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GP Spinal Teaching March 2022

Mr M J H McCarthy
Consultant Spinal Surgeon



A Talk on Spines



=



Spinal Conditions

- Low Back Pain / Sciatica
- Cauda Equina Syndrome
- Stenosis / Spondylolisthesis
- Spinal Tumours and Metastases
- Spinal Trauma
- Discitis / Osteomyelitis / Epidural Abscess
- Osteoporosis
- Inflammatory / Axial Spondyloarthritis
- Scoliosis / Kyphosis
- Low Back Pain in Child
- Adult Spinal Deformity
- Thoracic Pain
- Neck Pain / Cervical Radiculopathy
- Cervical Myelopathy
- Whiplash

I can't cover everything let alone LBP in 1½ hrs



Outline

- My Top Ten Tips for **"Non Specific"** Low Back Pain
- (with a 5 min break!)
- Primary / Secondary Interface – What to Refer to a Spinal Surgeon
- The Breadth and Limits of Spinal Surgery for Low Back Pain



Top Ten Tips for Non Specific Low Back Pain

Mr Michael J H McCarthy
Consultant Spinal Surgeon



Objectives

- Cover tips for
 - History
 - Examination
 - Things not to miss
 - Things to say
 - Things not to say
 - Things that can be done
- But not necessarily in that order...



LBP Sciatica

- LBP Statistics
 - During 1 year up to 50% population will have LBP
 - 80% adults experience LBP during their life
 - 85% LBP no clear pathology identified
- Risk Factors
 - Previous LBP, smoking and obesity
 - Heavy physical work, frequent bending, twisting, lifting, pulling and pushing, repetitive work, static postures and vibrations
 - Psychosocial factors such as stress, anxiety, depression, job satisfaction, mental stress
- Prognosis
 - 90% acute LBP recover within 6/52
 - 7% develop chronic LBP
 - Most common cause disability in adults <45yrs



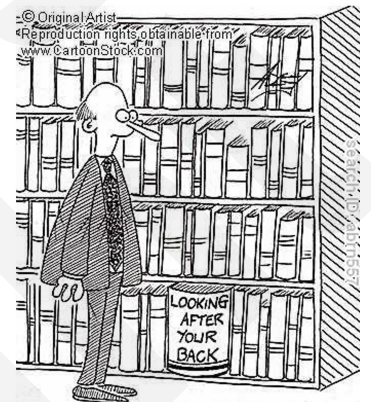
LBP Sciatica

- Sciatica Statistics
 - 1.6% lifetime prevalence of radicular leg pain lasting >2 weeks
 - 60% settle in 6/52
 - 90% settle in 3/12
 - Remaining 10% - half settle by 1 year
- NHS = £1Billion / yr including
 - £512 million hospital costs
 - £141 million on GP consultations
 - £150.6 million on physiotherapy treatments
- Private healthcare = £565 million spent / yr
- The total cost of back pain corresponds to between 1% and 2% of gross national product (GDP)



Where does the pain come from?

- Nerves / Cord
- Muscles
- Ligaments
- Disc
- Bones / Joints

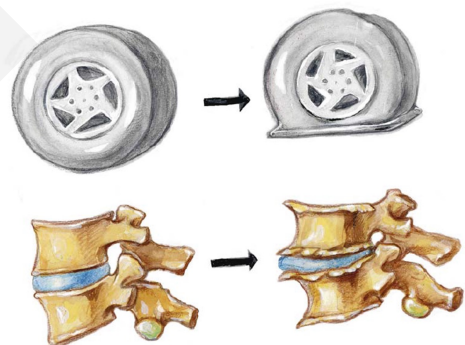


Main Causes of LBP

- Non-specific LBP / Mechanical / Muscular
- Degenerative Disc Disease / Discogenic
- Facet Joint Arthrosis
- Spondylolisthesis / Spondylolysis
- Degenerative Scoliosis / Kyphosis
- Inflammatory Conditions
- Sacroiliac Joint Pain
- **ATIT**



The Pathology



What We Want

- Happy patients who get better
- Reduced re-attendance
- Clinically important improvement in disability
- Improved patient beliefs
- Reduce the conversion of acute LBP to chronic LBP



1. Communication

- Communication
- Communication
- Communication



- You are the communication experts NOT me!



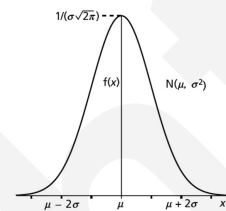
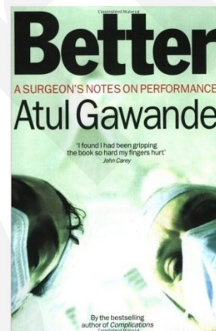
Non Verbal



"And just exactly what is that expression intended to convey?"



Be Positive



Rules of positive variance



Be Positive

- Use positive transference to your advantage
- Prime yourself for the returning chronic LBP patient
- Avoid being sucked down by the patients negative transference
- Address Ideas Expectations and Concerns
- **The main predictor of outcome for LBP is - Psychological**



Expectations & Concerns

- Pain relief
- Cause
- I just want to get back to normal

1. I'm afraid it will get worse
2. I'm afraid I'll end up in a wheelchair
3. I'm unable to work / lose my job / finances
4. I'm unable to do the things I used to
5. I'm unable to play with my children / grandchildren
6. I'm unable to sleep and I'm irritable all the time
7. I'm worried there's something serious going on



2. Don't be **ATIT**

- Exclude the serious:-

- **Abdominal** / Retroperitoneal Causes

- AAA, Pancreatitis, Malignancy

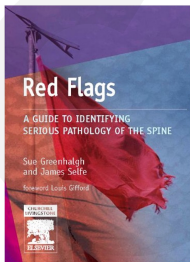
- Spinal **Trauma**

- Spinal **Infection**

- Spinal **Tumour** - Primary / Mets



Red Flags



Serious and Sinister Pathology



Red Flags

- <16yrs or >50yrs with NEW onset pain
- Unwell / unexplained weight loss / unexplained fevers
- Past history of cancer, recent serious illness, recent significant infection, previous long standing steroid use, HIV / AIDS, end stage renal disease, osteoporosis, Paget's disease, alcohol or drug abuse
- Widespread neurological deficits
- Pain is non-mechanical
- Thoracic pain
- Spinal deformity
- History of significant trauma / injury
- Fails to improve with treatment



= Urgent Referral

- But, there is a demand capacity mismatch and long waiting times
- If concerned -



Yellow Flags

Psychosocial Factors:

- Attitudes
- Beliefs (and fears)
- Compensation issues
- Diagnosis
- Emotions (and coping strategies)
- Family
- Work

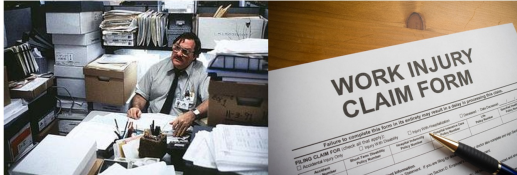


- **Obstacles to recovery**



Occupational Risk Factors:

