Back Pain in Primary Care

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HEALTHCARE TRAINING

GUIDELINES

BACK PAIN SESSION

SESSION: BACK PAIN

AIMS: This session explores assessment and management of back pain in primary care settings.

OBJECTIVES
This session aims to develop your skills in :

- Recognising back anatomy and identify impact abnormalities or structural deficits.
- Taking a structured history to support your diagnosis
- Use clinical decision-making skills in assessing a patient presenting with back pain
- Recognising red flags and referral pathways
- Providing educational advice and signposting to appropriate resources available.
- Arranging referral to physiotherapy, occupational health, or a specialist low back pain service, if appropriate.

RECOMMENDED READINGS

Bartley, R. and P. Coffey (2000) Management of Low Back Pain in Primary Care. Butterworth-Heinemann
ISBN-10: 0750647876 ISBN-13: 978-0750647878
Collins, (2017) Diagnosis and Management of Neck and Back Pain in Primary Care Paperback Lippincott Williams and Wilkins; 1 edition (1 Aug. 2017. ISBN-10: 1496362748 ISBN-13: 978-1496362742

https://www.osmosis.org/learn/Non-steroidal_anti-inflammatory_drugs
https://www.osmosis.org/learn/Anticonvulsants_and_anxiolytics:_Benzodiazepines?section=Pharmacology
https://www.osmosis.org/learn/Clinical_Reasoning:_Lower_back_pain
https://www.osmosis.org/learn/Lordosis,_kyphosis,_and_scoliosis
https://www.osmosis.org/learn/Osteoarthritis
https://www.osmosis.org/learn/Ankylosing_spondylitis
https://www.osmosis.org/learn/Osteoporosis

***This is a really good overview of back pain. Please read before session.
https://www.ncbi.nlm.nih.gov/books/NBK538173/
https://www.ncbi.nlm.nih.gov/books/NBK537318/

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DEFINITION

Low back pain is pain in the lumbosacral area of the back, between the bottom of the ribs and the top of the legs
Specific causes of low back pain include sciatica, vertebral fracture, intra-abdominal pathologies, and more rarely, ankylosing spondylitis, cancer, and infection.
Non-specific low back pain is diagnosed when the pain cannot be attributed to a specific cause, although in many cases, may be related to trauma, or musculo-ligamentous strain.

PREVALENCE

Low back pain is common

- Up to 60% of the adult population can expect to have low back pain at some time in their life.
- A UK population-based cross-sectional study of 15,272 people aged 25 years and older found the 1-month period prevalence of low back pain to be 28.5%, peaking at age 41–50 years. Low back pain was reported by one in four people aged over 80
- Around 20% of people with low back pain consult their GP each year.
- 3-4% of young adults (below 45 years of age) are chronically disabled by low back pain.
- 5-7% of older adults (over 45 years of age) are chronically disabled by low back pain.

Risk factors for the development of non-specific low back pain include:

- Obesity.
- Physical inactivity.
- Occupational factors (such as heavy lifting).
- Depression and other psychological conditions.

What is the prognosis?

- Most episodes of non-specific back pain resolve within four weeks with self-care.
- People with low back pain who are at higher risk of long-term pain and functional disability include those with:
    - Pain lasting for longer than 12 weeks.
    - Psychosocial distress.
    - Maladaptive coping strategies such as avoidance of work, movement, or other activities due to fear of exacerbating back pain.
    - Pain coping characterised by excessively negative thoughts about the future ('catastrophizing').
- People who have had low back pain often have episodes of recurrence and may develop repeated 'acute on chronic' symptoms.
- An Australian primary care study of people presenting with acute low back pain (without sciatica) found that the proportion of people who were completely pain-free was 40% at 6 weeks, 58% at 12 weeks, and 73% at 1 year

What can cause lower back pain?

Most acute low back pain is mechanical in nature, meaning that there is a disruption in the way the components of the back (the spine, muscle, intervertebral discs, and nerves) fit together and move. Some examples of mechanical causes of low back pain include:

Congenital

- Skeletal irregularities such as scoliosis (a curvature of the spine), lordosis (an abnormally exaggerated arch in the lower back), kyphosis (excessive outward arch of the spine), and other congenital anomalies of the spine.
- Spina bifida which involves the incomplete development of the spinal cord and/or its protective covering and can cause problems involving malformation of vertebrae and abnormal sensations and even paralysis.

