Examination of the spine

VERSUS ARTHRITIS

Meet the speakers

Dr Nadia Vawda

GP and Clinical Champion in Physical Activity with PHE

Dr Christian Verrinder

GP with Special Interest in MSK Medicine

Meet the speakers

Dr Giles Hazan
GPwSI in MSK Medicine

Dr ANDREW JACKSON
GP with Special Interest in MSK Medicine
Clinical lead VERSUS arthritis ‘core skills in msk’

Learning outcomes

1. Gain confidence in taking an effective history from an MSK patient, including eliciting red flags and psychosocial flags
2. Be able to demonstrate focused examination of the MSK patient
3. Practice explanation of the diagnosis
4. Formulate a management plan, including appropriate investigations, referral, safety net and follow-up

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A case of lower back and leg pain

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Question: Do you find this sort of patient easy to deal with in a normal GP surgery?

A. Yes
B. Unsure
C. No

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Lower back pain and sciatica: setting the scene

1 in 3
adolescents experience lower back pain

7%
of consultations

Compromise of roles between being upright and being able to bend and twist, so everyone gets it

Best predictor of malignancy:

- Past medical history of cancer

Be alerted to other diagnoses if:

- Unexplained weight loss
- Not following an expected clinical course
- ‘GUT FEEL’

Usually felt in the lumbar area (load) and cervical area (movement); increased clinical suspicion if thoracic pain is present

Don’t over medicalise

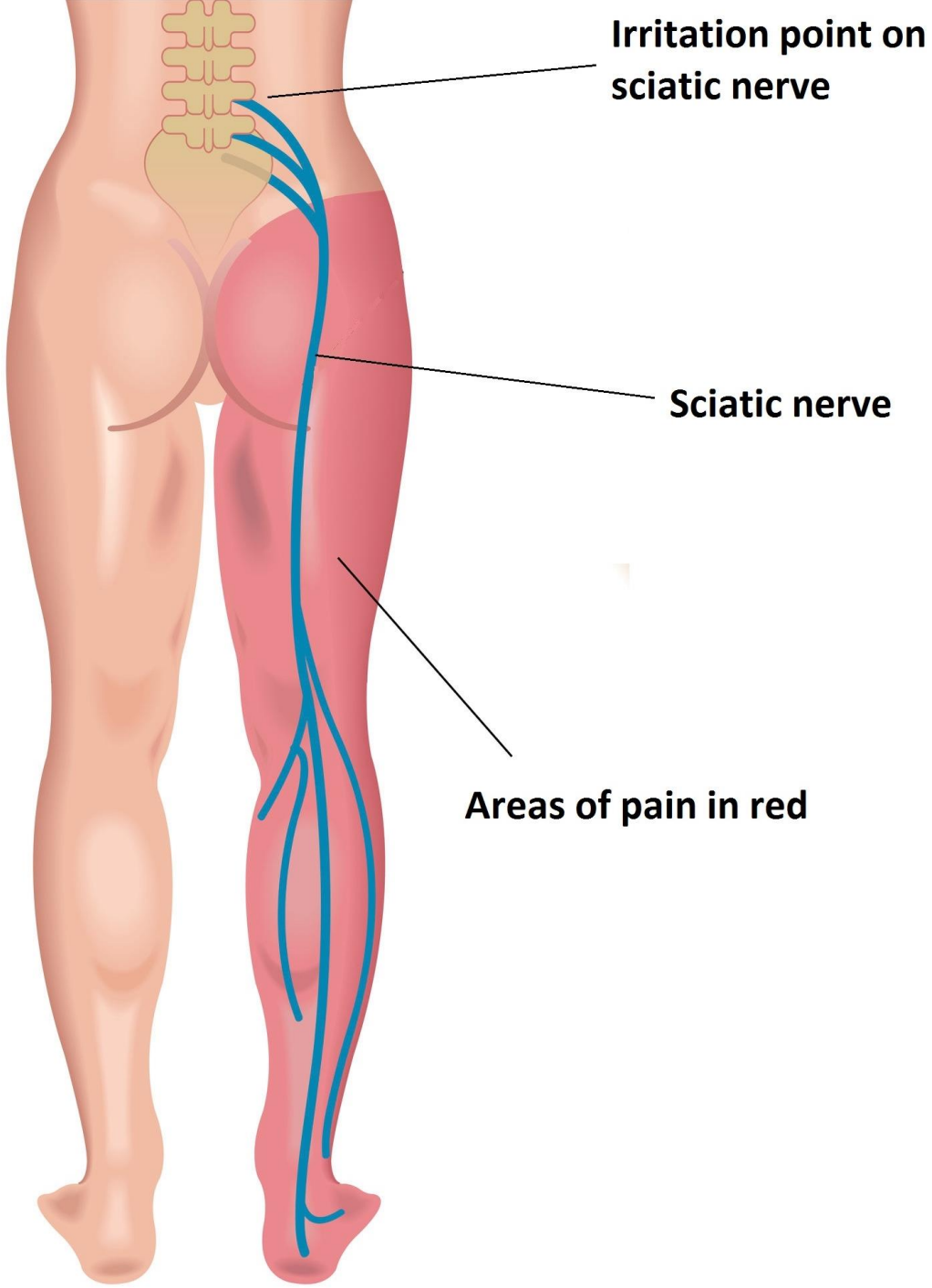
Probably can’t prevent it

50% of cases start with no obvious mechanism of injury (think about history)