- Conditions in the workplace that may inhibit recovery
 - Social / Economic
 - Organizational issues



Cauda Equina Syndrome

- A spectrum of low back pain, uni / bilateral radiculopathy, saddle anaesthesia and motor weakness in the lower extremities with variable rectal and urinary symptoms
 - Usually due to a canal filling disc compressing the entire cauda equina
 - Others - Tumour Infection Trauma
- 1 / 100,000
- Disproportionately high medicolegal profile
 - Missed diagnosis >>£500,000



Cauda Equina Syndrome

- SPHINCTERIC DISTURBANCE
- **DO A RECTAL EXAM**
 - “Patient has no anus or surgeon has no fingers”
 - “If you don’t put your finger in it you put your foot in it”
- **BLADDER SCAN**
- **GET AN MRI SCAN**
- ONLY MODIFIABLE FACTOR IS TIME TO DIAGNOSIS AND SURGERY



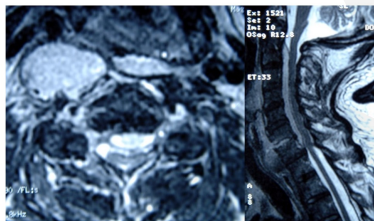
Cord Compression

- Red Flags
- Going Off Legs
- Losing Balance
- Weakness / Numbness
- CES



Epidural Abscess

- Very rare
- Triad
 - Pain
 - Fever
 - Neurological deficit
- Usually spontaneous or ass. Diabetes, Dialysis, Alcoholics, IVDA etc.



CES / MSCC /
Epidural Abscess =

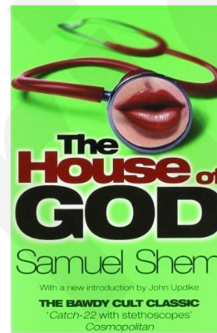


3. Don't Assume

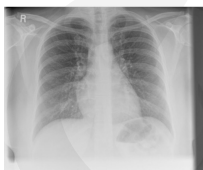
- If you “**assume**” you make an **ass** of **u** and **me**
- Leg or back pain / neurological problems always originate from the spine
- A patient with a chronic back problem can't have a new diagnosis e.g. cauda equina syndrome
- What's on the MRI report is the cause of the symptoms (MRI is very sensitive)
 - “Treat the man not the scan!”
 - Asymptomatic population MRI studies



Rule 4



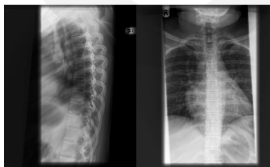
- The patient is the one with the disease!
- Believe them!
- Always have an index of suspicion and never let your guard down
- Plus have empathy
- Learn it + don't lose it



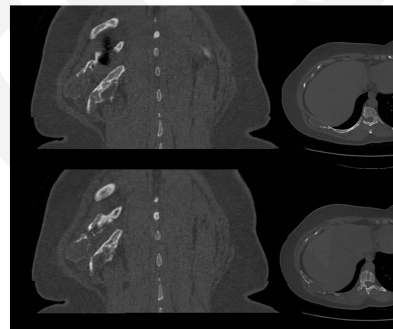
2004
Lump on my chest wall - it comes and goes



2008
It's still there
doctor
USS - normal



2010
I'm telling you I've got this lump
Perhaps it because of my bra
I have them fitted by the same
Brassiere as the Queen you know



2013
Yes – you're right
you do have a lump!

Rare as hens teeth with gold fillings!



5. Examine The Patient

Don't look
Won't find
Rule 10 HoG

Examination

Simplifies
Myotomes
Dermatomes



- Gait
 - Tip toe / Heel / Heel-toe / Crouch
 - Trendelenbergs
 - Rombergs
- Forward bend and Extension
 - LBP vs Leg pain
- Leg length
- Hip / Knee / SIJ
 - Thigh thrust, distraction, compression and FABER



Examination

- SLR
 - Cross over sign
 - Flip test
- Reflexes
 - Hoffmans
 - Clonus
 - Plantars
- Pulses



Waddells Signs

- **Non-organic or psychological component to chronic LBP**
 - M.U.S.
- Tenderness
 - superficial and diffuse and / or non-anatomic tenderness
- Simulation
 - movements which produce pain without actually causing that movement - axial loading and pain on trunk rotation
- Distraction
 - SLR standing / sitting / lying
- Regional disturbances
 - non anatomic regional weakness or sensory changes
- Overreaction
 - subjective signs regarding demeanor and reaction to testing



6. NICE Approach



Low back pain and sciatica in over 16s: assessment and management

NICE guideline

Published: 30 November 2016

[nice.org.uk/guidance/ng59](https://www.nice.org.uk/guidance/ng59)



Problem 1



- Non specific low back pain is NOT a diagnosis
 - “LBP in which it is not possible to identify a specific cause”
 - **Not Tumour Infection Trauma Inflammation (NICE)**
- How do you identify a specific cause = history, examination and investigation
- But, you can't do that in everyone (demand / capacity) and LBP +/- sciatica often gets better on it's own with simple measures
 - My Evolution Theory

Diagnostic Classification NSLBP



- One paper has even classified NSLBP into 13 categories:
- Disc Syndrome
 - reducible, irreducible, non mechanical
- Adherent nerve root
- Nerve root entrapment
- Nerve root compression
- Spinal stenosis
- Facet joint
- Postural
- Sacroiliac joint
- Dysfunction
- Myofascial
- Adverse neural tension
- Abnormal pain
- Inconclusive
- **My conclusion - it is no longer non specific!!!**

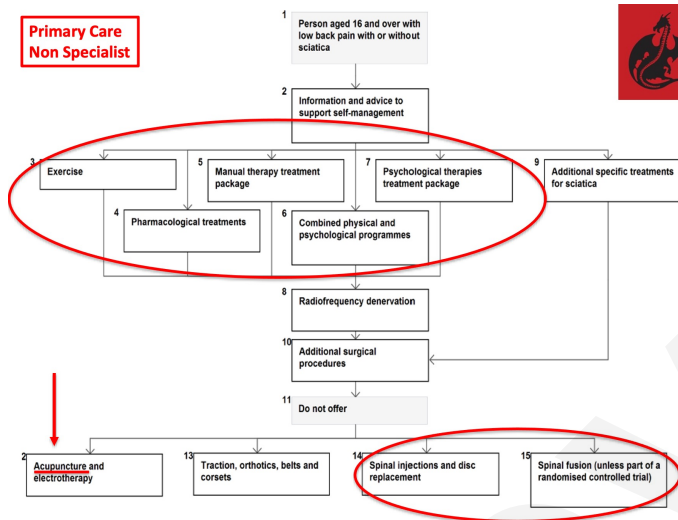
Problem 2



Sometimes people hold a core belief that is very strong. When they are presented with evidence that works against that belief, the new evidence cannot be accepted. It would create a feeling that is extremely uncomfortable, called cognitive dissonance. And because it is so important to protect the core belief, they will rationalize, ignore and even deny anything that doesn't fit in with the core belief.