Injuries

- Sprains (overstretched or torn ligaments), strains (tears in tendons or muscle), and spasms (sudden contraction of a muscle or group of muscles)
- Traumatic Injury such as from playing sports, car accidents, or a fall that can injure tendons, ligaments, or muscle causing the pain, as well as compress the spine and cause discs to rupture or herniate.

Degenerative problems

- Intervertebral disc degeneration which occurs when the usually rubbery discs wear down as a normal process of aging and lose their cushioning ability.
- Spondylosis the general degeneration of the spine associated with normal wear and tear that occurs in the joints, discs, and bones of the spine as people get older.
- Arthritis or other inflammatory disease in the spine, including osteoarthritis and rheumatoid arthritis as well as spondylitis, an inflammation of the vertebrae.

Nerve and spinal cord problems

- Spinal nerve compression, inflammation and/or injury
- Sciatica (also called radiculopathy), caused by something pressing on the sciatic nerve that travels through the buttocks and extends down the back of the leg. People with sciatica may feel shock-like or burning low back pain combined with pain through the buttocks and down one leg.
- Spinal stenosis, the narrowing of the spinal column that puts pressure on the spinal cord and nerves
- Spondylolisthesis, which happens when a vertebra of the lower spine slips out of place, pinching the nerves exiting the spinal column
- Herniated or ruptured discs can occur when the intervertebral discs become compressed and bulge outward
- Infections involving the vertebrae, a condition called osteomyelitis; the intervertebral discs, called discitis; or the sacroiliac joints connecting the lower spine to the pelvis, called sacroiliitis
- Cauda equina syndrome occurs when a ruptured disc pushes into the spinal canal and presses on the bundle of lumbar and sacral nerve roots. Permanent neurological damage may result if this syndrome is left untreated.
- Osteoporosis (a progressive decrease in bone density and strength that can lead to painful fractures of the vertebrae)

Non-spine sources

- Kidney stones can cause sharp pain in the lower back, usually on one side
- Endometriosis (the buildup of uterine tissue in places outside the uterus)
- Fibromyalgia (a chronic pain syndrome involving widespread muscle pain and fatigue)
- Tumors that press on or destroy the bony spine or spinal cord and nerves or outside the spine elsewhere in the back
- Pregnancy (back symptoms almost always completely go away after giving birth)

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What are the risk factors for developing low back pain?

Anyone can have back pain. Factors that can increase the risk for low back pain include:
Age: The first attack of low back pain typically occurs between the ages of 30 and 50, and back pain becomes more common with advancing age. Loss of bone strength from osteoporosis can lead to fractures, and at the same time, muscle elasticity and tone decrease. The intervertebral discs begin to lose fluid and flexibility with age, which decreases their ability to cushion the vertebrae. The risk of spinal stenosis also increases with age.

Fitness level: Back pain is more common among people who are not physically fit. Weak back and abdominal muscles may not properly support the spine. “Weekend warriors”—people who go out and exercise a lot after being inactive all week—are more likely to suffer painful back injuries than people who make moderate physical activity a daily habit. Studies show that low-impact aerobic exercise can help maintain the integrity of intervertebral discs.

Weight gain: Being overweight, obese, or quickly gaining significant amounts of weight can put stress on the back and lead to low back pain.

Genetics: Some causes of back pain, such as ankylosing spondylitis (a form of arthritis that involves fusion of the spinal joints leading to some immobility of the spine), have a genetic component.

Job-related factors: Having a job that requires heavy lifting, pushing, or pulling, particularly when it involves twisting or vibrating the spine, can lead to injury and back pain. Working at a desk all day can contribute to pain, especially from poor posture or sitting in a chair with not enough back support.

Mental health: Anxiety and depression can influence how closely one focuses on their pain as well as their perception of its severity. Pain that becomes chronic also can contribute to the development of such psychological factors. Stress can affect the body in numerous ways, including causing muscle tension.

