

Atraumatic back pain in the over 60s? Think aorta!

Age >16 attending ED with atraumatic musculoskeletal back pain and/or sciatica

Initial assessment to include:

- **Early provision of multimodal analgesia (opioid +/- NSAID +/- paracetamol)**
 - Thorough history of presenting complaint and associated symptoms.
 - Focussed neurological examination of lower limb dermatomes/myotomes/reflexes.
 - Post-void bladder scan.
- See section 1 for detailed guidance.

Features suggestive of CES

Discuss case with ED senior.
Request urgent MRI and seek approval via 31669 (9 – 5, M – F) or 58892/5772 OOH
Ensure adequate analgesia given.
Move to ED ORU to await scan.
Keep NBM. Do not give LMWH.
See section 2 for detailed guidance.

Bilateral sciatica without any other features of CES present

Discuss case with ED senior.
Provide TTO analgesia.
Provide CES Awareness Leaflet and explicit verbal safety netting.
Refer patient to OxSSU
See sections 2 and 5 for detailed guidance.

Features suggestive of CES present for over 14 days without change or progression

Discuss with ED senior.
Provide CES Awareness Leaflet and explicit verbal safety netting.
Refer patient to OxSSU
See sections 2 and 3 for detailed guidance.

No features of CES

Ensure important non-CES diagnoses have been considered and excluded.
Explain likely clinical course.
Provide TTO analgesia.
Provide CES Awareness leaflet.
Patient to self-refer to Connect Health.

Imaging performed

CES confirmed on imaging
Inform ED senior.
Prescribe appropriate analgesia.
Perform and document DRE (if not yet done).
Keep NBM pending spinal review.
Do not give antiplatelets or anticoagulants.
Catheterise if > 600ml postvoid bladder volume.
Refer to spinal surgery via bleep 1283 (or neurosurgery between 1600 and 0800, and at weekends, via bleep 6609).
See section 3 for detailed guidance.

Serious non-CES abnormalities on imaging OR patient unable to mobilise
Ensure important non-CES diagnoses have been considered and excluded.
Discuss with ED senior
Ensure multimodal analgesia prescribed and given.
Consider discussion with spinal team.
See sections 4 and 5 for detailed guidance.

No CES or other emergency evident on imaging and patient able to be discharged
Ensure important non-CES diagnoses have been considered and excluded.
Explain likely clinical course.
Provide TTO analgesia.
Provide CES Awareness leaflet.
Consider follow up with OxSSU or ConnectHealth.
See section 5 and 6 for detailed guidance.

1. Identifying patients with possible CES

Since identification of CES is unreliable on the basis of history and examination alone, an urgent MRI should be arranged in the emergency department for any patient with back pain and/or leg pain who has had onset within the last 14 days of any one or more of the following:

1. Difficulty initiating micturition or impaired sensation of urinary flow.

Suggested questions:

“Are you aware of when your bladder is full?”

“Are you having any difficulties passing urine?”

“Are you aware when you are passing urine – can you feel it leaving your body?”

“Have you lost control of your bladder? If so, did you know that you were having an accident?”

Postvoid bladder scan can help to identify patients with painless urinary retention. Acute retention (postvoid volume >200ml) in the context of acute lower back pain or sciatica is suggestive of CES. However, up to 60% of patient with CES will have a postvoid bladder volume under 200ml, so bladder scan cannot “rule out” CES, and should only be used as an adjunct to assessment.

2. Altered perianal, perineal or genital sensation (S2 – S5 dermatomes).

This can be objectively tested or subjectively reported. Suggested questions:

“Do you have any change in the feeling between your legs, around your genitals or your anus, such as tingling or numbness?”

It is not necessary to perform digital rectal examination in order to assess for MRI in patients who are able to confidently report perianal sensation and bowel function.

3. Loss of awareness of rectal fullness.

Suggested questions:

“Are you aware of when you need to go to the toilet to open your bowels?”

“Have you lost control of your bowels? If so, were you aware this was happening?”

4. Sexual dysfunction (inability to achieve erection or to ejaculate, or loss of vaginal sensation).

Suggested questions:

“Have you been experiencing sexual difficulties?”

