

NHS Buckinghamshire Musculoskeletal
Integrated Care Service

Understanding lower back pain



Now I
understand
my pain, I'm
heading in
the right
direction!



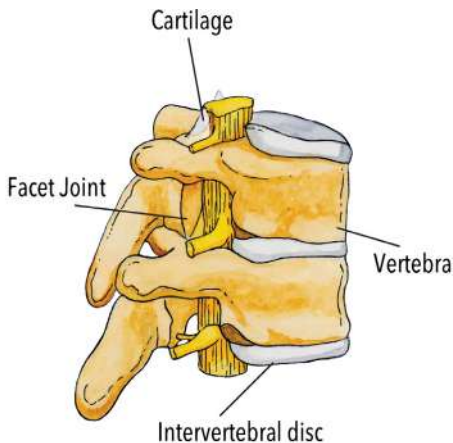
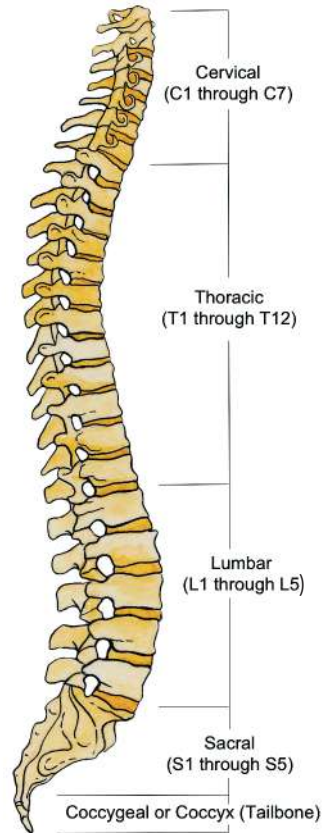
Spinal anatomy

The spine is made up of 33 bony vertebrae. These vertebrae are connected by facet joints. Between each vertebra there is a cartilaginous disc that acts as a shock absorber.

The spinal cord is protected by both of these structures and emerging from either side of the spine are peripheral spinal nerves which supply sensation and muscle power to the arms (from the neck) and to the legs (from the lower back).

The majority of back pain (85%) can be described as non-specific, where there may be an inflammatory or muscular cause rather than a structural injury.

The remainder is often described as specific back pain where there is a particular pathology or structure (such as a disc bulge or vertebral fracture).



It is not uncommon to experience back pain at some point in your life.

It may be an ache from sitting in the car too long or from lifting something heavy.

Imaging of the spine

Overview (American College of Radiology and the National Institute for Health and Care Excellence [NICE] 2016)

If a serious pathology is suspected from your clinical assessment you may be referred for a scan. This can be beneficial in confirming what your healthcare professional has found on assessment and when conservative management (exercise, pain medication if appropriate) has not helped.

Magnetic Resonance Imaging (MRI)

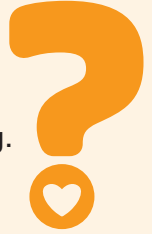
You may be sent for an MRI scan should the clinical assessment suggest that the findings from the scan will change the management plan. Findings on an MRI scan must match to your symptoms and what the healthcare professional has found on assessment to be of worth. It is not uncommon for an MRI to report an abnormal finding though the patient reports no pain or problems.

X-ray

X-ray is mainly used when a fracture (break) is suspected or when performing multiple X-rays to assess the degree of curvature in the spine. It is used less frequently in clinical practice as it delivers high doses of radiation.

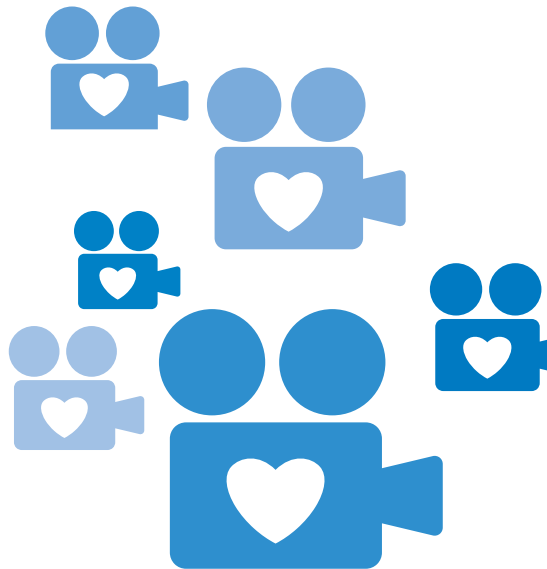
MYTH

A scan will show me exactly what is wrong.