Smoking: It can restrict blood flow and oxygen to the discs, causing them to degenerate faster.

Backpack overload in children: A backpack overloaded with schoolbooks and supplies can strain the back and cause muscle fatigue.

Psychological factors: Mood and depression, stress, and psychological well-being also can influence the likelihood of experiencing back pain.

Back Pain Session

Presenting Complaint (PC)
PMH
Previous episodes of back pain:
- When?
- Were the episodes similar to the current?
- Did the patient seek medical attention?
- Was a diagnosis made?

Previous treatment for back pain (e.g. physiotherapy, analgesia, steroid injections)
Surgical history – "Have you ever had any spinal surgery?"
Osteoporosis – increased risk of spinal fracture
Trauma – "Have you ever injured your back in the past?"
Acute hospital admissions – When and why?
Congenital spinal problems (e.g. scoliosis)
Malignancy – consider metastases to the spine
Cardiovascular disease – myocardial infarction / aortic aneurysms
Recent infections – osteomyelitis / vertebral discitis
Immunosuppression – osteomyelitis / vertebral discitis
Depression – associated with chronic and recurring back pain

Medication

Regular Medications
Analgesia for back pain:
- Paracetamol, NSAIDs, opioid analgesics (i.e. codeine, tramadol or oral morphine)
- Benzodiazepines to relieve muscle spasms
- Gabapentin/Pregabalin are often used for chronic back pain

Corticosteroids – increased risk of vertebral fractures if using long-term
Over the counter drugs – important to clarify what analgesics taken to ensure no overdosing (e.g. using regular
paracetamol in addition to co-codamol)
Herbal remedies

SOCIAL AND FAMILY HISTORY

Consider allergies to medication, environment and foods.

Family History

Rheumatological disease – rheumatoid arthritis/ankylosing spondylitis
Degenerative disc disease – musculoskeletal lower back pain
Osteoporosis – fractures
Cardiovascular disease – myocardial infraction/aortic aneurysm
Malignancy – clarify the type of cancer and age of diagnosis

Social History

Smoking – How many cigarettes a day? How many years have they smoked for?
Alcohol – How many units a week? – type/volume/strength of alcohol – history of alcohol abuse is associated with pancreatitis
Recreational drug use – e.g. intravenous drug use – osteomyelitis / vertebral discitis / epidural abscess

Occupation:

- What does job involve? (e.g. heavy lifting, repetitive movements, sitting for prolonged periods, driving)
- Is the patient currently able to do their job?
- Is the patient satisfied in their job? (job dissatisfaction is associated with chronic lower back pain, furthermore, longer someone is absent from work due to back pain, less likely they are to return to work[3])

Stress – emotional stress can be associated with musculoskeletal lower back pain
Diet – obesity is a strong risk factor for musculoskeletal back pain
Exercise – baseline level of the patient's day to day activity (patients participating in contact sports or weightlifting/strength sports may be at an increased risk of back injuries)

Living situation:

- House/bungalow? – adaptations / stairs
- Who lives with the patient? – Is the patient supported at home?
- Any carer input? –What level of care do they receive?
- What is their normal level of mobility? – Do they use mobility aids such as walking sticks? Is the back pain impacting their mobility?

SYSTEMS OVERVIEW

Activities of daily living:
• Is the patient independent and able to fully care for themselves?
• Can they manage self-hygiene/housework/food shopping?

Systemic Enquiry

Systemic enquiry involves performing a brief screen for symptoms in other body systems. You may pick up symptoms patient failed to mention in PC. Some of these symptoms may be relevant to diagnosis (e.g. weight loss secondary to malignancy).Choosing which symptoms to ask about depends on PC and your level of experience.