For males: “Have you lost your ability to achieve an erection, such as first thing in the morning?”

For females: “Do you have have altered sensation in your vulva/vagina?”

Note that low back pain with sexual dysfunction only, in the absence of any other features, is unlikely to be due to CES.

5. Severe or progressive neurological deficit of both legs, e.g. weakness of knee extension, ankle eversion or foot dorsiflexion.

An examination of myotomes of both lower legs should be conducted, with documentation of power as per the MRC scale.

	Sensation	Power
L1	Midpoint of inguinal ligament	
L2	Midpoint of anterior thigh	Hip flexion
L3	Medial femoral epicondyle	Knee extension
L4	Medial malleolus	Ankle dorsiflexion
L5	Dorsum of foot at third MTPJ	Hallux extension
S1	Lateral aspect of calcaneum	Ankle plantarflexion
S2	Midpoint of popliteal fossa	

Be aware that a small number of patients who have attended ED with suspected CES will have actually have a cord or spinal lesion above the lumbosacral spine. For all patients, attempt to establish to establish a “spinal level” of dermatomal/myotomal function – where there is neck or upper back pain and/or a functional spinal level above L1, discuss with an ED senior regarding the need for alternate or additional imaging e.g. MRI cervical and thoracic spine.

Isolated Bilateral Sciatica and Patients with CES Symptoms For Over Two Weeks

Patients with:

a. Bilateral sciatica (radiculopathic pain in a dermatomal distribution, most commonly affecting L4, L5 or S1 dermatomes and thus extending beyond the knee), in the absence of any other features of CES, or

b. Symptoms suggestive of cauda equina that have been present for over 14 days without worsening or progression do not require *emergency* MRI (as per GIRFT) and can instead be referred to the Oxford Spinal Surgery Unit (OxSSU) using the EPR communicate function for urgent outpatient assessment. Please see section 5 for further details.

2. ED Management of Patients Requiring MRI

All cases where MRI is being considered **must** be discussed with an ED senior (ST4+/red lanyard or consultant). If the patient attends HGH ED overnight when the most senior doctor on site is ST3/orange lanyard, the case should be discussed with the JRH emergency physician in charge (bleep 1240, phone 32026).

Approval for MRI should be sought by calling the radiologist at the time a request is made in EPR:

- Call 31669 Monday to Friday, 0900 – 1700, and ask for the “MRI radiologist;”
- Call 57892 or 57722 for the duty radiologist out of hours.

Patients should not breach the four-hour standard whilst awaiting MRI. If MRI is required, **move the patient to ED ORU/EAU as soon as possible, if necessary before request has been approved.**

Analgesia is frequently forgotten. Ensure your patient has been given adequate pain relief e.g. opioid (codeine or oral morphine) **PLUS** NSAID (if not contraindicated). Note that paracetamol has little evidence of efficacy in this patient group. Analgesia is only important to address the patient’s presenting symptom, but also facilitates examination and the completion of MRI (if required).

When completing a VTE assessment, remember that anticoagulants are contra-indicated in patients with suspected CES – administration has the potential to significantly delay emergency surgery, with serious adverse consequences.

3. ED Management of Imaging Confirmed CES

1. Inform ED senior.
2. Ensure analgesia has been both prescribed and given.
3. Ensure that a full neurological examination of the lower body has been performed and documented before contacting spinal or neurosurgery team, including:
 - Gait (if able to walk);
 - Sensation in L1-S2 dermatomes;
 - Power in L1-S1 myotomes;
 - Knee, ankle and plantar reflexes;
 - Digital rectal examination, commenting on sensation either side of anus, anal tone and anal squeeze;
 - Postvoid bladder scans.
4. Refer to spinal team between 0800 and 1600 Monday to Friday (bleep 1283), or neurosurgical team out of hours or at weekends (bleep 6609).
5. Ensure the patient remains nil by mouth pending further instructions from the specialist team.
6. Place cannula and ensure bloods sent for FBC, clotting, U&E and G&S. Check ECG.
7. If >600ml on post void bladder scan, insert a urinary catheter.
8. Do not prescribe LMWH, antiplatelets or anticoagulants to patients awaiting specialist review, as administration of these medications may delay emergency surgery, with serious adverse consequences.