FACT

Sometimes it will but most often it won't. Also, even people without back pain have changes in their spine so scans can cause fear that influences behaviour, making the problem worse.



What is pain?

'Acute' pain can occur following an injury to a structure in conjunction with inflammation (like an ankle sprain).

Pain can be beneficial for us at this stage to prevent further damage. Once the tissues involved have healed, the pain often reduces.

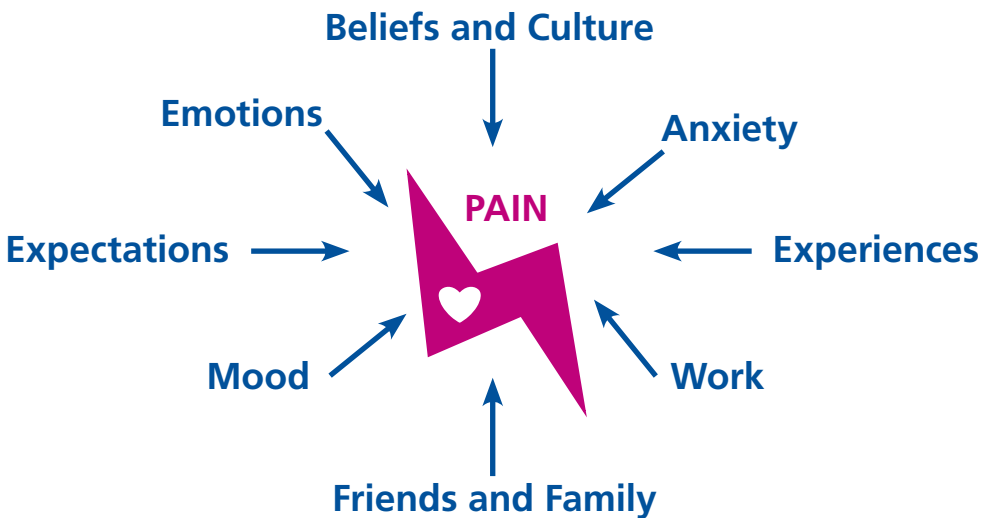
However, pain doesn't always equate to damage.

Pain is perceived by the brain. The brain organises information from the rest of your body to warn and to protect you from further damage.

Pain that lasts longer than expected healing times may not be secondary to the amount of damage to the structures involved, but instead be a product of our central nervous system.

It can be similar to a broken car alarm, whereby the alarm (pain) presents but there has been no broken window (tissue damage).

This is known as 'persistent' pain. Pain can therefore be exacerbated by several factors, detailed in the below diagram.



Gaining a greater understanding into your pain can help you manage it better. You can explore the further information throughout this leaflet as this explains pain and pain management in more detail.

Therapy recommendations (NICE 2016)

Psychological therapy

Your healthcare professional may consider using a cognitive behavioural approach to your treatment or may refer you to pain specialists to assist in the management of your pain.

Acupuncture

The NICE guidelines advise that acupuncture is not offered for the management of low back pain. If clinically appropriate your physiotherapist may use this as a treatment.

Electrotherapies

The NICE guidelines advise against the use of electrotherapy and ultrasound therapies for the management of your back pain as there is little clinical evidence to support their use.

Pain medication

Discuss the use of pain medication with your GP. This can be an effective way of assisting in the management of your lower back pain.

For nerve related pain (pins and needles, burning sensations, numbness) the use of 'neuropathic' pain medication can be beneficial (e.g. Amitryptiline, Gabapentin).



Further information (available online):

1. Understanding persistent pain, Tasmanian department of health (Google search and read PDF)
2. <https://www.tamethebeast.org/>
3. www.pathwaythroughpain.com
4. www.paintoolkit.org



Exercise and back pain

NICE have produced guidelines (November 2016) for the management of lower back pain, based on the most recent and effective evidence.

NICE suggest that you are provided with:

- Advice and information tailored to your needs and capabilities, to help you self-manage your low back pain, with or without sciatica, at all steps of the treatment pathway.
- A group exercise programme within the NHS for people with a specific episode or flare-up of low back pain, with or without sciatica, should be considered.
- Imaging in specialist settings of care only if the result is likely to change management (i.e surgery).
- Manual therapy (joint mobilisations, soft tissue release) should only be considered as part of a treatment package including exercise, with or without psychological therapy. Your physiotherapist may offer this if clinically appropriate.