Cognitive Dissonance

Primary Care Non Specialist



Forget Pills and Surgery for Back Pain

Many physicians are advocating a simpler approach to treating lower back pain: **exercise**

By Daisy Yuhua | Scientific American October 2017 Issue

Drugs



Prescribe **oral NSAIDs** for low back pain at the lowest effective dose for the shortest possible period of time.

Consider **weak opioids** (with or without paracetamol) for managing acute low back pain only if an NSAID is contraindicated, not tolerated or has been ineffective.

Do not offer paracetamol alone for managing low back pain.

Do not routinely offer opioids for managing acute low back pain.

Do not offer opioids for managing chronic low back pain.

Do not offer selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors or tricyclic antidepressants for managing low back pain.

Do not offer anticonvulsants for managing low back pain.

Neuropathic pain

See later

For recommendations on pharmacological management of sciatica, see the NICE pathway on [neuropathic pain](#).

Epidurals

Consider epidural injections of local anaesthetic and steroid in people with acute and severe sciatica.



NICE NOTs

Do not offer acupuncture for managing low back pain with or without sciatica.

Do not offer ultrasound for managing low back pain with or without sciatica.

Do not offer PENS for managing low back pain with or without sciatica.

Do not offer TENS for managing low back pain with or without sciatica.

Do not offer interferential therapy for managing low back pain with or without sciatica.

Do not offer traction for managing low back pain with or without sciatica.

Do not offer belts or corsets for managing low back pain with or without sciatica.

Do not offer foot orthotics for managing low back pain with or without sciatica.

Do not offer rocker sole shoes for managing low back pain with or without sciatica.



Spinal injections

Do not offer spinal injections for managing low back pain.

Consider referral for assessment for radiofrequency denervation for people with chronic low back pain when:

- non-surgical treatment has not worked for them **and**
- the main source of pain is thought to come from structures supplied by the medial branch nerve **and**
- they have moderate or severe levels of localised back pain (rated as 5 or more on a visual analogue scale, or equivalent) at the time of referral.

Only perform radiofrequency denervation in people with chronic low back pain after a positive response to a diagnostic medial branch block.

Do not offer imaging for people with low back pain with specific facet joint pain as a prerequisite for radiofrequency denervation.



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"I'm here about the details."



22.2 Review question: What is the clinical and cost effectiveness of spinal injections in the management of non-specific low back pain?

Recommendations 32. Do not offer spinal injections for managing low back pain.

23.2 Review question: What is the clinical and cost effectiveness of radiofrequency denervation for facet joint pain in the management of non-specific low back pain?

Recommendations 33. Consider referral for assessment for radiofrequency denervation for people with chronic low back pain when:

- non-surgical treatment has not worked for them and
- the main source of pain is thought to come from structures supplied by the medial branch nerve and
- they have moderate or severe levels of localised back pain (rated as 5 or more on a visual analogue scale, or equivalent) at the time of referral.

34. Only perform radiofrequency denervation in people with chronic low back pain after a positive response to a diagnostic medial branch block.

35. Do not offer imaging for people with low back pain with specific facet joint pain as a prerequisite for radiofrequency denervation.



Do not offer disc replacement in people with low back pain.

Do not offer spinal fusion for people with low back pain unless as part of a randomised controlled trial.

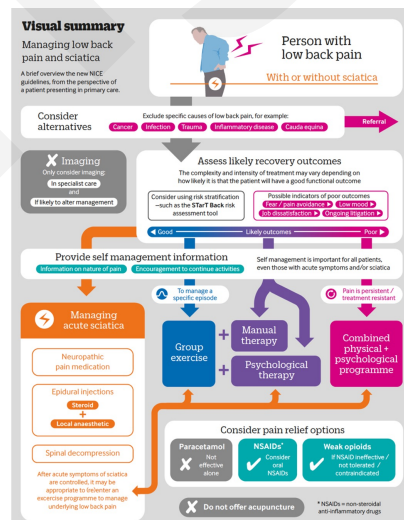
Spinal decompression surgery

Consider spinal decompression for people with sciatica when non-surgical treatment has not improved pain or function and their radiological findings are consistent with sciatic symptoms.

Referral for surgical opinion

Do not allow a person's BMI, smoking status or psychological distress to influence the decision to refer them for a surgical opinion for sciatica.

Refer - fine
Surgery - well...



Rule 5.1
Read the BMJ

Pharmacological management of sciatica

1.2.16 Do not offer gabapentinoids, other antiepileptics, oral corticosteroids or benzodiazepines for managing sciatica as there is no overall evidence of benefit and there is evidence of harm. [2020]

1.2.17 Do not offer opioids for managing chronic sciatica. [2020]

1.2.18 If a person is already taking opioids, gabapentinoids or benzodiazepines for sciatica, explain the risks of continuing these medicines. [2020]

1.2.19 As part of shared decision making about whether to stop opioids, gabapentinoids or benzodiazepines for sciatica, discuss the problems associated with withdrawal with the person.

To support discussions with patients about the benefits and harms of opioid treatment, and safe withdrawal management, see:

- the NICE guideline on patient experience in adult NHS services for recommendations on shared decision making
- the NICE guideline on medicines optimisation for recommendations on structured medication reviews
- the key therapeutic topic on medicines optimisation in chronic pain the opioids aware website and the section in the BNF on controlled drugs and drug dependence. [2020]

NICE is developing a guideline on medicines associated with dependence or withdrawal symptoms: safe prescribing and withdrawal management.

1.2.20 Be aware of the risk of harm and limited evidence of benefit from the use of non-steroidal anti-inflammatory drugs (NSAIDs) in sciatica. [2020]

Low back pain and sciatica in over 16s: assessment and management

NICE guideline
Published: 30 November 2016
www.nice.org.uk/guidance/ng59



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'IT'S ONE WORD GEORGE!'

The Keele STarT Back Screening Tool

Patient name: _____ Date: _____

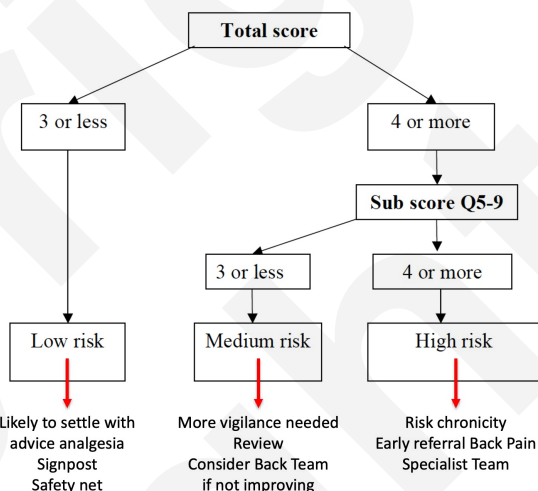
Thinking about the last 2 weeks tick your response to the following questions:

	Disagree 0	Agree 1
1 My back pain has spread down my leg(s) at some time 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	☐	☐

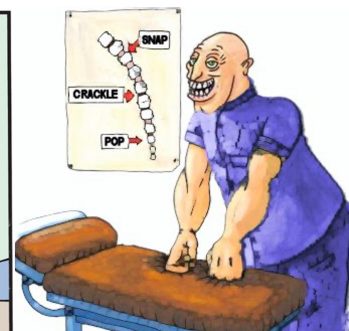
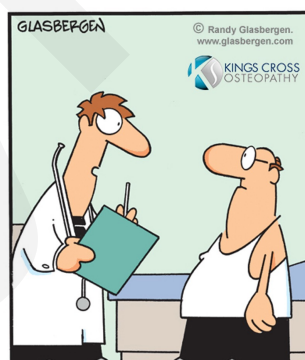
9. Overall, how bothersome has your back pain been in the last 2 weeks?