Cardiovascular – Chest pain / Palpitations / Dyspnoea / Syncope / Orthopnoea / Peripheral oedema

Respiratory – Dyspnoea / Cough / Sputum / Wheeze / Haemoptysis / Chest pain

GI – Appetite / Nausea / Vomiting / Indigestion / Dysphagia / Weight loss / Abdominal pain / Bowel habit

Urinary – Volume of urine passed / Frequency / Dysuria / Urgency / Incontinence

CNS – Vision / Headache / Motor or sensory disturbance/ Loss of consciousness / Confusion

Musculoskeletal – Bone and joint pain / Muscular pain

Dermatology – Rashes / Skin breaks / Ulcers / Lesions

RED FLAGS FOR BACK PAIN (HISTORY ONLY)

Cauda equina syndrome:

- Severe or progressive bilateral neurological deficit of the legs, such as major motor weakness with knee extension, ankle eversion, or foot dorsiflexion.
- Recent-onset urinary retention (caused by bladder distension because the sensation of fullness is lost) and/or urinary incontinence (caused by loss of sensation when passing urine).
- Recent-onset faecal incontinence (due to loss of sensation of rectal fullness).
- Perianal or perineal sensory loss (saddle anaesthesia or paraesthesia).
- Unexpected laxity of the anal sphincter.

Spinal fracture:

- Sudden onset of severe central spinal pain which is relieved by lying down.
- There may be a history of major trauma (such as a road traffic collision or fall from a height), minor trauma, or even just strenuous lifting in people with osteoporosis or those who use corticosteroids.
- Structural deformity of the spine (such as a step from one vertebra to an adjacent vertebra) may be present.
- There may be point tenderness over a vertebral body.

Cancer:

- The person being 50 years of age or more.
- Gradual onset of symptoms.
- Severe unremitting pain that remains when the person is supine, aching night pain that prevents or disturbs sleep, pain aggravated by straining (for example, at stool, or when coughing or sneezing), and thoracic pain.
- Localised spinal tenderness.
- No symptomatic improvement after four to six weeks of conservative low back pain therapy.
- Unexplained weight loss.
- Past history of cancer — breast, lung, gastrointestinal, prostate, renal, and thyroid cancers are more likely to metastasize to the spine.

RED FLAGS FOR BACK PAIN (HISTORY ONLY)

Infection (such as discitis, vertebral osteomyelitis, or spinal epidural abscess).

- Fever
- Tuberculosis, or recent urinary tract infection. Diabetes.
- History of intravenous drug use.
- HIV infection, use of immunosuppressants, or the person is otherwise immunocompromised.

How should I diagnose the cause of low back pain?

Assess the person.

- Ask about the type of pain, duration of symptoms, aggravating and relieving factors, associated symptoms, radiation of pain, night pain.
- Examine the person. Observe gait, posture, skin and any bruising, skin changes, rashes, deformity or swelling of the back.
- Perform a neurological examination looking for loss of sensation, changes to reflexes, limitation of range of movement including straight leg raising, tenderness, fever and loss of anal tone.

Assess for the presence of red flag symptoms and signs that may suggest a serious underlying cause, such as:

- Cauda equina syndrome.
- Cancer of the spine.
- Spinal fracture due to trauma or osteoporotic collapse.
- Spinal infection.

Be aware that low back pain can be caused by intra-abdominal pathology, including:

- Gastrointestinal – such as peptic ulcer or pancreatitis. For more information, see the CKS topics on Dyspepsia - proven peptic ulcer and Pancreatitis - acute.
- Genitourinary – such as kidney stones, pyelonephritis, prostatitis, or pelvic infection. For more information, see the CKS topics on Renal or ureteric colic, Pyelonephritis - acute, Prostatitis - acute, and Pelvic inflammatory disease.

Suspect ankylosing spondylitis if the person (particularly if they are under 40 years old) has:

- Pain at night that is not relieved when the person is supine.
- Stiffness in the morning that is relieved with movement/exercise.
- Gradual onset of symptoms.
- Symptoms that have lasted for more than three months.
- For more information, see the CKS topic on Ankylosing spondylitis.

Suspect osteoporosis if the person has:

- Non-specific pain, or localised tenderness if there is vertebral fracture.
- Risk factors for osteoporosis, including female sex, advancing age, current or previous smoking history, and/or use of corticosteroids.
- For more information, see the CKS topic on Osteoporosis - prevention of fragility fractures.

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How should I diagnose the cause of low back pain?