Frequently recurs

Sciatica

- Our discs change as we get older (we all shrink!)
- Peak age range for discogenic sciatica is 30–50 years old; after this age, the risk decreases over time
- Facet joint hypertrophy in the elderly may be a contributing factor
- 90% of disc prolapses happen at L5 or S1 level (i.e. below the knee dermatomes)



Prognosis

Most people recover within approximately

6

WEEKS

Sciatica has a worse prognosis than LBP, with **30%** of patients having clinically significant symptoms at **12 months**

We can't usually explain pain and prognosis by imaging

The prognosis for **'disability'** is more dependent on pain behaviours than pathology; this can be predicted using the STarT tool, as per NICE guidelines

People who are disabled by their back pain tend to worry too much about their back and/or not moving enough (what we say really matters)

Positive messages:

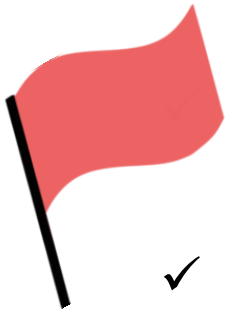
- Hurt does not mean harm
- Keep moving
- You don't need to be 100% to return to activity/work

Von Korff M et al. (1996) The course of back pain in primary care. *Spine* (Phila Pa 1976). 21(24):2833–7.

If prognosis is mainly due to pain behaviours rather than pathology, what is the role of the back examination?

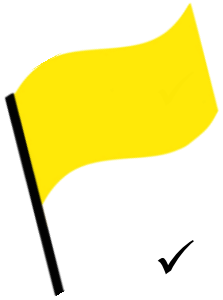
- Patients **expect** to be examination – it personalises care to their vody
- **Medicolegally** we should examine
- So we don't miss **'deformity'** e.g. osteoporotic fracture/scoliosis and other unusual conditions
- **Identify fear/avoidance** around movement
- Confirm **nerve root involvement** as this opens up the medial model of care e.g. surgery, neuropathic medications, injections
- Allow us to **deliver our explanation** from a position of strength and start the process of challenging yellow flags

Structure of a GP consultation



Exclude red flags

- ✓ Exclude inflammatory back pain
- ✓ Identify ‘nerve’ compression / pain vs. referred pain



Stratify risk of disability (yellow flags)

- ✓ Manage the patient as per NICE guidelines

NICE (2016) Low back pain and sciatica in over 16s: assessment and management. [Accessed: 03/05/2019]
Recommendation: 1.1.2. See appendix for full details.

Question: Do you think this patient has any red flag symptoms?

A. Yes

B. Unsure

C. No

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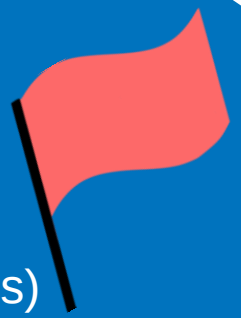
Back pain red flags

Key red flags for identifying fractures are:



- Older age (>65 years)
- Prolonged use of corticosteroids
- Severe trauma
- Presence of a contusion or abrasion

Best predictor of malignancy:

- PMH of cancer

Be alerted to other diagnoses if:

- Unexplained weight loss
- Not following an expected clinical course
- ‘GUT FEEL’

Return

Cauda equina syndrome

Cauda Equina Syndrome Warning Signs

- L oss of feeling/pins and needles between your inner thighs or genitals
- Numbness in or around your back passage or buttocks
- Altered feeling when using toilet paper to wipe yourself
- Increasing difficulty when you try to urinate
- Increasing difficulty when you try to stop or control your flow of urine
- Loss of sensation when you pass urine
- Leaking urine or recent need to use pads
- Not knowing when your bladder is either full or empty
- Inability to stop a bowel movement or leaking
- Loss of sensation when you pass a bowel motion
- Change in ability to achieve an erection or ejaculate
- Loss of sensation in genitals during sexual intercourse

Any combination seek help immediately

- **A frequently missed surgical emergency**
- **Know your local pathway!**

Developed by Dr Sue Greenhalgh, PhD, MA, GDPhys, FCSP, Professor Carole Truman

Indications for surgery

Emergency

- Cauda equina
- Foot drop (L4) or inability to plantar flex/stand on tip-toes (S1)
- Progressive neurological symptoms
- Patients with signs of myelopathy consistent with central cord compromise

Elective

- Acute severe radicular pain not showing any improvement with conservative measures by six weeks (some improvement is likely to imply eventual resolution)
- Refractive longer-term radicular pain (>3 months)
- Significant spinal claudication

Leeds neurosurgical GP guidance on surgical indications.

Question: Does this patient have inflammatory back pain?

