Prevention and management of spinal pain in the workplace

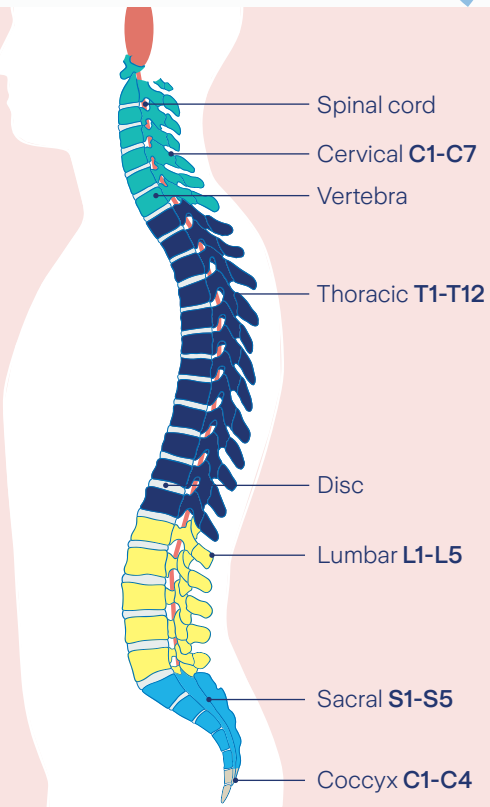
Causes of spinal pain

The Cervical Spine (neck) which is made up of 7 vertebrae. The vertebrae are the individual bones that make up the spine.

The Thoracic Spine (mid back) which is made up of 12 vertebrae.

The Lumbar Spine (low back) which is formed of 5 vertebrae.

The most common area to be affected is the lumbar spine or low back, followed by the cervical spine (neck). Problems with the thoracic spine are relatively rare. This area is very stable with a large portion of the thoracic spine being connected to the rib cage.



6.9 million working days were lost due to work related Musculoskeletal disorders in 2018-2019.

Back disorders account for **2.8 million of the lost days**

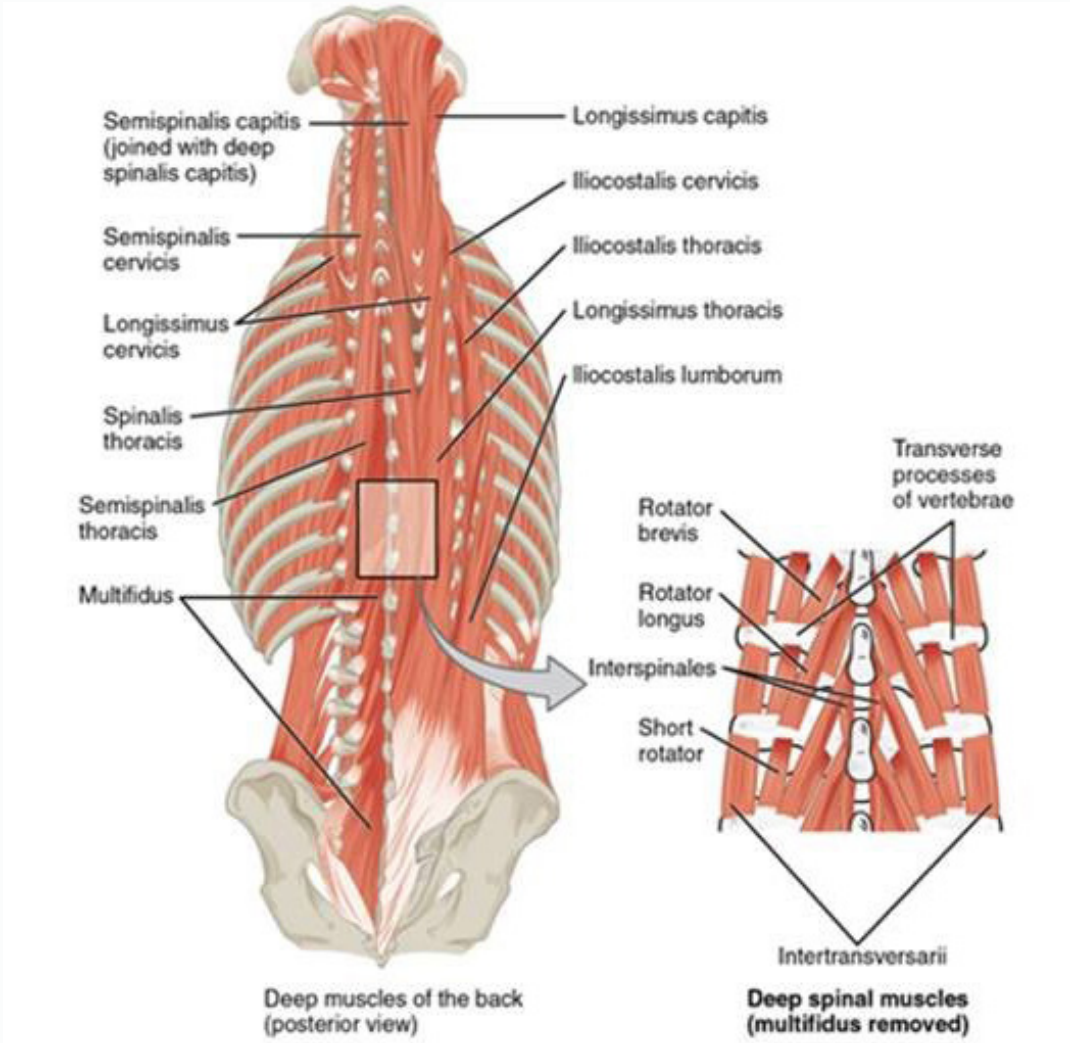
Musculoskeletal disorders increase in incidence with increasing age so as people are beginning to work for longer it is likely to become a more common problem.