Suspect shingles (herpes zoster) if the person has unilateral pain and rash in the distribution of a dermatome.

- For more information, see the CKS topic on Shingles.

Suspect sciatica if the person has:

- Unilateral leg pain radiating below the knee to the foot or toes.
- Low back pain — if present, it is less severe than the leg pain.
- Numbness, tingling (paraesthesia), and muscle weakness in the distribution of a nerve root (dermatome) — this suggests nerve root compression. Other signs of nerve root compression include:
    - Numbness, paraesthesia, muscle weakness, or loss of tendon reflexes in the distribution of usually a single nerve root.
    - Positive straight leg raising test — raising the leg whilst it is straight causes greater pain radiation below the knee and/or more nerve compression symptoms.
    - Extensor plantar response — when the lateral part of the sole of the foot is stimulated, the toes extend and fan outwards.
- For more information, see the CKS topic on Sciatica (lumbar radiculopathy).

Suspect non-specific lower back pain if the person's pain varies with posture and time, and is exacerbated by movement.

Do not routinely X-ray the spine to diagnose non-specific low back pain, as it will generally not inform management.

- However, spinal X-ray may be indicated if there is suspicion of a specific pathology, such as a compression fracture due to osteoporosis.

How should I manage a person with low back pain?

- If there are Red flag symptoms and signs that may suggest a serious underlying cause, admit or refer urgently for specialist assessment, or imaging, using clinical judgement.
- If an underlying cause for the low back pain has been identified, manage according to the specific diagnosis.
- If non-specific low back pain is suspected, assess the person using a risk stratification tool such as STarT Back to identify modifiable risk factors (biomedical, psychological and social) for back pain disability.
    - Quality of life, pain severity, function, and psychological distress are the most important factors to guide the person's management.
    - People with low back pain who are likely to improve quickly generally need less intensive support, while people at higher risk of a poor outcome may require more complex and intensive support.

For all people with non-specific low back pain:

- Offer Self-management advice, tailored to the person's needs and capabilities, including information on the nature of low back pain, and encouragement to continue with normal activities.
- Offer analgesia to manage pain:
    - Offer a nonsteroidal anti-inflammatory drug (NSAID) such as ibuprofen or naproxen first-line, if there are no contraindications. An NSAID should be used at the lowest effective dose for the shortest possible time. Gastroprotective treatment should also be offered while an NSAID is being used.
    - If an NSAID is contraindicated, not tolerated, or ineffective, offer codeine with or without paracetamol, taking into account the risk of opioid dependence and adverse effects such as constipation.
    - Do not offer paracetamol alone for managing low back pain.
    - For information on prescribing analgesics, see the CKS topics on Analgesia - mild-to-moderate pain and NSAIDs - prescribing issues.
- If the person has muscle spasm, consider offering a short course of a benzodiazepine, such as diazepam 2 mg up to three times a day for up to 5 days, if not contraindicated.
    - For more information on prescribing diazepam, see the prescribing information section on Diazepam.
- Advise the person to seek follow-up if symptoms persist or are worsening after 3–4 weeks.
- Advise the person to report any red flag symptoms and signs.

How should I manage a person with low back pain?

- **For people assessed at higher risk of a poor outcome:**
  - Offer referral for a group exercise programme (biomechanical, aerobic, mind–body or a combination of approaches). Take the person's specific needs, preferences and capabilities into account when choosing the type of exercise.
  - Consider offering referral to a physiotherapist for manual therapy (spinal manipulation, mobilisation, or massage) as part of a treatment package including exercise.
  - Consider offering referral for cognitive behavioural therapy as part of a treatment package including exercise, with or without manual therapy, if the person has significant psychosocial obstacles to recovery (for example, avoiding normal activities based on inappropriate beliefs about their condition), or when other treatments have not been effective.
  - Promote and facilitate return to work or normal activities of daily living.