A. Yes

B. Unsure

C. No

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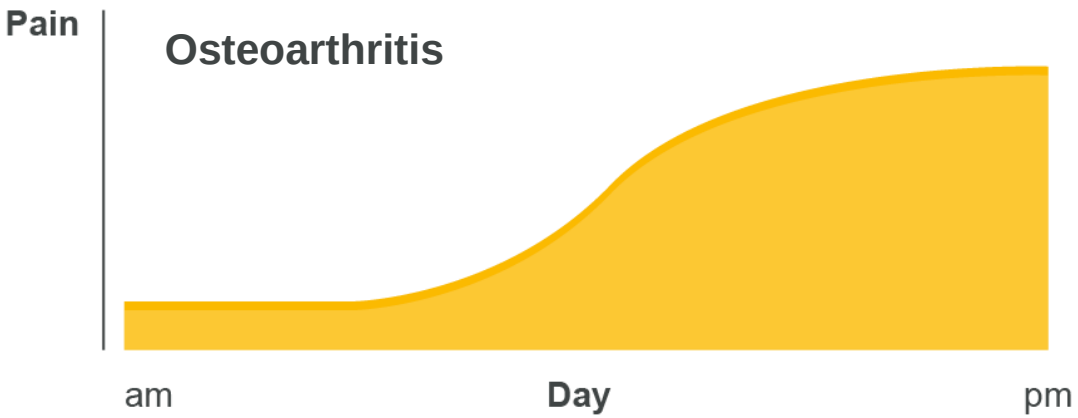
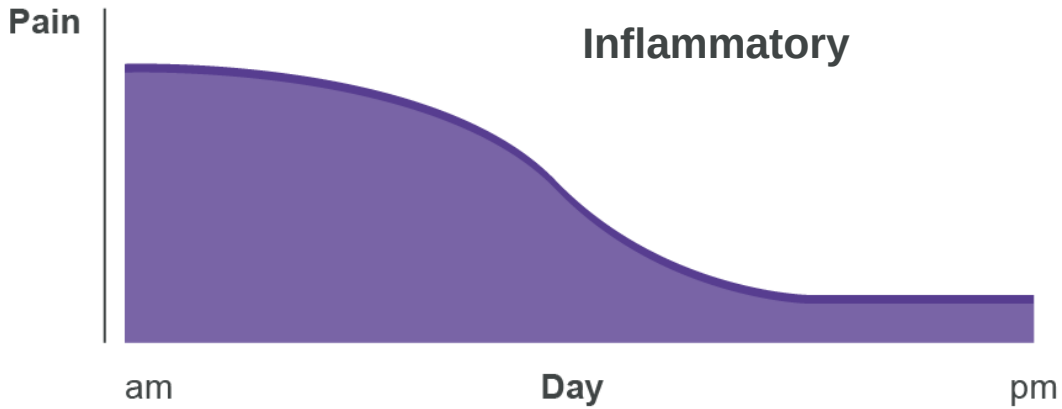
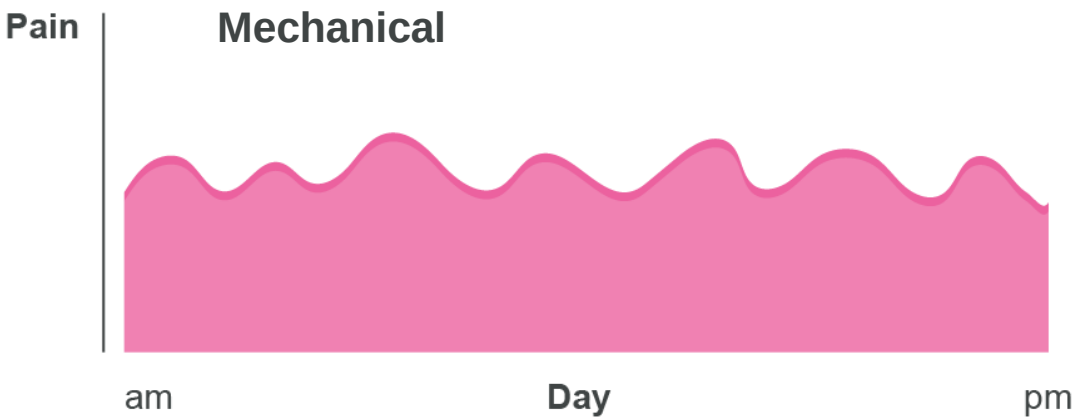
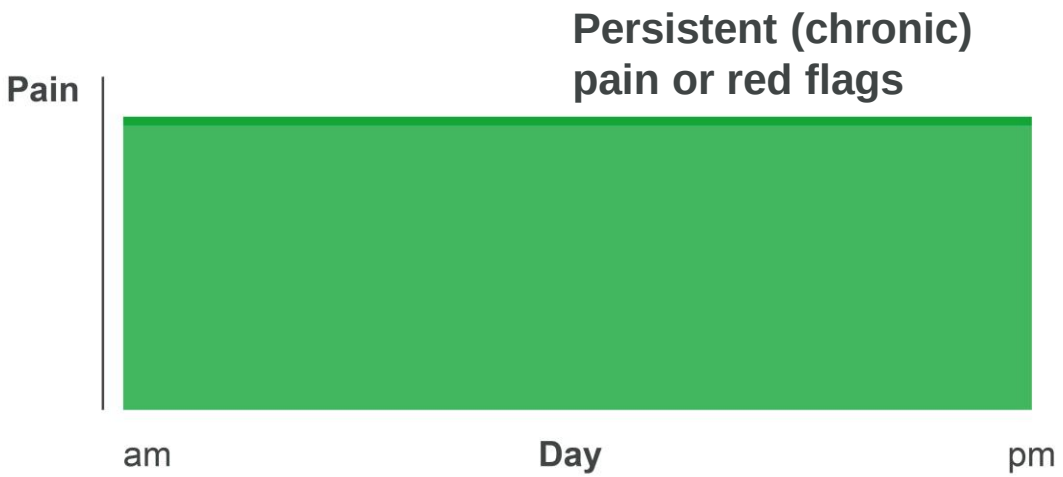
Daily variations in pain associated with an underlying disorder







