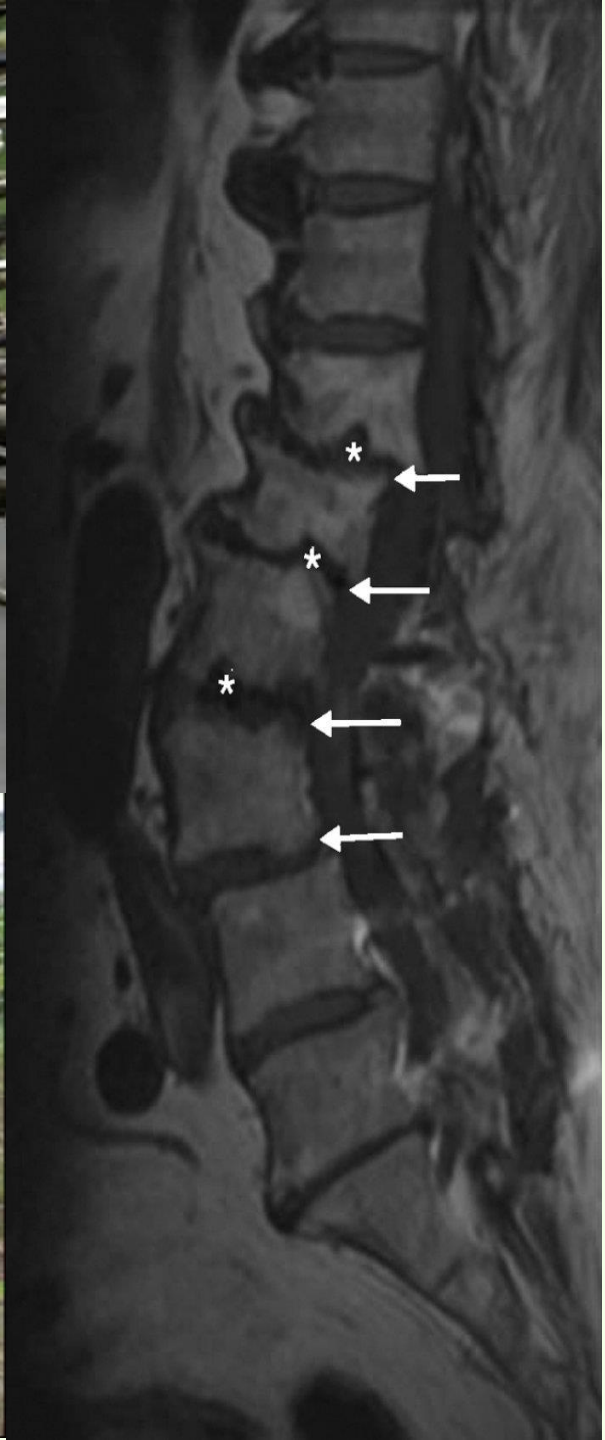



Yoga NamaStacy


gum


Incorrect Lifting
Correct Lifting





Beliefs…

- The psychological states in which an individual holds a proposition or premise to be true

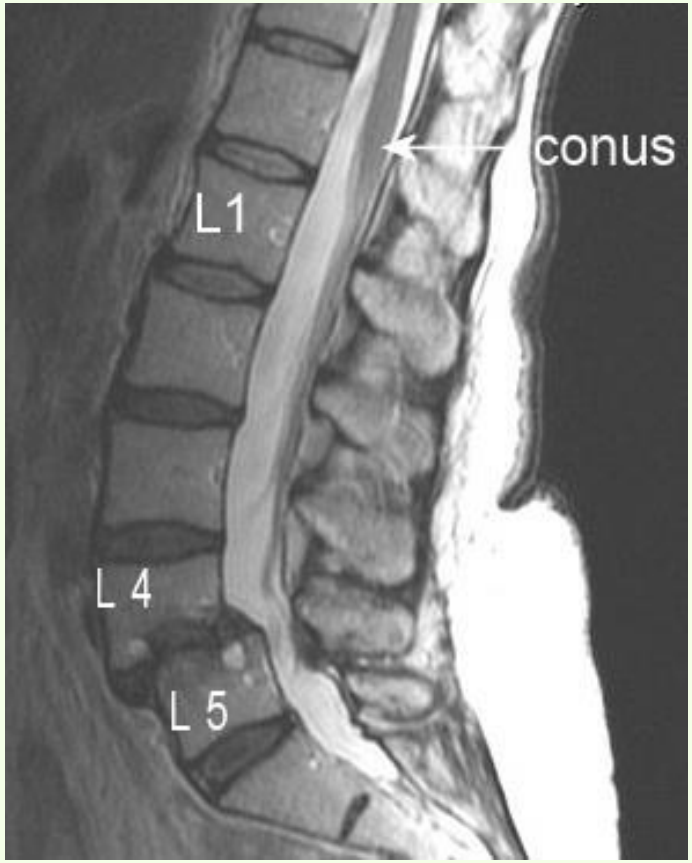
- Influenced by:
  - Culture
  - Environment
  - Family
  - Peers
  - Religion
  - Experience
  - Education

Pain and beliefs

Pain ≠ Nociceptor activation

Pain

- With pathology



- Without pathology

LBP is multi dimensional problem

- Time course / life stage
- Specific / non-specific / Red flags
- Pain behaviour mechanical or non-mechanical
- Psychological factors
- Social factors
- Lifestyle factors
- General health
- Physical factors
- Genetic / family factors

Relevant history taking

- Related to multi dimensional problem
  - Time course / life stage
  - Specific / non-specific / Red flags
  - Psychological factors
  - Social factors
  - Lifestyle factors
  - General health and comorbidities
  - Physical factors

Time line

Make a difference between acute and chronic LBP!