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

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



7. Have a List



"What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?"

The List

- Aerobics
- Alexander Technique
- Aqua-aerobics
- Chiropracter
- CPP / FRP
- Cycling
- Diet / Lose Weight
- Gym Program
- Hydrotherapy
- Massage
- McKenzie Exercises
- Medication
- Osteopath
- Patches
- Physiotherapy
- Pilates
- Reflexology
- Stop Smoking
- Tai Chi
- Yoga



The Resources

- NICE Guidelines
- The Internet
 - patient.co.uk, gnotebook.co.uk, nhs.co.uk, backcare.org.uk, spinesurgeons.ac.uk, spine-health.com, spineuniverse.com, understandingspinesurgery.com etc. etc.
- The Back Book and Others
- Physiotherapy / Chiro / Osteo
- Gym / Fitness Program
- FRP / CPP - Back in Action Program
- Expert Patient Program
- The Pain Clinic
- The Surgeon



EXERCISE!



But it still hurts...



- I need to see a surgeon
- I need an operation
- It has to be due to something



How can it be worse...



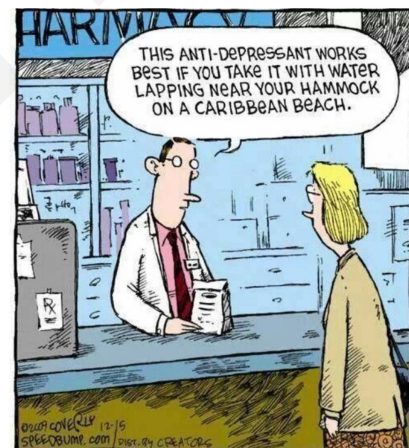
...oh it can be...



- Surgery for LBP is all about risk versus benefit



BREAK TIME



8. Who to Refer?

- Surgery for Leg Pain / Sciatica
 - Buttock can = “Leg”
 - Red flags
 - Severe / not settling down
 - Surgery is generally successful
- Surgery for Low Back Pain
 - The tide has changed...
 - Back pain surgery is generally NOT recommended
 - But, this depends on the cause of the LBP
 - Surgery does not work for “non specific LBP” (whatever that is!)
- More on this later...



9. What not to say

- “Your back is so bad you need to see a surgeon”
- “Be careful your spine is like glass it could shatter at any moment (referring to osteoporosis)”
- “You have a crumbling spine”
- “If you don't have an operation on your spine you will end up in a wheelchair, if you do have one then you might not”
- “Your back pain is due to the bulging discs and you need to see a surgeon urgently before you become paralysed”



9. What not to say

- “You have degenerative back pain” – patients think this means it will get worse with age
- Annular “tear” – implies trauma – use “fissure”
- Until you have proof (MRI) do not label LBP as arthritis, rheumatism, a slipped disc, spondylosis, spondylitis
- “I’m going to leave you to talk to yourself because you’ve obviously got a lot to talk about”
- “...sack of potatoes...”



Avoid Mixed Messages



A man's got to know his limitations



If you don't know say so



What not to believe

- Degenerative LBP gets worse
- The MRI report
- A patient with chronic LBP can't have a new diagnosis



Example MRI Report

- There are degenerative changes throughout the lumbar spine with facet joint arthrosis. The bone marrow is normal and there is no deformity or spondylolisthesis.
- At the L3/4 level there is mild degenerative disc disease with associated mild degenerative changes in the facet joints. There is mild lateral recess stenosis due to facet joint and ligamentum flavum hypertrophy. No exit foraminal compromise.
- At the L4/5 level there is severe degenerative disc disease with associated loss of disc height. There are severe degenerative changes in the facet joints. There is mild central and lateral recess stenosis due to facet joint and ligamentum flavum hypertrophy. No exit foraminal compromise.
- At the L5/S1 level there is moderate degenerative disc disease with associated severe degenerative changes in the facet joints. There is mild lateral recess stenosis due to facet joint and ligamentum flavum hypertrophy. No exit foraminal compromise.
- Suggest clinical correlation of above findings.
- **NORMAL AGEING PROCESS CHANGES**



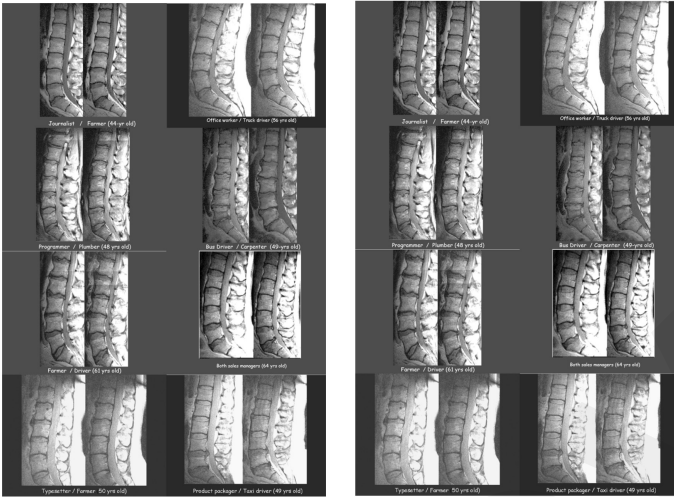


Table 2: Age-specific prevalence estimates of degenerative spine imaging findings in asymptomatic patients^a

Imaging Finding	Age (yr)						
	20	30	40	50	60	70	80
Disk degeneration	37%	52%	68%	80%	88%	93%	96%
Disk signal loss	17%	33%	54%	73%	86%	94%	97%
Disk height loss	24%	34%	45%	56%	67%	76%	84%
Disk bulge	30%	40%	50%	60%	69%	77%	84%
Disk protrusion	29%	31%	33%	36%	38%	40%	43%
Annular fissure	19%	20%	22%	23%	25%	27%	29%
Facet degeneration	4%	9%	18%	32%	50%	69%	83%
Spondylolisthesis	3%	5%	8%	14%	23%	35%	50%

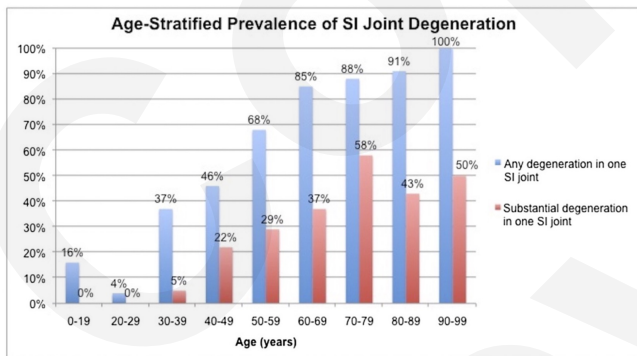


Fig. 6
Prevalence of sacroiliac (SI) joint degeneration per decade of life.