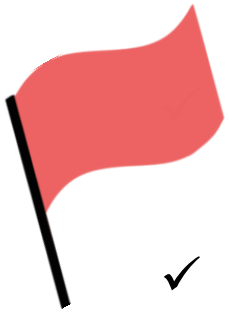


Is this axial spondyloarthritis (a.k.a. ankylosing spondylitis)?

1. Did your back pain start when you were aged <40?	• Inflammatory back pain usually begins in the 3rd decade of life and is likely to have onset below 45 years old • It is important to ascertain the patient's age at the onset of back pain as opposed to only recording their current age as they may have been experiencing back pain for several years
2. Did your back pain develop gradually?	• Unlike inflammatory back pain (IBP), mechanical back pain is frequently of a more sudden onset. IBP has an insidious onset and patients are likely to have been experiencing back pain for >3 months
3. Does your back pain improve with movement?	• Symptoms of musculoskeletal inflammation are often improved with movement and exercise
4. Do you find there is NO improvement in your back pain with rest?	• Similar to the above, no improvement of the pain is a typical feature of inflammatory back pain
5. Do you suffer with back pain at night that improves upon getting up?	• Patients with IBP often experience a worsening of symptoms when resting at night with waking and getting up during the 2nd half of the night

National Ankylosing Spondylitis Society.

Structure of a GP consultation



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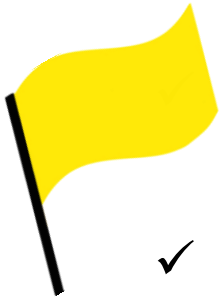

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Question: Does this patient have sciatica?

A. Yes

B. Unsure

C. No

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Is this sciatica?

Often starts with back pain that settles to be replaced by acute leg pain; may have had recurrent episodes of LBP over preceding years

Pain generally radiates to foot or toes (L5/S1)

Numbness and paraesthesia in the same distribution

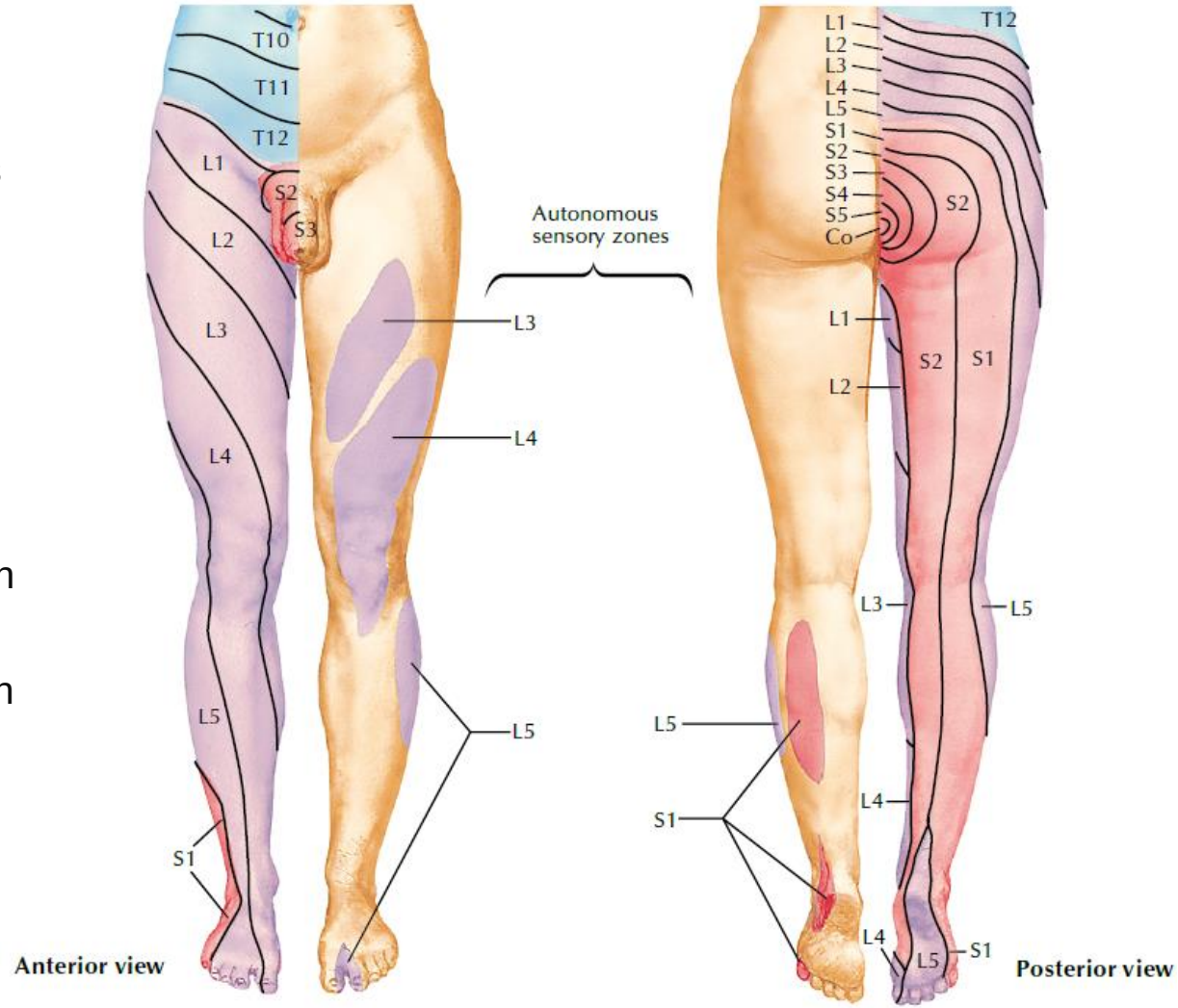
Nerve irritation signs: Valsalva/ cough/sneeze