ZURICH®

Complexity of the muscles within the spine

This diagram gives an indicator of the complexity of the muscles within the spine. There are superficial muscles which tend to be bigger with long levers and produce spinal movement. There are also deeper, much smaller muscles whose role is to provide stability and control of the spine.

When we experience spinal pain the big superficial muscles often tend to become overactive and spasm whereas the deeper muscles become inhibited and stop working as effectively. Therefore we lose some of the supporting mechanism.



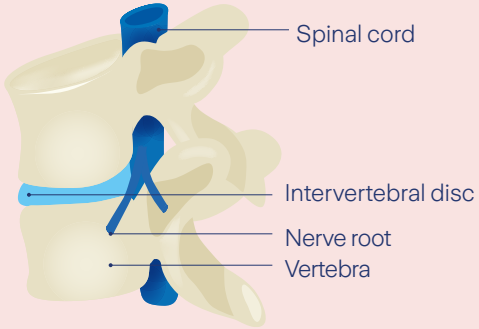
Normal spinal segment

This diagram shows an individual spinal segment with 2 vertebrae and the intervertebral disc.

At each spinal segment movement occurs in the large joint where the intervertebral disc is as well as smaller joints at the back of the spine called facet joints.

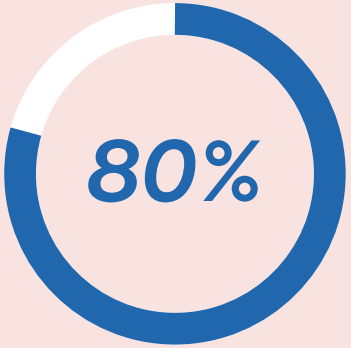
The disc helps to facilitate the movement and provides cushioning and shock absorption.

Nerves run out at each spinal segment either into the legs and feet from the low back or arms and hands from the neck. This provides the nerve supply for muscles as well as sensation.



As many as 80% of the overall population will experience an episode of back pain at some point in their life:

- The intervertebral disc, joints and muscles of the spine can all cause pain.
- Disc bulges or protrusions one of commonest causes and a disc protrusion can cause nerve compression.
- A significant proportion of spinal pain not attributable to pathology.



Managing spinal pain

The National Institute for Health and Care Excellence (NICE) guidelines provide specific recommendations about the management of back pain and sciatica and this is based on the highest quality evidence.

In the majority of cases, people with spinal pain do not require investigations as part of their management. There are some exceptions to this and if there is associated change in bladder or bowel function, unexplained weight loss, associated fever or being generally unwell (and in some other situations) then urgent investigations are needed.

Initial management of back pain (assuming that no investigations are indicated) includes simple strategies including self-management, continuing with normal activities as far as possible (including work) and education.

If the symptoms do not improve, the following treatments are recommended:

- **Analgesia:** Generally, this should be a short course of non-steroidal anti-inflammatories, avoiding opioid medication wherever possible.
- **Physiotherapy:** There is some good evidence to support the use of physiotherapy in managing back pain and sciatica if the first line of management is not successful.
- **Combined physical and psychological programme:** This may be helpful if there are psychological barriers to recovery.
- **Spinal Injections:** There are invasive treatments to help manage back pain and sciatica. By this stage patients will be under the care of a specialist clinic and have undergone investigations, which is most commonly an MRI scan. For patients with leg pain being caused by nerve irritation in the low back, there is evidence that spinal injections (either epidurals or nerve root injections) can be helpful. These are a mixture of steroid and local anaesthetic that aim to reduce the inflammation around the nerve and therefore help reduce leg pain.
- **Spinal Surgery:** For a smaller number of patients, who do not improve with conservative treatments, surgery will be considered. The most common surgical procedure is discectomy for patients who have a disc protrusion. There is good evidence for this surgery and the majority of patients have a significant improvement or resolution of the leg pain. Frequently people do experience some residual back pain to varying degrees.

