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# Manual handling introduction

Matchtech & Resourcing Solutions' worker safety briefings

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WORKING TOGETHER TO PROVIDE THE BEST RAIL TALENT IN THE UK

# Important definitions

## Manual Handling Operations

Means any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or by bodily force.

## Musculoskeletal disorders (MSD)

Injuries or disorders of the muscles, nerves, tendons, joints, cartilage, and spinal discs.

# The problem (2019/2020)

**480,000**

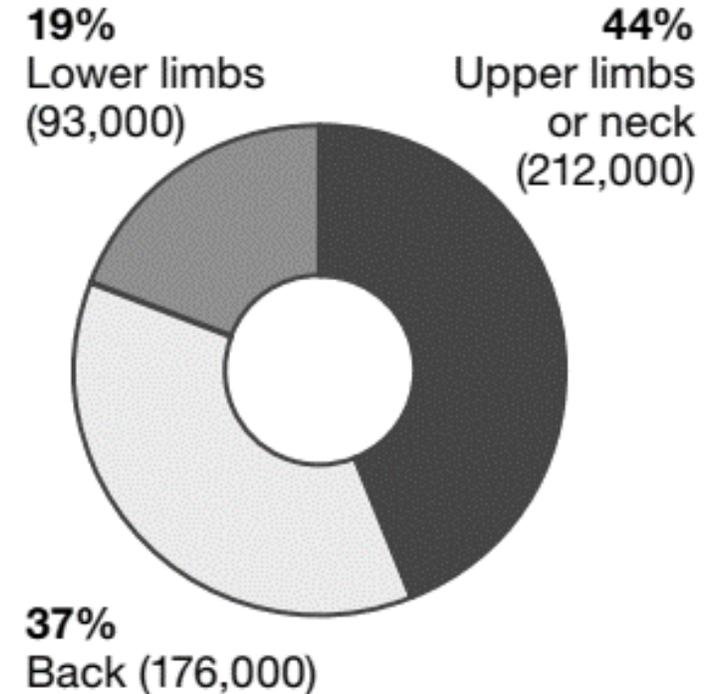
Workers suffering from work-related musculoskeletal disorders

**152,000**

Workers suffering from a new case of work-related musculoskeletal disorder

**8,900,000**

Working days lost due to work related musculoskeletal disorders



# What can go wrong

While back injuries only account for **37%** of the injuries caused by manual handling, the problem is that these types of injuries can be severely (life) limiting, so it is important that you understand how your skeleton is made up, and how problems can occur.



# The role of the spine



- The spine connects head to pelvis
- The spine also supports rib cage
- It is made of small units of bone – vertebrae
- Vertebrae are large at base, smaller higher up
- Vertebrae connected by discs, muscles and ligaments
- Joints in between them allow them to move relative to each other
- This movement gives spine its flexibility
- The vertebrae protects the spinal cord and nerves

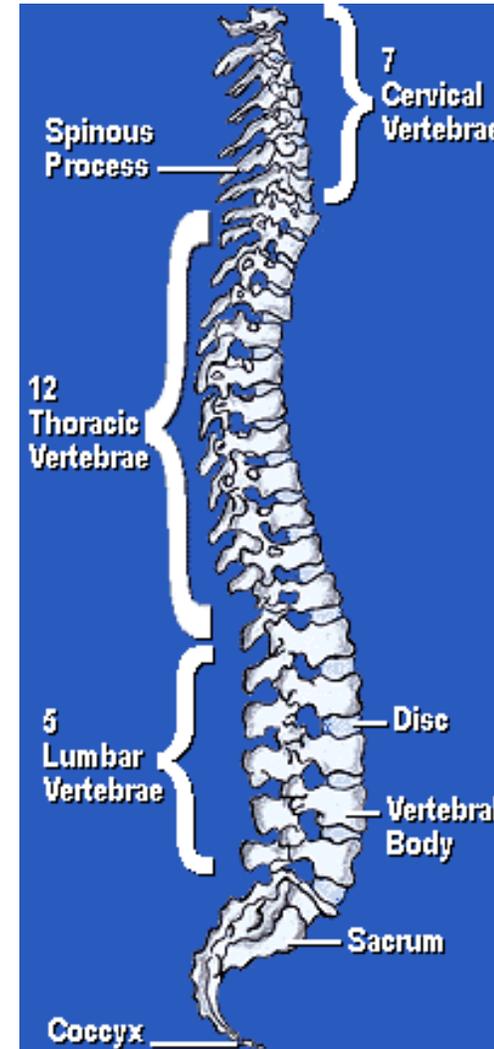
# Parts of the spine

The normal anatomy of the spine is usually described by dividing up the spine into 3 major sections.

Each section is made up of individual bones called vertebrae

The thoracic,  
(12 vertebrae)

The lumbar,  
(5 vertebrae)



The cervical,  
(7 vertebrae)

Below the lumbar spine is a bone called the sacrum, which is part of the pelvis.

# Disc problems

In between each of the five lumbar vertebrae (bones) is a disc, a tough fibrous shock-absorbing pad. Endplates line the ends of each vertebra and help hold individual discs in place.