- Acute LBP
- Biomechanical strain
- Triggers:
  - Repeated biomechanical strain
  - Awkward lifting
  - Traumatic injury

- Chronic LBP
- Insidious pain flare
- Triggers:
  - Sedentary behaviour
  - Poor sleep
  - Depressed mood
  - Stress
  - Inactivity

Specific and Non-specific LBP

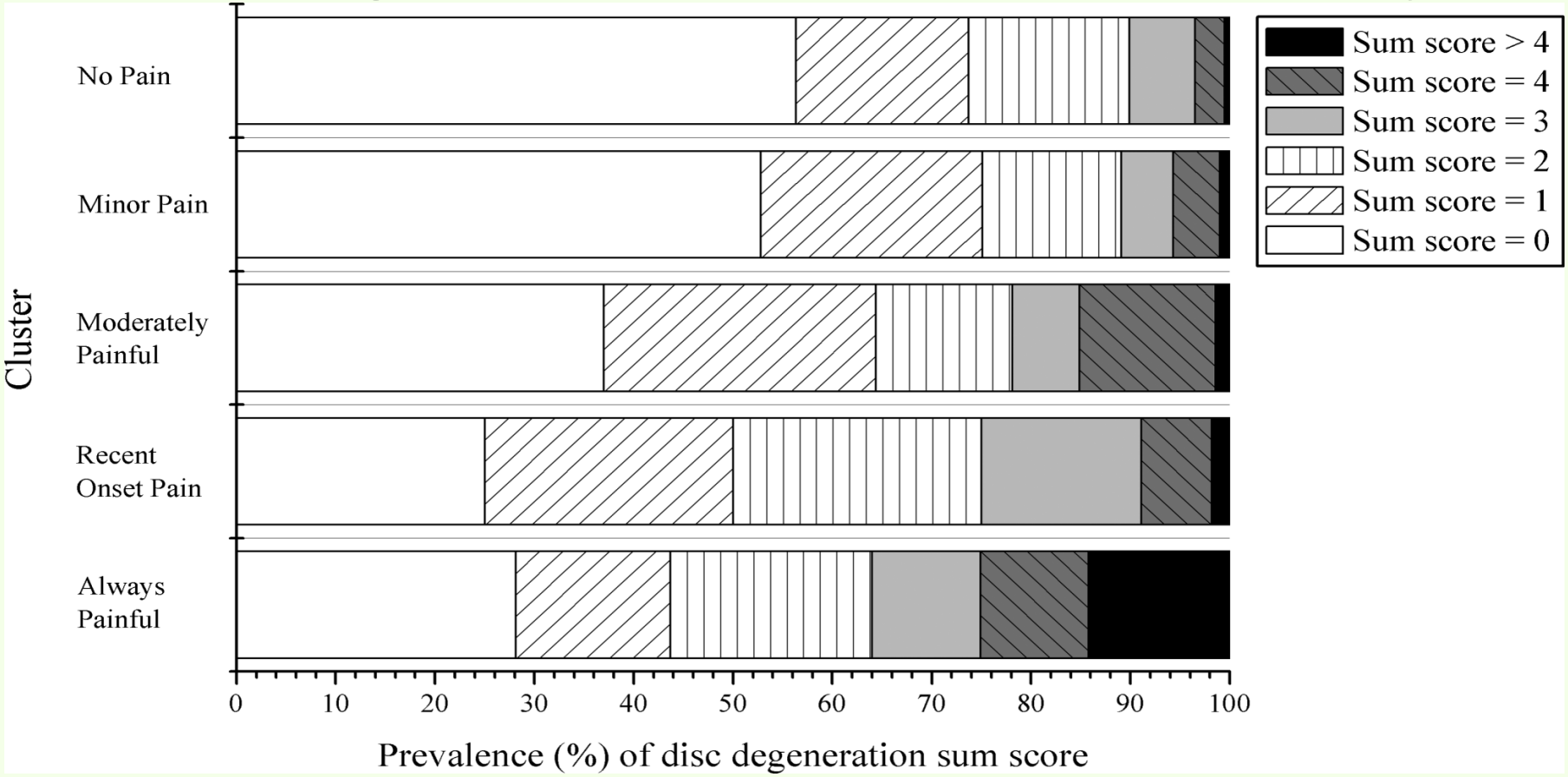
Specific pathology 10%

- Severe disc degeneration?
- Radiculopathy
- Stenosis
- Spondylolisthesis

Non- specific 90%

- Disc degeneration
- Disc height loss
- Disc bulges
- Disc protrusion
- Annual tears
- Facet joint OA

Disc degeneration and LBP (558 @ 21 yrs)