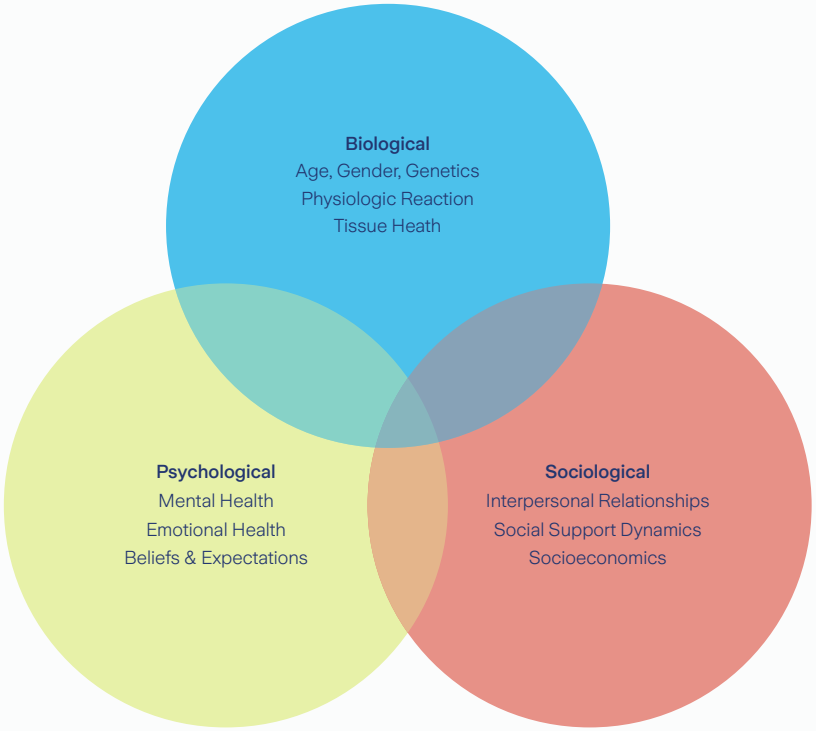
  The Royal College of Surgeons provides some good advice on returning to work time frames after a Discectomy.
  https://www.rcseng.ac.uk/patient-care/recovering-from-surgery/discectomy/recovery-tracker/

Factors contributing to persistent spinal pain and disability

Occupational and workplace Factors

Occupational and workplace factors, such as completing repetitive tasks, working in awkward postures, doing tasks that require a high degree of force or being exposed to significant vibration can be associated with back pain.

Workplace factors such as dissatisfaction with work, perceived job stress or inability to amend work tasks can lead to longer absences and higher levels of disability associated with back pain.



Biopsychosocial Model

The Biopsychosocial model is helpful in understanding why some people recover in different ways from back pain, or do not make a good recovery, despite normal investigations.

There is evidence that fear avoidance can play a significant role.

Addressing factors contributing to persistent spinal pain and disability

Ergonomic Factors

- A Display Screen Equipment assessment should be undertaken and updated if someone has a new onset of back pain. This helps to ensure that the screen, keyboard, mouse and chair are set up to help facilitate a good spinal posture. This is in turn helps to prevent soft tissues and joints adapting to poor postures. The links below may be useful for homeworkers regarding work station set up and useful exercises. https://www.hse.gov.uk/toolbox/workers/home.htm https://www.csp.org.uk/system/files/do_you_sit_at_your_desk_exercise_sheets_a4.pdf
- Regular breaks are also important to break up static postures.

Physically demanding roles

- Sufficient risk assessments of work tasks should be completed.
- Risk should be reduced wherever possible by using equipment and rotating tasks.
- Feedback from colleagues should be considered. Trends of incidence of back pain can indicate areas or work tasks that may need to be addressed and amended.

Addressing psychological /workplace factors

- Recognise factors that may indicate psychological barriers, for example avoiding activities, a passive approach to treatment and catastrophising about the outcome (when this has not been indicated by medical professionals).
- Cognitive Behavioural Therapy (CBT) has been shown to be effective in reducing avoidance, catastrophising and disabling beliefs among patients with back pain. It can help to improve activity levels and reduce time off work. CBT may be accessed via different routes – it may be via a Pain Clinic which sometimes but not always has a Psychologist. If an employee has private medical insurance, they can often access it this way or sometimes via their Employee Assistance Programme.
- The longer the absence, the lower the chances of returning to work. Therefore, it is important to start conversations about returning to work as early as possible, looking at what the employee could do rather than letting them focus just on what they cannot. If there is something that is particularly worrying them discuss ways of gradually building up to it so they can be gradually exposed to that task. This can help to address the fear avoidance factor and build confidence. Move the focus away from being pain-free to start a return to work. If someone has pain that is not due to any underlying structural problem them ultimately this is not doing them any harm.
- An active approach to treatment and self-management should be encouraged.
- Consider a referral to your Occupational Health Provider for advice and guidance with the return to work and formulating, implementing and monitoring a Graded Return to Work Plan.

Exercise

- There is good quality evidence that exercise can help to prevent low back pain in those with no history or reduce recurrence in those with a history of low back pain.
- There is a lot of free online advice and guidance regarding exercise. https://www.nhs.uk/conditions/nhs-fitness-studio/

Zurich Assurance Ltd.
Registered in England and Wales under company number 02456671.
Registered Office: Unity Place, 1 Carfax Close, Swindon, SN1 1AP

P0376490 (10/22) TCL Zurich Integrated Benefits 09.22

ZURICH®