4. Addressing Non-CES Spinal Issues in ED

Abnormalities on MRI due to degenerative change are extremely common, especially with increasing age. For example, 80% of over 50s *with no pain* will have some degenerative change. **Not all abnormalities require specialist discussion or review, so always discuss with an ED senior first.**

MRI proven, non-CES spinal emergencies, such as discitis, epidural abscess or epidural haematoma should be referred immediately to the spinal team (or neurosurgical team overnight).

Some emergencies, such as transverse myelitis and spinal cord stroke, are managed by the neurology team (bleep 6243, or via switchboard overnight).

Malignant cord compression should be discussed with the oncology team (bleep 5054).

The reporting radiologist may recommend speciality discussion for findings such as a large disc prolapse with CSF effacement or severe canal stenosis. If there are no clinical features of CES, an urgent referral can be made to the spinal team via EPR (see section 6).

If a patient with non-CES, non-emergency spinal MRI abnormalities (such as a moderate disc prolapse) is not able to independently mobilise to be discharged ED even after adequate multimodal analgesia has been administered, a discussion should be had spinal team during working hours. Be aware of the possibility that such patients may have a second, more cephalad spinal pathology, and make sure a thorough assessment has been undertaken and a spinal level established.

If a patient with severe radiculopathy preventing discharge is admitted to EAU under ED, they should be reviewed twice daily, ideally by a senior ED clinician. Patients should be advised from an early stage that their pain will not resolve whilst in EAU, and emphasis should be placed on facilitating safe mobilisation (for example, to and from the toilet) such that the patient can be discharged to recuperate at home.

5. Arranging Follow Up with OxSSU

Patients are able to be safely discharged from ED may under specific criteria be referred directly from ED to the Oxford Spinal Service Unit (OxSSU) using the EPR communicate function.

All referrals to OxSSU must be discussed with an ED senior.

The following patients can be referred without recent MRI:

1. Patients with bilateral sciatica (radiculopathic pain in a dermatomal distribution, most commonly affecting L4, L5 or S1 dermatomes and thus extending beyond the knee), in the absence of any other features of CES.
2. Patients with symptoms suggestive of cauda equina that have been present for over 14 days without worsening or progression.

These patients must be given written advice, verbally reinforced, with instructions to return to ED immediately should they develop new or worsening symptoms. The patient must be informed that a failure to return may lead to a delay in the diagnosis and treatment of CES, which may in turn lead to chronic pain, permanent weakness of the legs or bladder/bowel/sexual dysfunction.

The following patients can be referred provided they have had a recent MRI (either in ED, or within the last four weeks).

3. Patients with acute (less than three months) radicular pain with a concordant MRI demonstrating pathology appropriate for urgent spinal surgery.
4. Patients with incapacitating radicular pain or severe acute radiculopathy with a concordant MRI demonstrating pathology appropriate for urgent spinal surgery.
5. Patients with myelopathy with a concordant MRI demonstrating pathology appropriate for urgent spinal surgery.
6. Patients in whom an MRI has shown a very large disc prolapse but who have no clinical features of CES.

Patients who do not meet at least one of the above six criteria must not be referred to the EPR communicate pool except on the advice of a named spinal fellow or consultant.

Patients who do not meet OxSSU referral criteria may instead be followed up by ConnectHealth or their GP.

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5. Arranging Follow Up with OxSSU (con'd)

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Please note relevant definitions:

“Acute radicular pain”: less than three months since onset or significant flare from baseline.

“Severe acute radiculopathy”: less than one week since onset with associated weakness (MRC grading <3)

“Incapacitating radicular pain”: affecting ability to self care, causing patient to be bed bound or sleep downstairs etc.

Examples of “pathology appropriate for urgent spinal surgery” include:

- Disc prolapse with effacement of CSF or nerve root compression;
- Cervical or thoracic canal stenosis with critical cord compression.

If in doubt, discuss with a senior before making any referral, as MRI abnormalities are extremely common, but only a proportion will benefit from spinal team review.

Send an EPR communicate to “Spinal Unit Referral Inbox Team,” using the “R~ED_Spinal” autotext function.