Self-management advice

- **Address any specific concerns the person has about the cause of their pain and their expectations of treatment. In general advise them that:**
  - Acute non-specific low back pain is not caused by serious structural damage.
  - Most people can reasonably be expected to recover from an episode of acute non-specific back pain within a period of weeks.
- **Provide information on self-help measures to relieve symptoms.**
  - Offer information leaflets on simple exercises that may help relieve symptoms, for example Exercises for a better back provided by the charity Backcare, which has a range of information leaflets available at www.backcare.org.uk.
  - Local heat (ensuring that the skin is protected) may relieve pain and muscle spasm.
- **Encourage the person to stay active, resume normal activities, and return to work as soon as possible. Advise that:**
  - Prolonged bed rest is not recommended, and that normal movements may produce some pain which should not be harmful if activities are resumed gradually and as tolerated.
  - The person does not need to be pain-free before returning to normal activities or work. Work adjustments can make an early return to work possible; this may be arranged by an Occupational Health department if available.
  - Keeping as active as possible and exercising regularly is important to reduce the risk of recurrence.

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How should I follow-up a person with low back pain?

At follow-up, if symptoms persist or are worsening:

- Review the diagnosis and consider an alternative cause.
  - If there are red flag symptoms and signs that may suggest a serious underlying cause, admit or refer urgently for specialist assessment using clinical judgement.
- Assess the person's adherence and response to management.
- Assess and address any factors that may be delaying recovery.
- Review the person's pain medication.
- Consider arranging specialist referral:
  - If there is progressive, persistent, or severe neurological deficit, consider admission or refer urgently to neurosurgery or orthopaedics for specialist assessment, depending on clinical judgement and local referral pathways.
  - **If pain or functional impairment persists:**
    - Offer referral for a group exercise programme (if not this is not ongoing), taking into account the person's specific needs, preferences and capabilities. Consider in conjunction, offering referral for cognitive behavioural therapy, and/or physiotherapy (including spinal manipulation, mobilisation, or massage). A combined physical and psychological programme is particularly recommended for people with persistent low back pain, when they have significant psychosocial obstacles to recovery (for example, avoiding normal activities based on inappropriate beliefs about their condition), or when previous treatments have not been effective.
    - Consider referral for assessment for radiofrequency denervation for people with chronic low back pain when non-surgical treatment has not worked, and the main source of pain is thought to come from structures supplied by the medial branch nerve, and the person's pain is rated as 5 or more on a visual analogue scale, or equivalent, at the time of referral.

Diazepam

Dosing information

- Initially prescribe diazepam 2 mg up to three times a day when required to relieve muscle spasm. If necessary, the dose can be titrated up to 5 mg three times a day.
  - A short course (2–5 days) is recommended because the risk of adverse effects is high, and habituation can occur.
  - Use caution if considering prescribing diazepam in elderly or frail people — the manufacturer advises halving the recommended dose.

Diazepam withdrawal

- If taken for a short period of time, diazepam can generally be stopped suddenly with few problems. However, withdrawal symptoms such as anxiety, depression, impaired concentration, insomnia, abdominal cramps, palpitations, and perceptual disturbances (such as hypersensitivity to physical, visual, and auditory stimuli) may occur.
  - If withdrawal symptoms do occur, for information on how to manage them, see the CKS topic on Benzodiazepine and z-drug withdrawal.

Contraindications and cautions

Do not prescribe diazepam to people with:

- Current or a history of alcohol or opioid use or misuse — alcohol and opioids can induce lethal sedation by potentiating the effects of diazepam.
- Acute porphyria.
- Myasthenia gravis — condition may be aggravated.
- Sleep apnoea — condition may be aggravated.
- Bronchitis or chronic obstructive pulmonary disease.
- Severe hepatic insufficiency — elimination half-life may be prolonged.
- Major depression.
- Phobic or obsessional states, psychosis or schizophrenia, hyperkinesis — paradoxical reactions may occur.

Prescribe diazepam with caution to:

- People with personality disorders.
- The elderly, due to the increased risk of falls — the manufacturer advises halving the recommended doses.