0= no DD → 4= severe DD

Takatalo 2011

RED FLAGS

1%

- Neoplasm
- Infection
- Inflammatory disease
- Trauma / Fracture

Hierarchical list

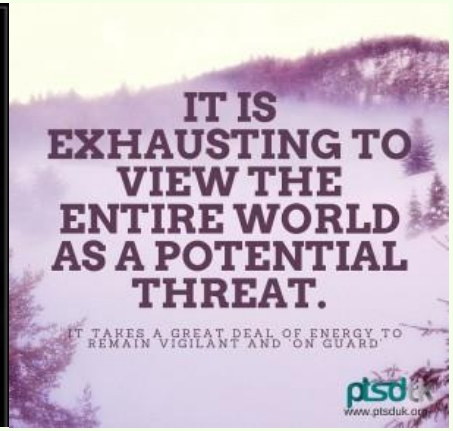
- A combination of
  - age ≥50 years,
  - a previous history of cancer,
  - unexplained weight loss, and
  - failure to improve after 1 month

  = has a reported sensitivity of 100% for identifying an underlying cancer

Jarvik 2002

Psychological factors (“Yellow flags”)

- Influence pain and associated behaviours



- Cognitive: -ve beliefs, hyper vigilance, catastrophising, self-efficacy
- Emotional: stress, fear, anxiety, depression, anger
- Behavioural: avoidance and pain behaviour, poor coping and pacing

Social factors

- Influence pain and associated behaviours
- Socio-economic status
- Financial
- Work
- Seeking compensation
- Poor family function
- Life stress events (divorce, death)
- Cultural

Lifestyle factors

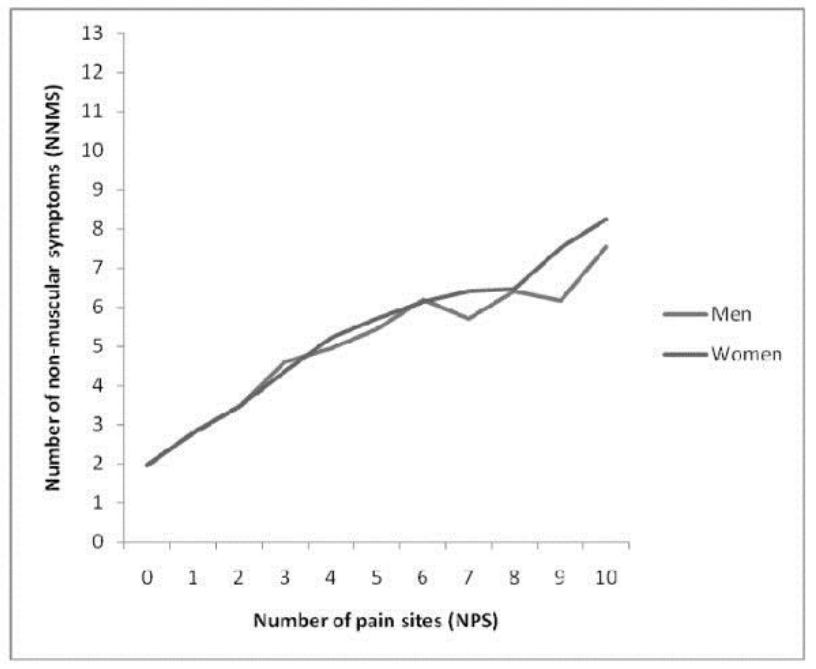
- Influence pain and associated behaviours




- Physical activity
- Sedentary behaviour
- Diet
- Sleep deficit (> 6 hrs)

General health and comorbidities

A strong association between non-musculoskeletal symptoms and musculoskeletal pain symptoms



No correlation between lumbar disc degeneration and disabling low back pain

“Are there any tools I can use within a back pain consultation to save time and inform my management?”

Formal Tool

- StartBack Tool
- Enables the identification of those LBP patients at risk of developing chronicity
- The early treatment of patients at risk of developing chronic pain has been found to be effective at preventing long-term disability and chronicity.