MYTH

Moving will make my back pain worse.



FACT

People fear twisting and bending but its essential to keep moving. Gradually increase how much you are doing and stay on the go.

Misconceptions surrounding back pain:

- Intervertebral discs do not 'slip'. They bulge, herniate or prolapse.
- 'Degenerative changes' does not mean that the back 'crumbles' as we get older. It is a normal process of ageing.
- The severity of back pain does not equate to the level of damage to the spine. See 'What is pain'?
- Bad posture does not equal back pain.
- Back pain is not inherited from family members.
- Running on the road and swimming breaststroke are not bad for back pain.

Facts about exercise and back pain (Dr Mary O’Keefe –PhD in back pain)

1. Exercise is helpful for back pain.
2. Rest is not helpful but getting back moving and to normal activities is.
3. Exercise can prevent recurrence of back pain.
4. Moving with confidence and without fear is important for back pain.
5. Exercising in a relaxed manner is important.
6. The best type of exercise is the one you enjoy.
7. Feeling sore after exercise does not indicate damage to your body.
8. Exercising regularly is a must. The government’s suggested amount is 5 x 30 minutes per week (cardiovascular and strength training).
9. No drug or tablet delivers the diverse range of benefits as exercise.

MYTH 

I should avoid exercise, especially weight training.

FACT

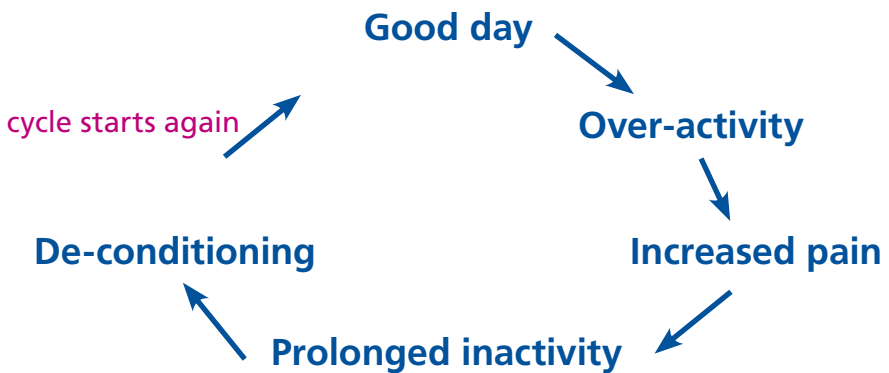
Back pain shouldn’t stop you enjoying exercise or regular activities. In fact, studies found that continuing with this can help you get better sooner, including using weights where appropriate.



Pacing

Pacing is a useful tool when managing pain. Understanding your limits to activity and exercise can allow you to gradually build tolerance to exercise, without over doing it and aggravating your symptoms.

The diagram below illustrates the 'boom and bust' cycle. Often on days where our pain is less, we do too much and this can aggravate symptoms. It is important to have an understanding into how much activity is too much and use this as a guide when doing exercise. This allows you to do a similar amount of exercise on both good and bad days without making things worse.



Once you have found the manageable amount of exercise that you are able to complete on 'good' and 'bad' days, it is then important to gradually start to do more on each occasion, this is called graded exposure.

The table below is an example of documenting your activities:

Activity	Good day (duration)	Bad day (duration)
e.g. walking	20 mins	10 mins

Goal setting

Goal setting is an effective way in measuring your progress. The goals you set for yourself or with your healthcare professional should be SMART:

Specific: Identify particular area of need for improvement (can be discussed with clinician/healthcare professional).

Measurable: Ensure you are able to track your progress. Document the goals: write them down and keep referring back to them when less motivated.

Achievable: Not too easy, not too hard.

Realistic: Not too difficult that if you don't achieve the goals it doesn't affect your confidence.

Timed: Short term goals should be smaller than long term goals which address the bigger picture or outcome.

Keep re-evaluating your goals throughout the process.

What would you like to achieve?