6. Discharging Patients

1. Explain to the patient the cause of their symptoms, and explain that for many people low back pain and sciatica improve spontaneously within four to six weeks.
2. Encourage gentle activity e.g. walking, swimming.
3. Discuss and provide appropriate analgesia:
 - Regular NSAID (ibuprofen or naproxen) if not contraindicated, with PPI for patients aged over 65 or at higher risk of GI adverse events.
 - Consider PRN codeine, warning patient of the risks of drowsiness, constipation and dependence.
 - Consider amitriptyline for severe sciatic symptoms, starting at 10mg nocte, and increasing to 20mg nocte after one week if tolerated. Warn the patient of common side effects such as dry mouth and “hangover” in the first few days of treatment. Explain that amitriptyline will not provide instant relief, but may modulate pain pathways over time.
 - NICE guidance states there is little evidence of efficacy for paracetamol.
4. Do not routinely provide a prescription for gabapentinoids from the emergency department – these are controlled drugs with a high risk of misuse, and not recommended by NICE. Do not ask GPs to start these medications.
5. Do not routinely provide prescriptions for oral morphine or strong opioids from the emergency department – these have a high risk of misuse, and are not recommended by NICE. Do not ask GPs to start these medications.
6. Do not routinely provide prescriptions for diazepam from the emergency department. Diazepam has little evidence of efficacy and is highly addictive. It is not recommended by NICE. Where patients have been provided diazepam by their general practitioner they should be encouraged to wean and discontinue this medication as soon as possible. Do not ask GPs to start diazepam.
7. Encourage patients who do not meet criteria for direct referral to OxSSU (for example, patients with controllable sciatic pain or persistent low back pain) to self-refer to ConnectHealth (www.connecthealth.co.uk) for community physiotherapy. If deemed necessary, ConnectHealth is able to refer to OxSSU.
8. Provide OUH CES awareness advice, and verbally emphasise the signs of CES in your safety netting advice, along with instructions to return to ED should they occur.

7. Non-Neurological Bladder or Bowel Issues

Where a patient has attended with urinary or bowel symptoms that are not due to CES or another neurological cause, ensure these have been addressed during the consultation.

UTI

Consider UTI as a cause of urinary symptoms, and consider dipstick/MC&S and treatment as appropriate.

Urinary retention

Be aware that severe pain can be a cause for urinary retention, as can some of the agents used to treat low back pain and sciatica (opioids, TCAs and gabapentinoids). Urinary retention may also be exacerbated by constipation (see below).

Consider other causes of retention, such as prostatism in older men, and manage as per standard pathways.

Stress Incontinence

Explain the nature of these symptoms, which are frequently due to weakness of the pelvic floor following previous childbirth or surgery. Encourage weight loss, caffeine and alcohol reduction and smoking cessation. Give written advice on pelvic floor exercises, such as from nhs.uk (available at <https://www.nhs.uk/common-health-questions/lifestyle/what-are-pelvic-floor-exercises/>). Encourage GP follow up.

Urge Incontinence

Explain the nature of these symptoms, which are frequently due to an overactive bladder. Encourage weight loss, caffeine and alcohol reduction and smoking cessation. Encourage GP follow up for consideration of bladder training and/or antimuscarinic (e.g. oxybutynin).

Constipation

Constipation, with or without overflow, is a very common side effect of some of the agents used to treat low back pain and sciatica (opioids, TCAs and gabapentinoids). Constipation may also exacerbate urinary symptoms. Advise the patient to buy a laxative such as laxido over the counter (the price is similar to the NHS prescription charge) and adjust the dose until regular easy motions are achieved.

8. Acknowledgements and Notes

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This document is based heavily on Getting It Right First Time: National Suspected Cauda Equina Syndrome (CES) Pathway, and it recommended that EM Clinicians read this document in its entirety to understand the rationale behind recommendations in this internal guidance.

References:

1. Getting It Right First Time: National Suspected Cauda Equina Syndrome (CES) Pathway. Available at: <https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/10/National-Suspected-Cauda-Equina-Pathway-UPDATED-V2-October-2023.pdf>
2. NICE Guideline NG59: Low Back Pain and Sciatica in Over 16s. Available at: <https://www.nice.org.uk/guidance/ng59>