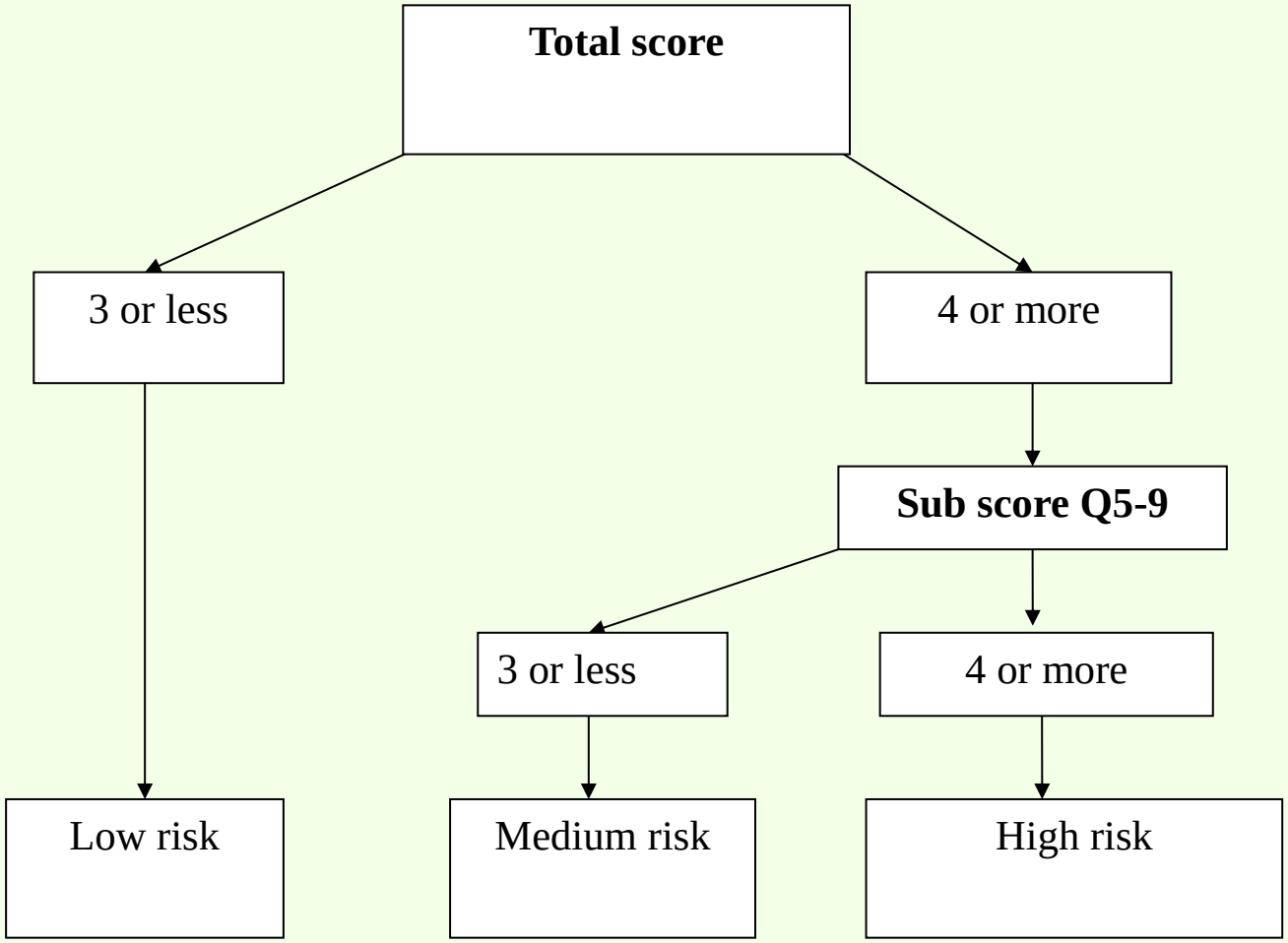
		Disagree	Agree
		0	1
1	My back pain has **spread down my leg(s)** in the last 2 weeks	☐	☐
2	I have had pain in the **shoulder** or **neck** at some time in the last 2 weeks	☐	☐
3	I have only **walked short distances** because of my back pain	☐	☐
4	In the last 2 weeks, I have **dressed more slowly** than usual because of back pain	☐	☐
5	It's not really safe for a person with a condition like mine to be physically active	☐	☐
6	**Worrying thoughts** have been going through my mind a lot of the time	☐	☐
7	I feel that **my back pain is terrible** and **it's never going to get any better**	☐	☐
8	In general I have **not enjoyed** all the things I used to enjoy	☐	☐

9. Overall, how **bothersome** has your back pain been in the **last 2 weeks**?

Not at all	Slightly	Moderately	Very much	Extremely
☐	☐	☐	☐	☐
0	0	0	1	1

Total score (all 9): _____ Sub Score (Q5-9):_____

Scoring system



“How can I convince my patient that an MRI will not help their back pain? And how do I know if they might need one?”

Imaging

- “Abnormal” findings are common:
  - Herniated discs are common in asymptomatic people
  - There is high prevalence of FJ OA in the community
  - Among asymptomatic persons 60 years or older, 36% had a herniated disc, 21% had spinal stenosis, and over 90% had a degenerated or bulging disc

Predictive value of MRI

- "Abnormal" findings not predictive of development or duration of LBP
- 3-year follow-up of a cohort of patients that had no LBP at baseline reported that only 2 MRI findings, canal stenosis and nerve root contact, predicted future episodes of LBP. In fact, a ***history of depression*** was stronger predictor than either of these 2 MRI findings