PRACTICE

Check for updates

CHANGE

Do not routinely offer imaging for uncomplicated low back pain

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European Spine Journal

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ORIGINAL ARTICLE

The catastrophization effects of an MRI report on the patient and surgeon and the benefits of 'clinical reporting': results from an RCT and blinded trials

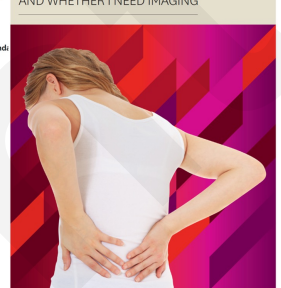
S. Rajasekaran¹, S. Dilip Chand Rupa¹, Shari Thippeswamy Pushpa², Kumar Behera Anand, Shetty Ajay Prasad¹, Mugesh Ramna Rishi¹

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Understanding my low back pain AND WHETHER I NEED IMAGING



10. What to say and do

• REAPRIOP

- Reassurance
- Explanation
- Advice
- Prescription ✓
- Referral ✓
- Investigation ✓
- Observation (Follow up – Safety Netting)
- Prevention

Empower The Patient –
Adult – Adult consultation
Open frank discussion / negotiation
into their management



Reassure Explain Advise

- I know what's going on
- It's non-specific mechanical low back pain
- We often don't know exactly where the pain is coming from but what we do know is that it is not serious
- Hurt does not mean harm / Pain does not mean damage
- It will get better but sometimes it takes time



Reassure Explain Advise

- Use it or lose it / motion is the lotion
- Rest can be harmful – it delays recovery
- We need to strengthen your back and stomach muscles and this will help your pain
- The less you use your back muscles the more they will hurt when you come to use them
- Do what you normally do



Reassure Explain Advise

- We need to help you lose weight / stop smoking
- It will be hard work and its not going to be easy
- But, it will be worth it
- Diet is the best way to lose weight (probably the only way)
- This will take the load / strain off your back and also it will help to prevent conditions such as diabetes, high blood pressure, heart disease and even some cancers



Soothing Phrases

- Use the phrase “Normal ageing process”
- Degenerative changes are part of the normal ageing process / are a bit like getting grey hair / rusty hinges on a door
- Your back will hurt but you won't harm it
- Exercise will hurt as the muscles get fit
- Taking painkillers doesn't mean that you will hurt yourself without knowing it
- The aim of treatment is to reduce the severity, frequency and duration of your painful episodes



Prevention

- Get it right at the first consultation
 - Time well spent
 - Positive messages
- Encourage self sufficiency
- Promote diet / stop smoking
- Promote aerobic fitness
 - Exercise 30 minutes at least 3 times weekly
 - Hot, sweaty, breathless, increased pulse rate
 - Brisk walking, jogging, cycling, swimming

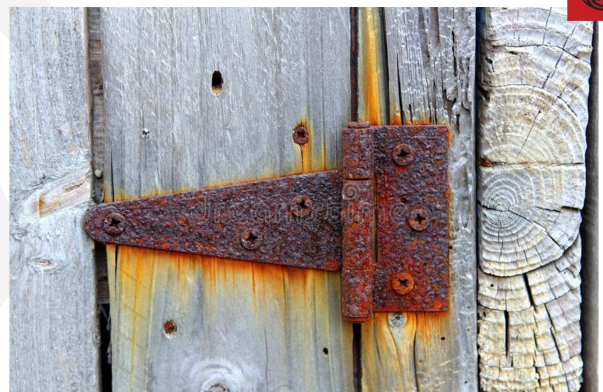


Remember...



- USE IT OR LOSE IT
- MOTION IS THE LOTION
- PLASTER IS DISASTER
- Hurt does not necessarily mean harm
- Pain does not necessarily mean damage

Yoga >5000 yrs old
Tai chi >700 yrs old
Physiotherapy 1813
Osteopathy 1874
Chiropractic 1895
Pilates 1920

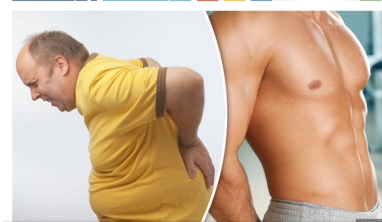


Weight loss: How to lose belly fat if you have a bad back with THESE three moves

WEIGHT loss is best achieved through good diet and exercise, but those who suffer with back pain can struggle to workout. Here are three moves for people who suffer with back pain to get into shape.

By KATRINA TURRILL
PUBLISHED: 04:01, Sat, Sep 23, 2017

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Most read in Diets



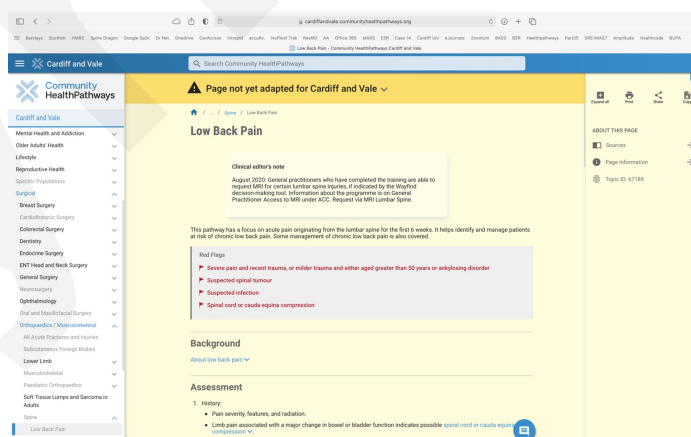
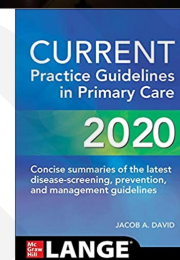
Weight loss: Man got rid of his belly fat and lost three stone by cutting out THIS food

Weight loss: How to lose belly fat if you have a bad back with THESE three moves

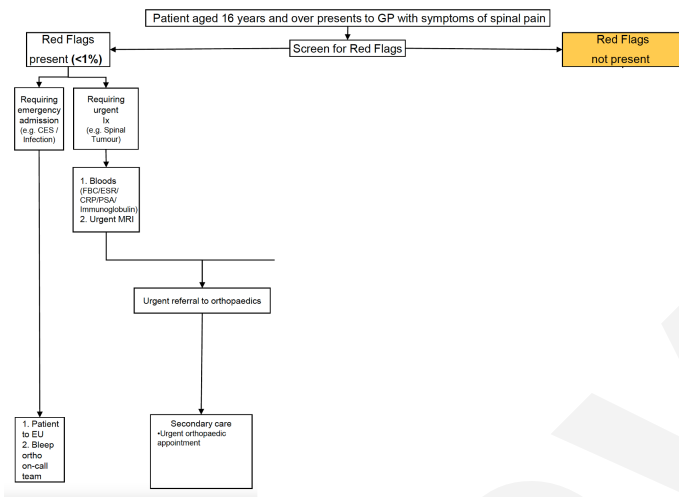
Summary

Key:
EMPOWER the patient
Take RESPONSIBILITY for their health
in an ACTIVE not passive Role