Drug interactions

Drug interactions with diazepam include:

- Alcohol and opioids — advise against concomitant use with diazepam. Alcohol and opioids can induce lethal sedation by potentiating the effects of diazepam.
- Antihypertensives, vasodilators, and diuretics — be aware that concomitant use with diazepam may enhance the hypotensive effects of these drugs.
- Drugs that inhibit cytochrome P450 enzyme (for example cimetidine, ciprofloxacin, azole antifungals, and oestrogens) — avoid concomitant use with diazepam. The metabolism of diazepam is mediated by cytochrome P450 isoenzymes; concomitant use with P450 inhibitors can result in increased serum levels of diazepam leading to increased effect.
- Drugs that induce cytochrome P450 enzyme (for example St John's Wort and rifampicin) — be aware that cytochrome P450 inducers can accelerate hepatic elimination of diazepam and decrease its action. Dose adjustment of diazepam may be needed.
- HIV protease inhibitors (ritonavir and indinavir) — concomitant use with diazepam is contraindicated. The interactions between HIV protease inhibitors and benzodiazepines are variable; however, the manufacturers of ritonavir and indinavir advise that concurrent use with diazepam is contraindicated.
- Modafinil — monitor for adverse effects of diazepam as modafinil may increase the effects of diazepam. Dose adjustments of diazepam may be needed.
- Phenytoin — monitor phenytoin concentrations as concomitant use with diazepam may increase or decrease serum concentrations of phenytoin.

Adverse effects

- The most common adverse effects of diazepam relate to its sedative effect and include drowsiness and decreased concentration. People who are taking benzodiazepines and who drive should, therefore be given the following advice:
  - It is an offence to drive after taking diazepam if you feel drowsy, dizzy, unable to concentrate, or make decisions.
  - It is an offence to drive if you have more than a specified amount of benzodiazepine in your body, whether your driving is impaired or not.
    - Roadside saliva screening tests in the UK detect certain drugs that impair driving. If you have a positive roadside drug test for benzodiazepines, the police may ask you to provide a blood sample to measure the amount of benzodiazepine in your body.
    - Even if you are found to have more than the specified amount of benzodiazepine in your body, as long as your driving is not impaired, and you are taking your medicine on the advice of a doctor or pharmacist, you will be able to raise a statutory 'medical defence' and the police may not prosecute you.
    - It may be helpful to keep evidence that you are taking a benzodiazepine in accordance with medical advice with you while you are driving. Suitable evidence may include: your medication box with the pharmacy label on, or the other half of your prescription with the list of medicines prescribed by your doctor.

Other adverse effects include:

- Headache, vertigo, tremor, slurred speech, decreased libido, erectile dysfunction, gynaecomastia, and obstructive sleep apnoea syndrome.
- Paradoxical effects such as talkativeness, excitement, irritability, aggression, antisocial behaviour, and suicidal ideation.
- Tolerance and dependence (these can develop over time).
- Withdrawal syndrome — see the CKS topic on Benzodiazepine and z-drug withdrawal.

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HEALTHCARE TRAINING

CASE STUDY 1

An 82-year-old woman experienced sudden sharp low back pain while gardening that has persisted and worsened. The pain does not radiate. On exam: She is grimacing in pain; vital signs are normal; thoracic kyphosis, loss of lumbar lordosis, and palpable muscle spasm. What is the likely diagnosis and what tests would you perform.

Discuss?

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CASE STUDY 2

A 60-year-old man complains of insidious onset of low back pain that worsens when he lies down, so he sleeps in a recliner. There is a remote history of back injury. He has lost 10kg in the past 6 months

- On exam he has lumbar spine tenderness but no neurologic deficits
- Laboratory: Hb 9 mg%, WCC 9,000,
- ESR 110 mm/h, monoclonal spike on serum protein electrophoresis.

What other investigations would you do. Give some differentials

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CASE STUDY 3

40 year old fit and healthy male, attend surgery with an acute onset of severe lower back pain. He stated pain was constant, not relieved by paracetamol with shooting pain into the left leg from buttock to heel. He also has pins and needles in his heel. He could not get comfortable in any position in last 24 hrs and has not had much sleep. No alterations to bladder and bowel function, no sudden unexplained weight loss, no night-time fever/ malaise, no pins and needles/ numbness in groin region, no significant loss of leg strength. A sudden unexplained episode of lower back pain and leg pain, that started 8 weeks ago. He reported a history of 1-2 episodes of localised lower back pain and occasional low-grade leg pain, but nothing like this. He is a businessman, usually fit and well. Goes running twice a week. Local tenderness at the distal two joints of the Lumbar spine (L4/5), with widespread muscular spasm. Palpation of L4/5 elicited left leg symptoms.