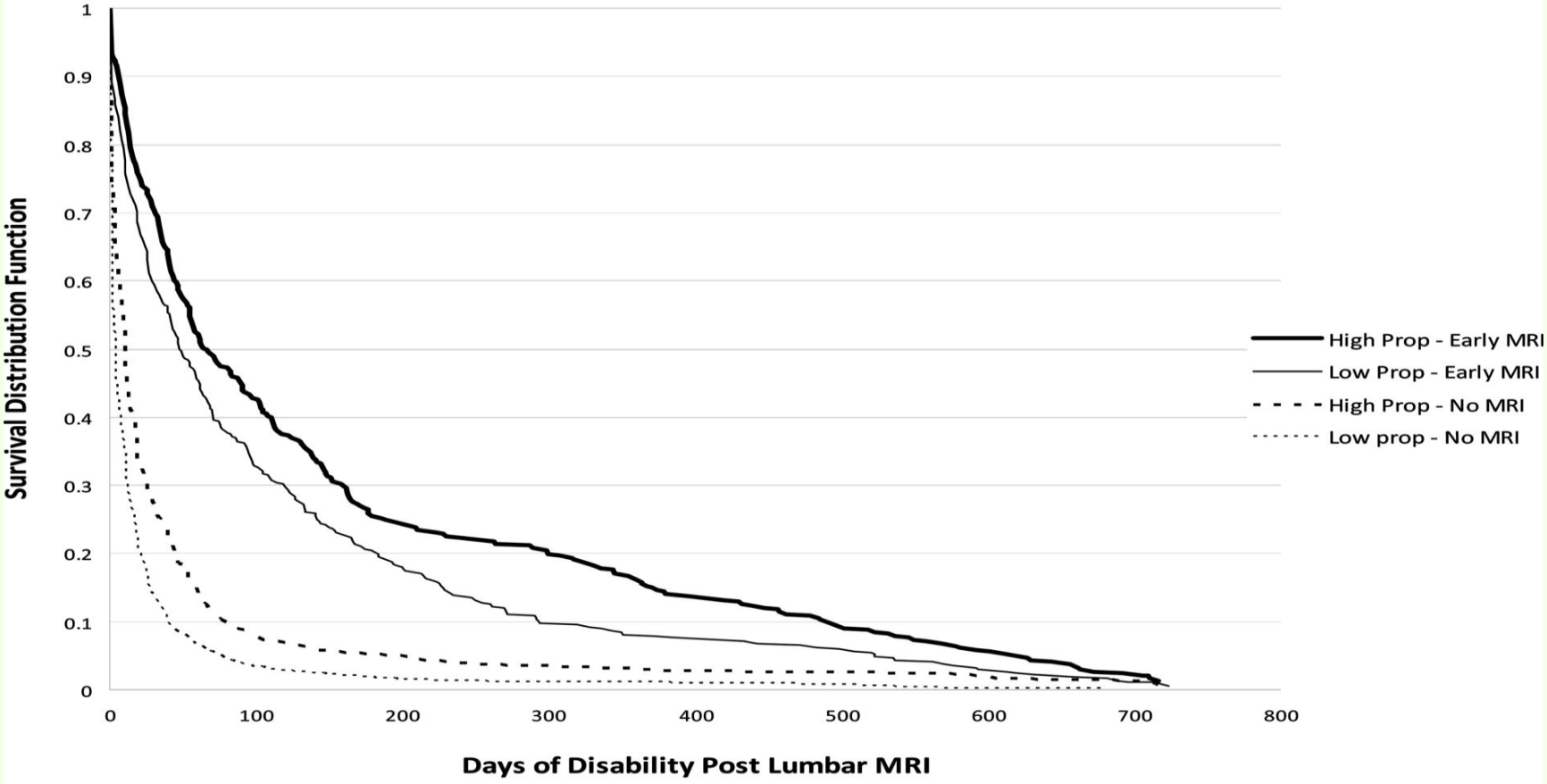
Imaging cont'd

- Imaging does not improve clinical outcomes, it may make it worse
- MRI may lead to unnecessary medicalization (early MRI – ↑use of analgesia)
- Imaging may expose patients to unnecessary radiation
- Imaging can lead to an increased risk of surgery

Does imaging improve clinical outcomes?

- Sub acute and acute LBP and no features suggesting underlying disease compared some form of imaging (Xray, CT, MRI) with none. Imaging was not associated with an advantage in pain, function, quality of life or overall improvement.
- A meta analysis of these studies found for short-term outcomes, trends slightly favoured usual care without routine imaging
- Routine imaging was not associated with psychological benefits, despite some clinicians' perceptions that it might help alleviate patient fear and worry about back pain
- In patients without radiculopathy, clinicians should not routinely obtain imaging Chou 2007

Relationship between MRI and disability



Communicating radiological findings

- Radiological imaging for chronic LBP resulted in:
  - Poorer health outcomes
  - Poor perceived prognosis
  - More likely to have surgery

Sloan and Walsh 2010

- Early MRI for mild back sprain was associated with:
  - Higher risk of receiving disability compensation
  - And not working due to injury at one year

Graves et al 2012

Indications requesting imaging

1. Neoplasm
2. Infection
3. Inflammatory disease
4. Trauma / fracture

What do patients do when in pain

Representation of LBP

Cause
Consequences of the pain
Curability
Control

Influenced by

Beliefs
Social messages and context
Culture
Previous experiences

Action

Trigger emotional response

Making sense of pain

- As a GP you need to:
  - Explain pain and reassure
  - Challenge beliefs / thoughts/ responses to pain (GENTLY!)
  - Goal setting – Where would you like to be
  - Target behavioural change

Use language that helps

- Positive language and beliefs – You can trust your back, back is strong, it is safe to bend
- Simple language and metaphors – sprained ankle, a back strain
- Reduce fear and catastrophising
- Promote hope and confidence
- Bio-psycho-social focus
- Belief that pain ≠ harm
- Activity is helpful
- Try to empower patient