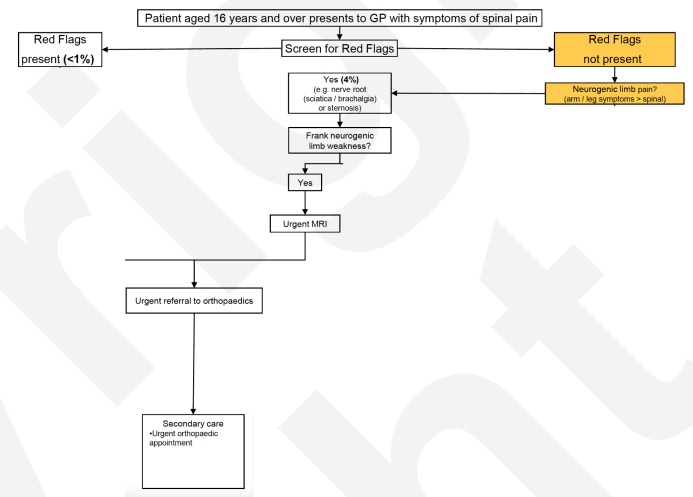
1. Communication
2. Don't be a ATIT
3. Don't Assume
4. Rule 4 of The House of God
5. Examine the Patient
6. Adopt a NICE Approach
7. Have a List
8. Who to Refer (more to come...)
9. What not to say
10. What to say



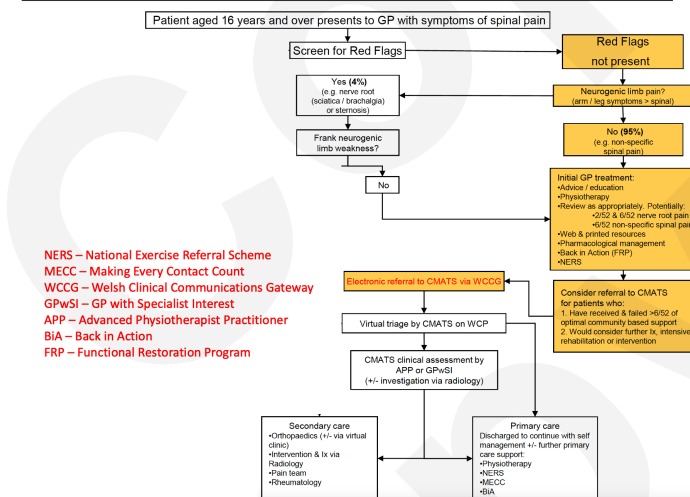
Clinical Musculoskeletal Assessment Treatment Service (CMATS) pathway for GP management of pain of spinal origin



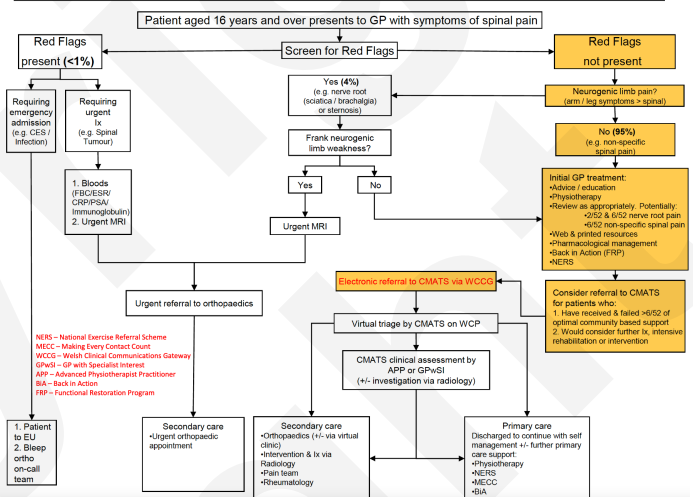
Clinical Musculoskeletal Assessment Treatment Service (CMATS) pathway for GP management of pain of spinal origin



Clinical Musculoskeletal Assessment Treatment Service (CMATS) pathway for GP management of pain of spinal origin



Clinical Musculoskeletal Assessment Treatment Service (CMATS) pathway for GP management of pain of spinal origin



NERS – National Exercise Referral Scheme
MECC – Making Every Contact Count
WCCG – Welsh Clinical Communications Gateway
GPwSI – GP with Specialist Interest
APP – Advanced Physiotherapist Practitioner
BIA – Back in Action
FRP – Functional Restoration Program

Check for updates

Do not routinely offer imaging for uncomplicated low back pain

Amanda M Hall,¹ Kris Aubrey-Bassler,² Bradley Thorne,¹ Chris G Maher³

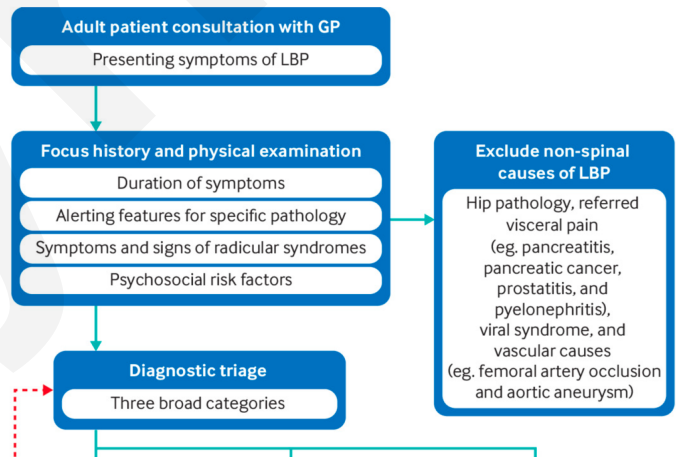
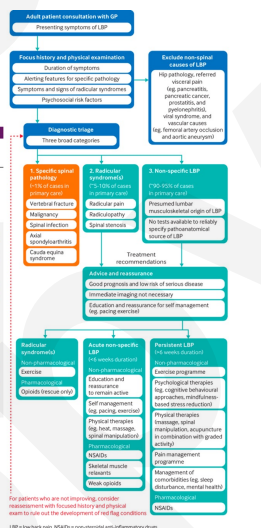
What you need to know