Reduced SLR/slump which reproduces leg pain

Motor, sensory or reflex changes; limited to one nerve root

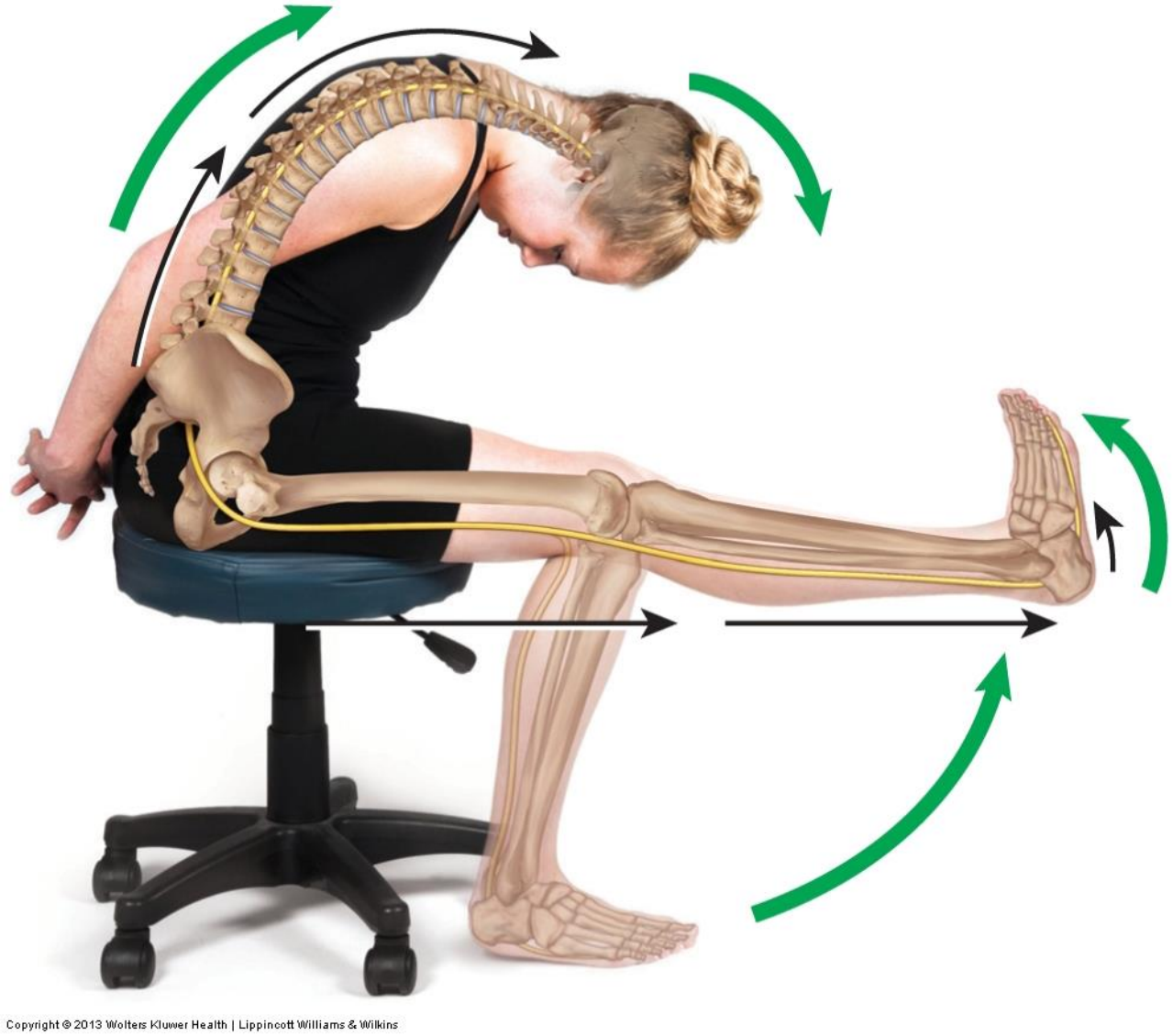
Matrix for examination of lumbar spine

- **LOOK:** limp or obvious deformity (e.g. scoliosis, kyphosis, lordosis, pelvic shift, scars/wasting/rash)
- **FEEL:** feel spinous processes, paraspinal muscle tender points
- **MOVE:** extension, lateral flexion, flexion
- **TEST:** tell the patient you are going to check how the nerves in their back are working
- Ask the patient to: stand on tip toes (S1), stand on heels (L4), then move to a sitting position
- Big toe dorsiflexion (L5): “pull your big toe up towards you”
- Check reflexes: ankle jerk (L5/S1), knee (L3/4), check sensation
- SLUMP test
- Then ask the patient to lie on their back and check: SLR, screen hip, LLD, Babinski, peripheral pulses as relevant
- Consider checking other parts of body, e.g. abdomen, breast, prostate