When to refer

- Low risk group on StartBack Tool – 1.5h education session with physiotherapy
- Refer medium and high risk group to physiotherapy get 1:1 physio, FRP, PMP
- High levels of psychological factors: ICATS
- Specific pathology (radiculopathy, stenosis if no better after 6w) → physiotherapy, ICATS if no better with physio
- Red flags

Summary

- Screen
- Reassure
- Keep the patient active
- Refer appropriately
- Keep asking questions…
- Let’s work as a team

Rescources

- 23.5h:
  - http://www.youtube.com/watch?v=aUaInS6HIGo
- Low back pain
  - http://www.youtube.com/watch?v=BOjTegn9RuY
- Good patient and healthcare prof education:
  - http://www.pain-ed.com/
- SMSKP website
  - http://sussexmskpartnershipcentral.co.uk/for-health-professionals/

PRACTICAL

Perfect 10 minute examination

- Patient story - *History*:
  - Identify red flags
  - Screen for psychosocial factors
- Examination
  - Observation – ROM – Neuro test
- Diagnosis: SSP – Radiculopathy / Stenosis – Non specific mechanical LBP
- Refer appropriately

Observation

- Observe patient's posture in waiting room
- How does the patient enter the room ?antalgic gait
- How does the patient sit down or raise from a chair and how comfortable / uncomfortable are they sitting
- If possible: Undress
- Radiculopathy – usually list (away from the painful side)

Range of Motion

- Flexion (touch knees or feet)
- Extension (20)
- Side flexion (20)
- Rotation (minimal in lumbar spine)

- Look for willingness to move, quality of movement, range, pain, deviation

Neurological testing – why?

- Nerves and nerve roots are typically injured by compression or stretching forces
- When a nerve root is damaged a deficit may occur in the corresponding limb
- The evaluation of nerve root damage can be done by testing dermatomes, myotomes and reflexes and testing neural stretch.

- Do not rely on one single test result if it does not fit with the patient's clinical signs and symptoms. The "picture" needs to fit!

How to sensory test

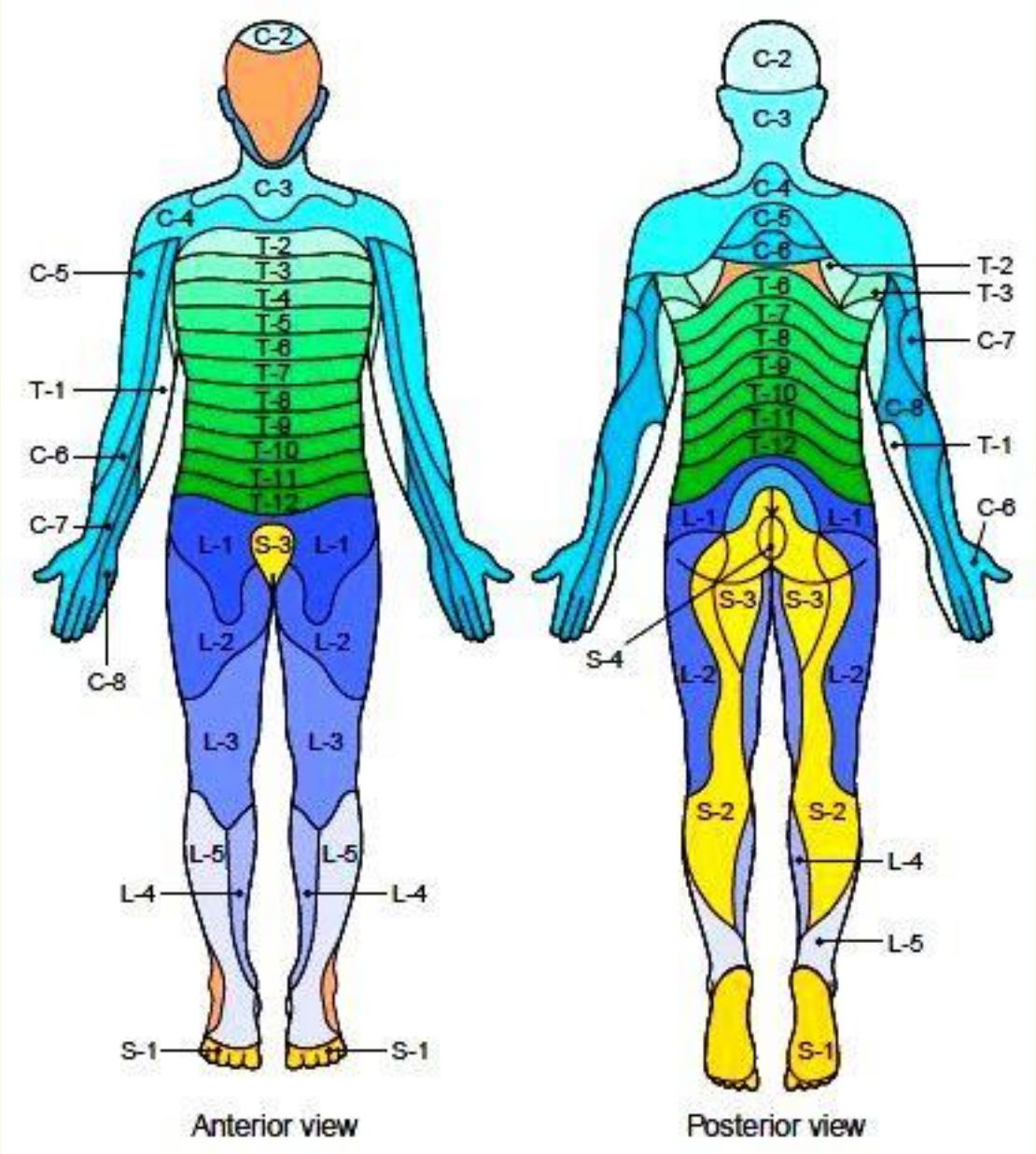
- Light touch sensation (cotton wool)
  - Dab / stroke skin on skin area and ask if patient can feel the sensation
- Pinprick test
  - Ask patient if can distinguish between sharp or blunt