What other tests would u perform and what is the likely diagnosis?

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CASE STUDY 4

Mr A, a fit and healthy 62 year old, presented with a 10 year history of intermittent nonspecific low back pain. He had been able to control his symptoms with several selfhelp measures, including weight control, regular aerobic activity, a firm mattress, back mobilisation exercises, and a naturally positive attitude. He had an active lifestyle and travelled extensively, but his episodes of acute pain had become increasingly severe and frequent and were starting to interfere with his quality of life. Radiological examination showed degenerative changes in the lumbar spine, predominantly at L4 and L5. A review of Mr A's medical history and a clinical examination did not give rise to any suspicion that he might have a serious spinal abnormality or nerve root problems.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1115519/ - The above case is from this study which is old but interesting read.

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QUIZ

1. A 42-year-old woman comes to the clinic because of fatigue, irritability, numbness and tingling in her legs and hands. She has increasing difficulty with walking, especially at night. Laboratory studies show megaloblastic and macrocytic and anaemia. She also has angular cheilitis and says that she sometimes gets brain fog. Which of the following is the most likely diagnosis?
a. Pernicious anaemia
b. Folic acid deficiency
c. Diabetes Mellitus
d. Stroke
e. Multiple sclerosis

2. A 36yr old male comes to the surgery complaining of pain in both legs that has been progressively worsening for 2 years. He states that the pain is especially debilitating when he walks but is still present at rest and when he awakes in the morning. No numbness or paranesthesia. What could he possibly have?
a. vascular claudication
b. Spinal stenosis
c. Neurogenic claudication
d. Sciatica
e. Osteoarthritis

3. A 22-year-old female attends the surgery complaining of urinary incontinence. She tells you that she had 'spine problems' as a child, including scoliosis. She has a history of recurrent lower back pain. She was at her physiotherapist today when she suddenly developed weakness and incontinence. She says the back pain radiates to her legs and perineum and she feels a bit numb in her genitalia. Her friend helped her to get to the surgery which was next to physiotherapy.
Which of the following is the most likely diagnosis?
a. spinal stenosis
b. cauda equina
c. cerebrovascular accident
d. Impaired ability of the detrusor muscle to contract
e. Lumbago

QUIZ

4. A 70-year-old man comes to the internal medicine outpatient clinic for regular followup. 10-years ago, he underwent a surgery for stomach cancer. He reports that he has been feeling fatigued for the past 3 months. He also notes a tingling sensation in his toes and fingers. Physical examination shows bilateral brisk knee reflexes and loss of proprioception. bilaterally. Which of the following is the most likely diagnosis?
a.Diabetes mellitus
b. Vitamin B12 deficiency
c. Colon cancer
d. Folate deficiency
e. Lumbar stenosis

5. A 42 yr old male comes to the urgent care centre complaining of lower back pain which radiates into his sacral area and the back of his left leg. When asked to straighten his leg and raise it, the pain worsens. No relief with paracetamol. No incontinence. Feels like a burning pain. What is the most likely diagnosis?
a. Spinal stenosis
b. Lumbago
c. Sciatica
d. CVA
e. Osteoarthritis

6. A 42 yr. old male come to the out of hours complaining of increasing fevers and episodes of urinary incontinence for past 2 days. He says he feels unwell, has malaise and no energy. He thought he had the flu. He recently returned from working in Pakistan as an interpreter in the forces. His T: 39.2 P:120 and BP: 140/90 P: 120. He has neck stiffness and weakness in his lower extremities which are more pronounced on the right. Reduced tone and reflexes in both legs. Sensation is normal. Which of the following is a likely diagnosis?
a. Meningitis
b. Spinal cord compression
c. Polio Myelitis
d. Multiple Sclerosis
e. Stroke

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