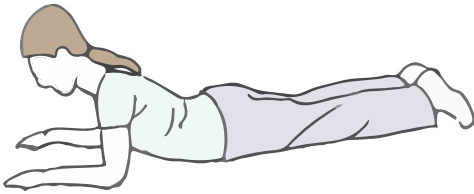
Short goal/s:

Long term goal:

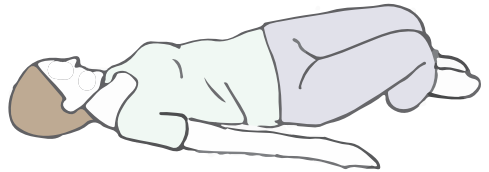
I will achieve this by...

Home exercise programme

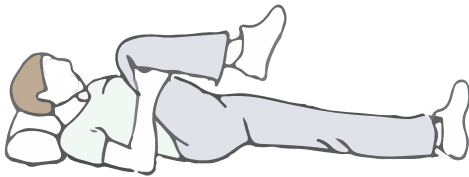
Please consult your physiotherapist to ensure the following exercises are suitable for you before completing them. You should complete these exercises a minimum of 3 times per week. If any of these exercises make your symptoms worse, stop and consult your physiotherapist.



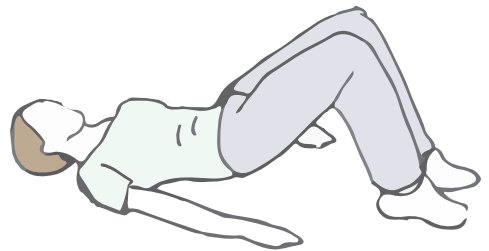
Lie on your front. Start with just a pillow under your tummy and then gently push onto your forearms. Let your back sink through to the floor and hold for 30-60 seconds.



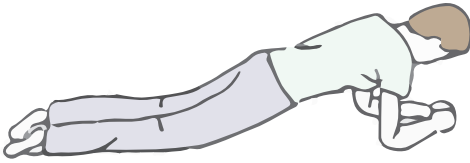
Feet together, on the floor. Slowly lower your knees down to one side. Repeat this alternate sides. Repeat 10 each way.



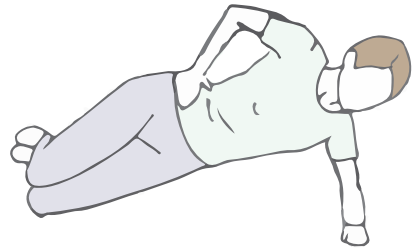
Gently draw one knee towards your chest. Hold for 30 seconds. Repeat 3 times on each side.



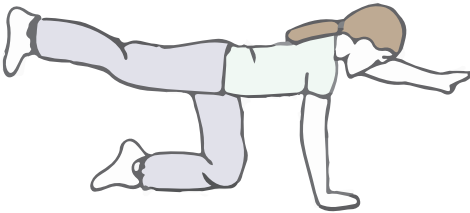
Feet hip width apart, Heels close to your bottom. Push through your heels, squeeze your bottom and lift into the air. Repeat 8-12 times, 3 sets.



Rest on knees and forearms, bottom lifted. Tuck tail bone under and flatten back. Drag elbows against resistance of the floor, hold 20-60 seconds, repeat up to 5 times. You should feel this in your stomach, if you feel it in your back, change your pelvic position.



Side lying on knees as above. Lift bottom into air and push hips forwards. Hold for 20-60 seconds, repeat up to 5 times on each side.



On all fours, start with alternate arm lifts. Then try alternate leg lifts. Then left arm and right leg lifts at the same time. Repeat 5-10 times each side.



Feet hip width apart, push bottom backwards and sit slowly down to the chair keeping the knees apart. Stand up. Repeat 10-15 times, 3 sets.



Stand on one leg and hold for up to 30 seconds. Do this in a safe environment. To make it harder, try with your eyes closed or on a wobble cushion. Do this as and when you can throughout the day.

Red flags

Should any of the following symptoms present during the course of your treatment then discuss with your healthcare professional or GP:

- Constant night pain that wakes you up.
- Unexplained weight loss with no intended diet.
- Night sweats that are abnormal for you.
- Bilateral leg pain (pain in both legs).
- Heavy legs/dragging legs when going up stairs.

Cauda Equina Syndrome (CES)

CES affects the area of the spinal cord which controls bladder, bowel and genital function. CES is a rare condition; however, **should any of the following symptoms present then head to A+E as this is a medical emergency:**

- Loss 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.
- Increased difficulty when you try to urinate.
- Increased difficulty when you try to stop or control your flow of urine.
- Loss of sensation when you pass urine.
- Leaking of 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 ejaculation.