Muscle strength grading

- 0/5 – No muscle movement
- 1/5 – Visible muscle movement, no joint movement (trace)
- 2/5 – Movement at the joint but not against gravity
- 3/5 – Movement against gravity but not against resistance
- 4/5 – Movement against resistance but not as normal
- 5/5 – Normal strength

Neurological assessment

- Myotomes
  - L2 hip flexion
  - L3 knee extension
  - L4 ankle dorsiflexion
  - L5 great toe extension
  - S1 ankle planter flexion (tiptoe)
- Dermatomes
  - L2 upper lateral thigh
  - L3 lower medial thigh
  - L4 shin
  - L5 big toe
  - S1 lateral foot, mid back calf


C-2
C-3
C-4
C-5
C-6
C-7
C-8
T-1
T-2
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T-4
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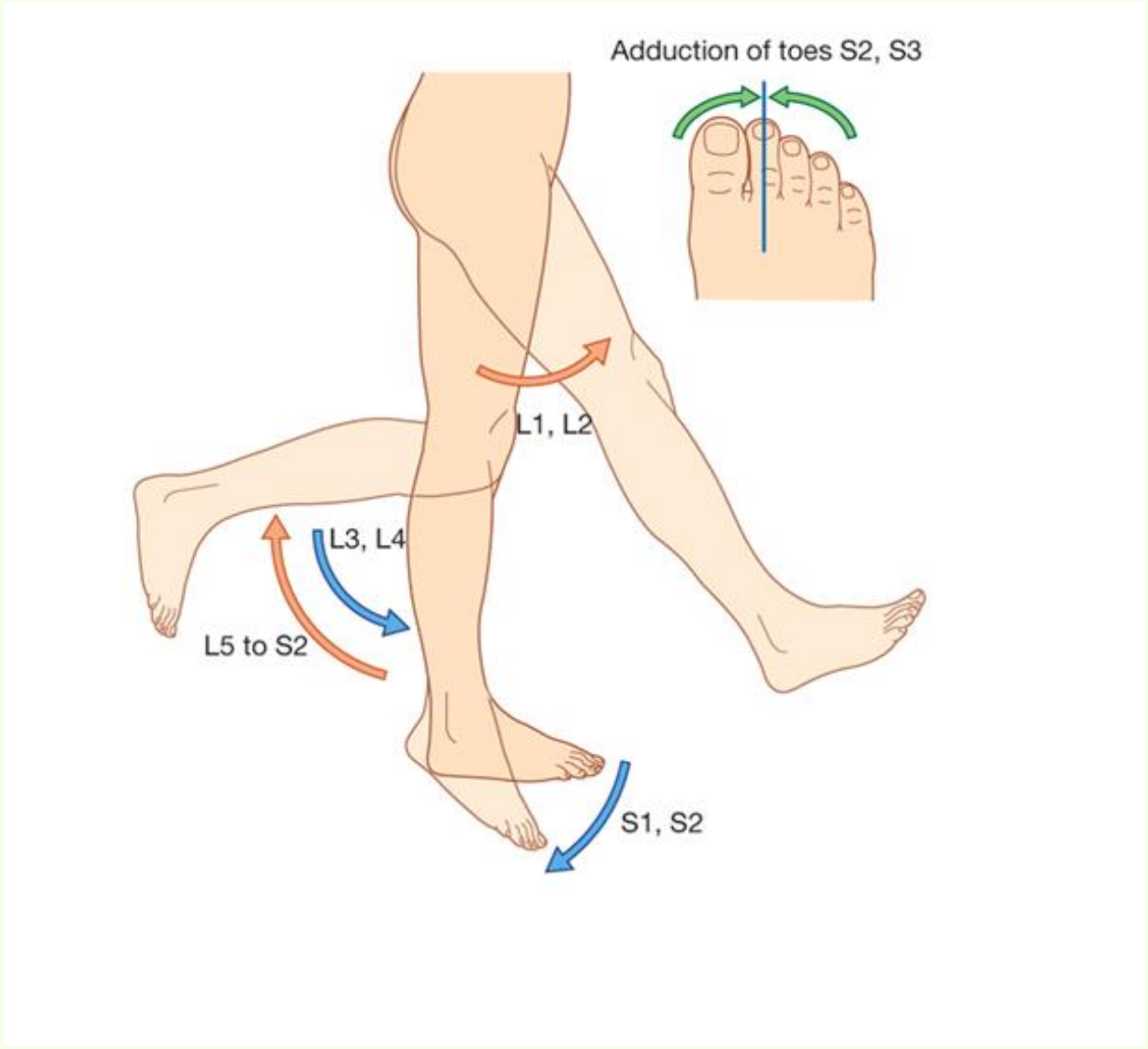
T-7
T-8
T-9
T-10
T-11
T-12
L-1
L-2
L-3
L-4
L-5
S-1
S-2
S-3
S-4
Anterior view
Posterior view