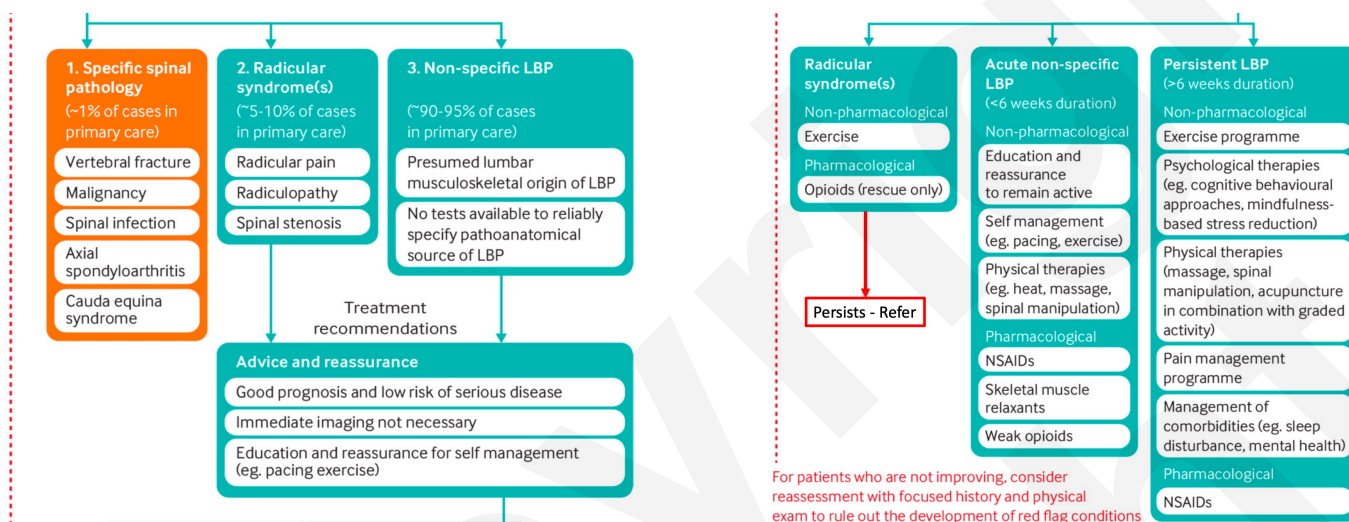
- Less than 5% of all low back pain is due to a specific underlying spinal pathology
- The resulting pain is due to no indication of a serious cause and should be managed with conservative treatments such as advice and reassurance, exercise, physical therapy, chiropractic care, cognitive behavioural therapies, or pain management
- Diagnostic triage based on clinical history and examination can help distinguish between non-specific or more serious low back pain
- Imaging may do more harm than good when serious conditions are not suspected and is likely to prolong recovery in patients with non-specific low back pain
- Patients' primary concerns of whether their pain is caused by something serious and what they should do to aid recovery can be addressed by sound education and reassurance, without the need for imaging

The clinical problem

Box 1: "Choosing Wisely" statements from different countries related to the use of routine imaging for low back pain

- "Do not routinely image patients with low back pain regardless of the duration of symptoms unless there are clinical reasons to suspect serious underlying pathology (i.e., red flags, or if imaging is necessary for the planning and/or execution of a particular evidence-based therapeutic intervention on a specific spinal condition)." – Canadian Spine Society, Choosing Wisely Canada
- "Do not undertake imaging for low back pain in patients without indication of a serious underlying condition." – Australian Rheumatology Association, Choosing Wisely Australia
- "Do not routinely offer imaging in a non-specialist setting for people with low back pain without serious causes. Consider imaging to specialist settings of care (for example, a musculoskeletal interface clinic or hospital) for people with low back pain with or without serious only if the result is likely to change management." – Royal College of Physicians, Choosing Wisely UK

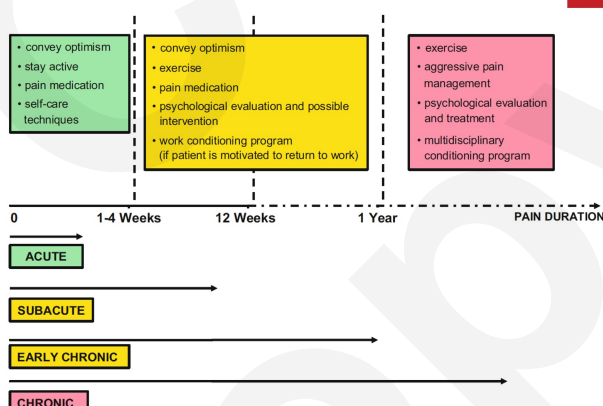




Alerting features	Diagnosis and prevalence	Image type	Timing
Older age (>65 years for men, >75 years for women)	Vertebral fracture 0.7% - 4.5%	X ray possible CT scan	Major risk: immediate Minor risk: 1 month "watch and wait"
Prolonged corticosteroid use			
Severe trauma			
Presence of contusion or abrasion			
History of malignancy	Malignancy 0.2%	X ray and MRI	Major risk: immediate Minor risk: delay
Strong clinical suspicion			
Unexplained weight loss, >50 years			
Fever or chills	Spinal infection 0.01%	X ray and MRI	Immediate
Immune compromised patient			
Pain at rest or at night			
Intravenous drug user			
Recent injury, dental or spine procedure			
New bowel or bladder dysfunction	Cauda equina syndrome 0.04%	MRI	Immediate
Perineal numbness or saddle anaesthesia			
Persistent or progressive lower motor neuron changes			
Progressive lower limb motor weakness	Severe neurologic deficits	MRI	Immediate
Motor deficits at multiple levels			
Chronic back pain (>3 months' duration), with back pain onset before 45 years of age and one or more of the following			
Inflammatory back pain with at least 4 of:			
- Age of onset <40 years or younger			
- Insidious onset			
- Improvement with exercise			
- No improvement with rest			
- Pain at night - with improvement when getting up			
Peripheral manifestations (in particular arthritis, enthesitis, or dactylitis)			
Extra-articular manifestation (psoriasis, inflammatory bowel disease, or uveitis)			
Positive family history of spondyloarthritis			
Good response to NSAIDs			
	Axial spondyloarthritis 0.1% - 1.4%	Refer to rheumatologist if strong suspicion of axial spondyloarthritis	

Alerting features	Diagnosis and prevalence	Image type	Timing
Back pain with leg pain in an L4, L5, or S1 nerve root distribution	Radicular pain or radiculopathy	Consider MRI in patients who are candidates for surgery	Defer work up until a trial of therapy has been completed
Positive result on straight leg raise or crossed straight leg raise twist			
Bilateral buttock, thigh, or leg pain	Spinal canal stenosis	Consider MRI in patients who are candidates for surgery	Defer work up until a trial of therapy has been completed
Older age			
Pseudoexacerbation			

Management NSLBP



Spinal Conditions

- Low Back Pain / Sciatica
- Cauda Equina Syndrome
- Stenosis / Spondylolisthesis
- Spinal Tumours and Metastases
- Spinal Trauma
- Discitis / Osteomyelitis / Epidural Abscess
- Osteoporosis
- Inflammatory / Axial Spondyloarthropathy
- Scoliosis / Kyphosis
- Low Back Pain in Child
- Adult Spinal Deformity
- Thoracic Pain
- Neck Pain / Cervical Radiculopathy
- Cervical Myelopathy
- Whiplash



Referral Summary

- Low Back Pain / Sciatica
- Cauda Equina Syndrome
- Stenosis / Spondylolisthesis
- Spinal Tumours and Metastases
- Spinal Trauma
- Discitis / Osteomyelitis / Epidural Abscess
- Osteoporosis
- Inflammatory / Axial Spondyloarthritis
- Scoliosis / Kyphosis
- Low Back Pain in Child
- Adult Spinal Deformity
- Thoracic Pain
- Neck Pain / Cervical Radiculopathy
- Cervical Myelopathy
- Whiplash

Sure send to a spinal surgeon — Unless patient not fit for surgery!
 Rheumatology / Medics
 Physiotherapists / Pain Clinic /
 Others (assess red flags)
 Oncologists 1st if known disease



LBP – Who to Refer...