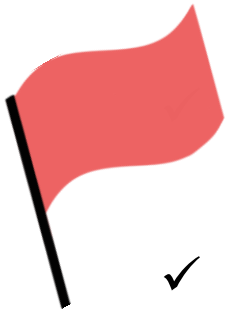


Lower limb dermatome x2 HYPERLINK https://netterimages.com/dermatomes-of-lower-limb-labeled-anatomy-atlas-5e-internal-medicineprimary-care-frank-h-netter-4808.html

Slump Test


Copyright © 2013 Wolters Kluwer Health | Lippincott Williams & Wilkins

Structure of a GP consultation



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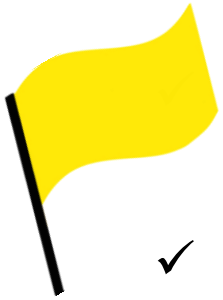

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Recommendation: 1.1.2. See appendix for full details.

Question: Do you currently use startback?

A. Yes
B. Unsure
C. No

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The ‘STarT Back’ Approach

The Keele STarT Back Screening Tool is a brief validated tool designed to screen primary care patients with low back pain for prognostic indicators that are relevant to initial decision making

It risk stratifies patients into 3 groups:

- Low risk: low risk of chronicity
- Medium risk: mainly physical obstacles to recovery
- High risk: additional psychological obstacles to recovery

Each group should be offered a different package of care and provision of this has shown to be cost effective for both the NHS (£35.49/patient) and society (£675/patient)

It’s conclusions led it to being included in NICE guidelines and becoming part of the ‘national back pain strategy’

https://startback.hfac.keele.ac.uk/

Hill JC et al. (2008) *Arthritis Rheum,*59:632-41.

The STarT tool

The Keele STarT Back Screening Tool

Patient name: _____ Date: _____

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

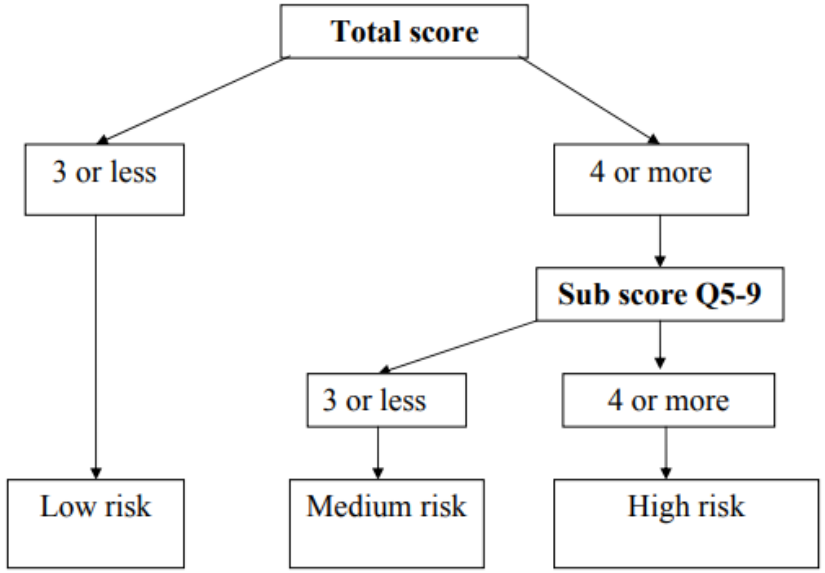
		Disagree 0	Agree 1
1	My back pain has **spread down my leg(s)** at some time in the last 2 weeks	☐	☐
2	I have had pain in the **shoulder** or **neck** at some time in the last 2 weeks	☐	☐
3	I have only **walked short distances** because of my back pain	☐	☐
4	In the last 2 weeks, I have **dressed more 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):**_____

The STarT Back Tool Scoring System



NICE (2016) Low back pain and sciatica in over 16s: assessment and management. [Accessed: 03/05/2019]; Recommendation: 1.1.2. See appendix for full details.

Treatment Packages

Low Risk: advice, reassurance, medication

Medium Risk: good quality physiotherapy

High Risk: enhanced package of care using the biopsychosocial approach

Question: How would this patient score?