Adduction of toes S2, S3
L1, L2
L3, L4
L5 to S2
S1, S2

Reflexes

- L3 – Patellar reflex
- S1 – Achilles reflex

Neurodynamics

- SLR: L4 – S1 nerve roots
- PKB: L2 – L4 nerve roots

Upper Motor Neuron test

- Clonus
- Babinski

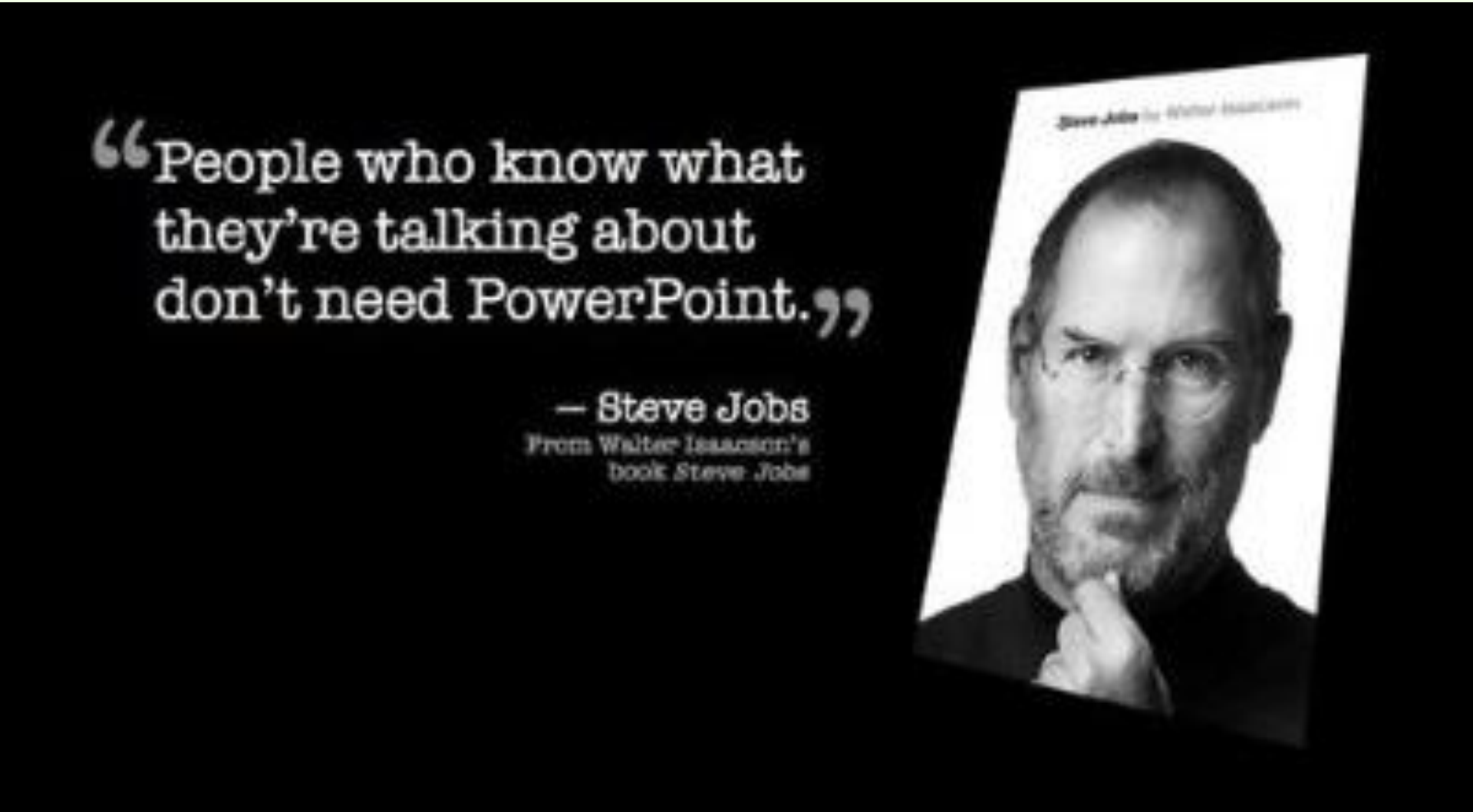
Hip

- Pain usually groin, can be lateral hip pain
- If buttock pain, mainly from lumbar spine
- Pain does not radiate to lumbar spine
- ROM: flexion, ER, IR
- Hip quadrant testing
- Look for pain and restriction

Diagnosis

- SSP
- Non-specific mechanical LBP
- Radiculopathy/stenosis

Questions?


"People who know what they're talking about don't need PowerPoint."
— Steve Jobs
From Walter Isaacson's book Steve Jobs