- Red flags - refer
- In the absence of an identifiable pain source the mainstay of treatment for low back pain is conservative
- In short spinal surgery is high risk and surgery for low back pain is unpredictable
- Surgery does NOT work for NSLBP



Cognitive Dissonance?...

WE KNOW...



- Surgery for Leg Pain / Sciatica
 - Buttock can = "Leg"
 - Red flags
 - Severe / not settling down
 - Surgery is generally successful
- Surgery for Low Back Pain
 - The tide has changed...
 - Back pain surgery is generally NOT recommended
 - But, this depends on the cause of the LBP
 - Surgery does not work for "non specific LBP" (whatever that is!)
- Spinal surgery has at least 1/10 complication rate and up to 1/5 have further surgery at some point in the future



Identifiable LBP Pathology

• Spinal Surgery for LBP can work:

- Disc prolapse (**with** radicular pain)
- Spondylolisthesis / Spondylolysis
- Trauma / Infection / Tumour
- Discogenic / SIJ
- Deformity
- Facetal



Stenosis / Spondylolisthesis

• A Brief summary:

- Epidural Injection - ✓ short term ?Long (not SPL)
- Corset - when on! (not SPL)
- Pharmacological - insuff evidence
- Physiotherapy - insuff evidence
- Manipulation - insuff evidence
- TENS / elec stim - insuff evidence
- Accu, traction - insuff evidence
- Surgery - ✓ good evidence
- op - SPL > stenosis



Spinal Surgery Who Does Badly?

- Opioids >60mg (e.g. oxycodone)
- SSRI medication
- Pain diagram – multiple pain sites
- High preoperative pain intensity
- Catastrophising >24 points
- HADS > 11 points



LBP Fusion Surgery

- The “ideal” candidate
 - Single level degenerative disease / identifiable pathology
 - BMI 20-30
 - Well motivated – tried the list and continues to try
 - Still employed
 - Absence of multiple yellow / blue / black flags
 - PROMs reasonable – VAS / ODI / PHQ9 / GAD7



Is realistic



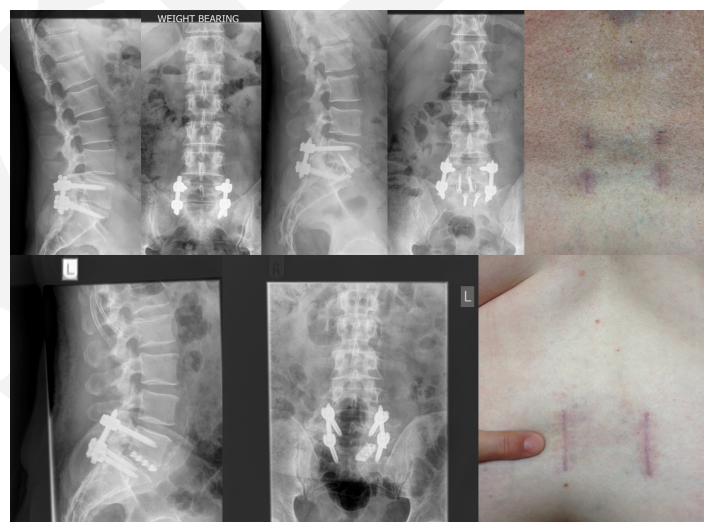
Spinal Surgery - Outcomes

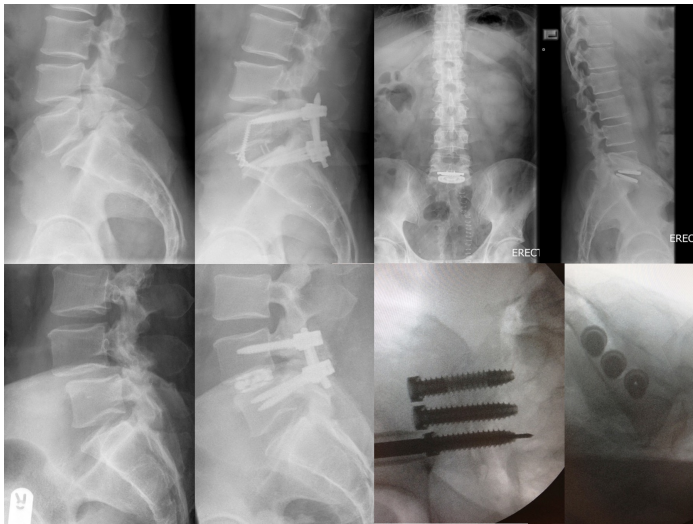
• Sciatica Surgery

- Outcome depends on cause
- Disc prolapse up-to 85% significant improvement leg
- Stenosis 2/3 significant improvement leg
- Both can have improvement in LBP but unpredictable

• Low Back Pain Surgery

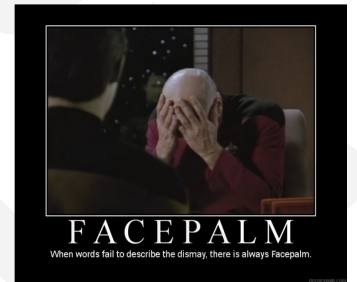
- Should only done in specific circumstances
- At best in **highly selected subgroups**:
- 70% chance of a 70% back



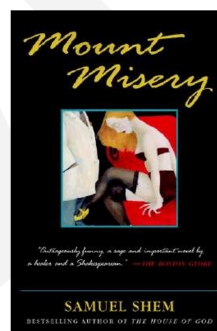


In Reality...

- Refer for help:
 - Serious
 - Reassurance / advice
 - Intervention
 - Frustration
- Problem = demand capacity mismatch
 - Long NHS waits and subsequent chronicity
- Culture and Beliefs
 - Very difficult to change



and finally...



- Rule 11:
 - Medical patients don't take their medication 50% of the time, and psychiatric patients don't take their medication much at all
 - cf LBP

The main predictor of outcome for LBP is - Psychological



[illegible]

Indications for “*Non Specific*” Low Back Pain



GIG
CYMRU
NHS
WALES

**Bwrdd Iechyd Prifysgol
Caerdydd a'r Fro
Cardiff and Vale
University Health Board**



Nuffield Health
Cardiff & Vale
Hospitals



Thank You