A. Low
B. Medium
C. High

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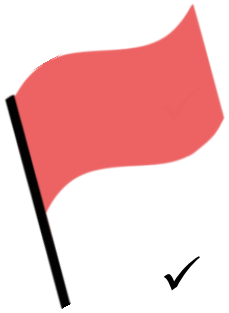
Structure of a GP consultation



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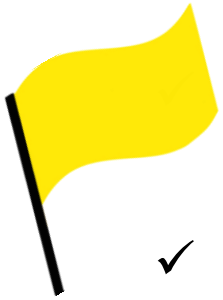

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How the 2016 NICE guidelines affect consultations

What the NICE guidelines say…

- Self-management
- Formally assess patients for risk of developing long-term back pain e.g. STarT tool
- Consider a group exercise programme
- Manual therapy
- Physical and psychological treatment
- NSAIDs (or weak opioids)

- **Imaging**
- Paracetamol, opioids, anti-depressants, TCAs or anticonvulsants
- Acupuncture
- Spinal facet injections
- TENS, electrotherapies

If sciatica is present:

- Neuropathic medications (NICE CG173)
- Epidurals (not central canal stenosis)
- Surgery

What patients value

- Trust us above other sources of information available to them as it is ‘specific’
- An examination
- **Imaging**
- Referral
- They don’t like ‘letting nature take its course’

References: NICE (2016) Low back pain and sciatica in over 16s: assessment and management NG59 [Accessed: 02/05/2019]
Recommendations: 1.2.1, 1.1.2, 1.2.2, 1.2.7, 1.2.14, 1.2.17, 1.2.20, 1.1.4, 1.1.5, 1.2.21, 1.2.22, 1.2.23, 1.2.8, 1.3.1, 1.2.11, 1.3.5, 1.3.6, 1.3.8. See appendix for full details; NICE (2017) Neuropathic pain in adults: pharmacological management in non-specialist settings. NG59 [Accessed:02/05/2019] See appendix for full details; Yelland. (2013) What do patients really want? *Int Musculoskelet Med*, 33:(1)1–2.

Managing sciatica with medication

Establish baseline pain score, e.g. VAS, and set realistic expectations for treatment (40% reduction)

Pharmacological management should be one component of an individualised, holistic, multi- disciplinary (e.g. physiotherapy, CBT, relaxation, etc.) management strategy, including self-help

Failure of a drug to achieve a 40% reduction in pain scores after a few weeks should result in a trial of a different drug (B level recommendation)

Offer patients a choice of the following as initial treatment:

- **Amitriptyline** (25 mg to 125 mg daily) (A level recommendation, NNT = 4)
  Start at 10–25 mg, 2 hours before bed
- **Duloxetine** (60–120 mg daily) (A, NNT = 6)
  Start at 60 mg, 30 mg in elderly
- **Gabapentin** (1200 mg daily) (A, NNT = 7)
  Start at 300 mg in the evening, 100 mg in elderly
- **Pregabalin** (300–600 mg daily) (A, NNT = 8)
  Start at 75 mg in the evening, 25 mg in elderly

References: NICE (2017) Neuropathic pain in adults: pharmacological management in non-specialist settings CG173. [Accessed: 02/05/2019]; Recommendations: 1.1.1, 1.1.8. See appendix for full details. SIGN 136; Finnerup NB et al. (2015) *Lancet Neurology,*14:162–173.

Role of imaging?

X-ray

- Bony pathology (e.g. malignancy, fracture, spondylolisthesis)
- Perform in young and old at presentation
- Sacroiliac joints (SIJs)
- No information regarding neurological tissue

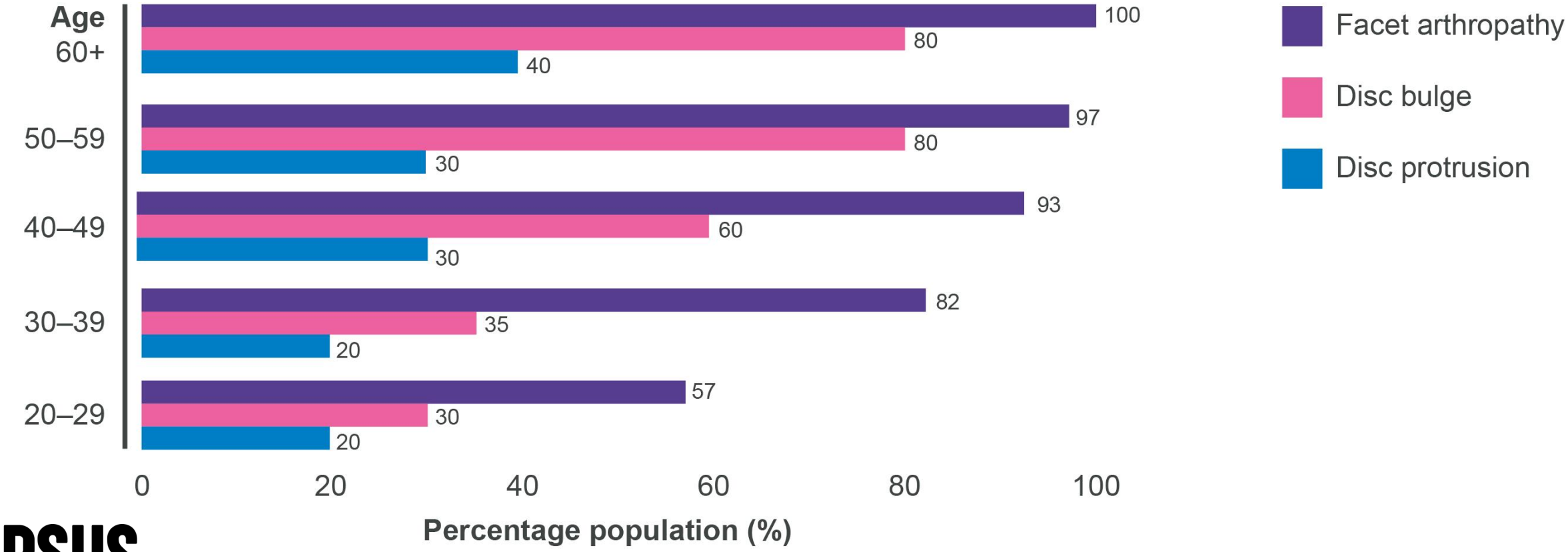
MRI

- Neurological tissue visualisation
- Inflammation, infection, malignancy
- Bony pathology

irefer.org.uk. Making the best use of clinical radiology;
NICE (2016) Low back pain and sciatica in over 16s: assessment and management.
[Accessed: 03/05/2019] Recommendations; 1.1.4, 1.1.5, 1.1.6 See appendix for full details.

If it’s broken, you don’t always have to fix it!

A range of ‘positive’ findings on MRI scans (and X-rays) are found in the ‘normal’ population



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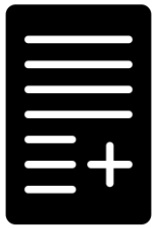
Campbell J et al. (2013) *BMJ,*347:bmj.f3148;
Tempelhof S et al. (1999) *J Shoulder Elbow Surg*. 8:296–9.

Tips for better use of the fit note – musculoskeletal



Work within your competencies

- ‘Occupational health opinion would be helpful’
- ‘Uncertain of adaptations possible – advise discussing it at work’

Specifics – ‘can do……’

- ‘Desk-based duties possible’
- ‘Fit for any walking or seated duties’
- ‘Upper limbs have full function’

Specifics – ‘avoid……..’

- ‘Avoid loaded rotation at the trunk’
- ‘Avoid manual work above shoulder height’ (shoulders)
- ‘Avoid lifting from the floor’

Information and exercise sheet

BACK PAIN

Staying active is the most important thing you can do to recover from back pain. Try to carry on with your daily activities, as resting too much could cause the pain to get worse. This sheet includes some exercises you can do to reduce your back pain, and they'll also help improve the strength and flexibility of your back.

Your back pain should start to ease after two weeks, and will usually pass after four to six weeks. You may not need to see anyone, but if the pain doesn't get better in a few weeks, or if you have severe pain while doing the exercises below, make an appointment with your GP or physiotherapist. You can also speak to a pharmacist.

Get advice from a healthcare professional if you:

- have problems with your bladder or bowel – the organs which control pee and poo
- numbness
- have pins and needles
- feel generally unwell.

If doing exercises at home by yourself doesn't help your symptoms, physiotherapy could be a good option, as you can get advice and exercises that are more tailored to you. It's a good idea to carry on exercising once your back pain has got better, as this can reduce the chances of it coming back. Swimming, walking, yoga and Pilates are helpful exercises for your back. Try to pick an exercise you enjoy doing, as this will help you stick to it.

Exercises

Many people find the following exercises helpful. If you need to, adjust the position so that it's comfortable. Try to do these exercises regularly. Do each one a few times to start with, to get used to them, and gradually increase how much you do.

1

1. Knees to chest

Lie on your back, with your knees bent and feet flat on the floor or bed. Bring one knee up and use your hands to pull it gently towards your chest. Hold the leg in position for five seconds, and then relax. Repeat this exercise with the other knee. Do the exercise five times on each side.

2

2. Deep lunge

Kneel on your right knee. Put your left leg in front of you, with your left foot on the floor. Facing forwards, lift your back knee up. Hold for five seconds. Repeat three times, then swap legs.

VERSUS ARTHRITIS

Arthritis Research UK

Condition
Back pain

Back pain

This booklet provides information and answers to your questions about this condition.

Arthritis Research UK produce and print our booklets entirely from charitable donations.

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	☐	☐
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4	In the last 2 weeks, I have **dressed more slowly** than usual because of back pain	☐	☐
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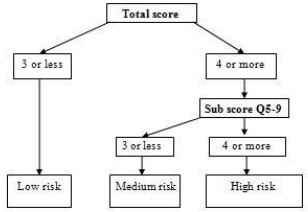
7	I feel that **my back pain is terrible** and it's **never going to get any better**	☐	☐
8	In general I have **not enjoyed** all the things I used to enjoy	☐	☐

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

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

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

The STarT Back Tool Scoring System



Question: Do you feel more confident to deal with this patient now?

A. Yes
B. Maybe but I would like more practice
C. No

VERSUS ARTHRITIS

Core Skills Workshops

Remaining workshop dates for 2019:

Wednesday 23 October – **Leeds**
Tuesday 26 November – **London**
Tuesday 10 December – **Glasgow**

To book your place visit: www.coreskillsinmsk.co.uk

For local workshops in your areas please contact Versus Arthritis on stand **K92**

For *free* educational resources join the Versus Arthritis professional network:

Visit https://www.versusarthritis.org/about-arthritis/healthcare-professionals/

Thank you...

Questions?

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