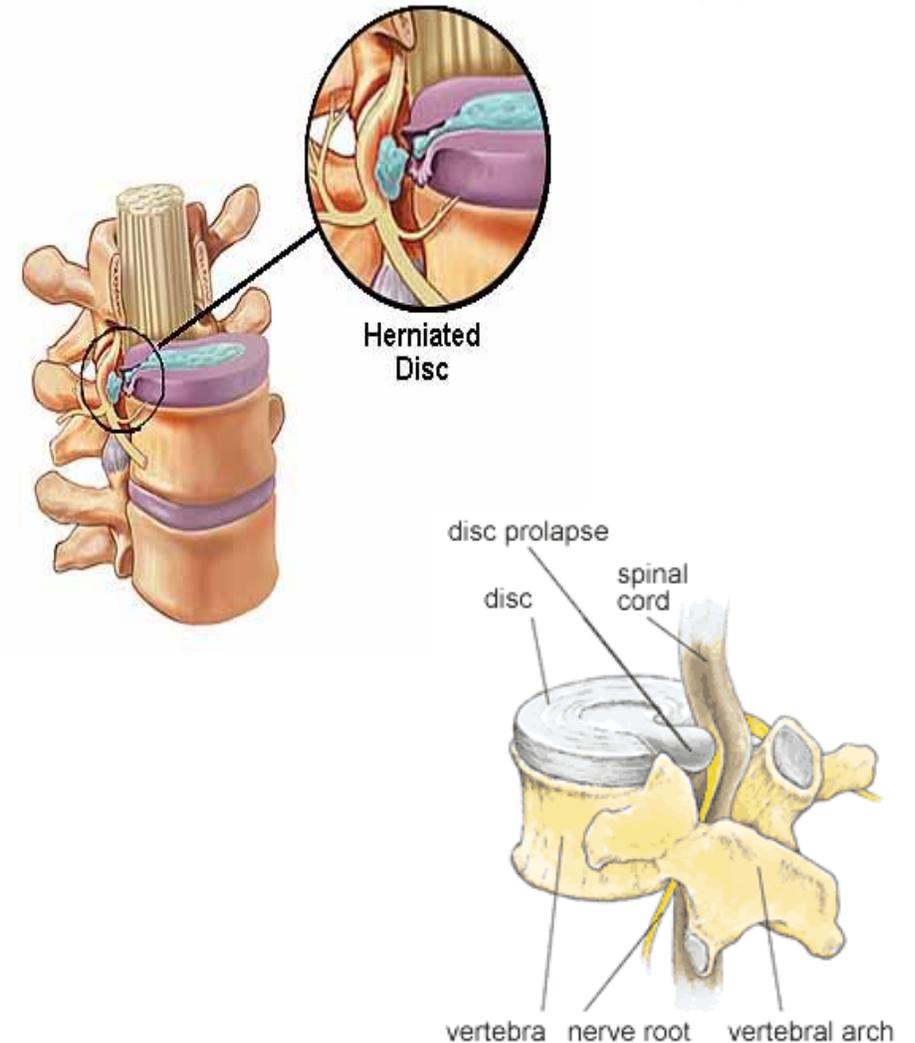
Excess spinal pressure can cause these discs to be compressed until they rupture.

Disc herniation occurs when the annulus breaks open or cracks, allowing the nucleus to escape. This is called a Herniated Disc.

## Disc injuries

Usually caused by repeated bending when under stress.

Continued compression of one side of the disc may lead to casing deterioration, which can eventually burst under pressure



# Disc degeneration



**Disc Degeneration:** Chemical changes associated with aging causes discs to weaken, but without a herniation.



**Prolapse:** The form or position of the disc changes with some slight impingement into the spinal canal. Also called a bulge or protrusion.



**Extrusion:** The gel-like nucleus pulposus breaks through the tire-like wall (annulus fibrosus) but remains within the disc.



**Sequestration or Sequestered Disc:** The nucleus pulposus breaks through the annulus fibrosus and lies outside the disc in the spinal canal.

# What causes injuries in Rail

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Manual handling, awkward or tiring positions and keyboard work or repetitive action are estimated to be the main causes of work-related musculoskeletal disorders

The most common type of back injury is caused by a cumulative effect of minor injuries sustained over a long period of time.

Or it could also be the result of an abrupt strain

**You can reduce the cause, inconvenience, pain and discomfort of manual handling injuries by making yourself aware of potential hazards and acting to reduce them.**



# Other injuries

## Muscle and Ligament Injuries

- Caused when bending under stress
- Can also be result of sudden shifts in point of stress, i.e. moving an object sideways when body is stretched out will place strain on several points of the body



# Other injuries

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## Cuts and abrasions

- Rough surfaces
- Sharp jagged edges
- Splinters

Network Rail have mandated that Cut 5 gloves should be worn as standard PPE

Although cut resistant gloves cannot eliminate the risk of getting injured entirely, they can help to reduce the chance that it will happen

These gloves can add additional levels of precaution and can protect fingers and hands from:

- Lacerations
- Cuts



# What the law says; Manual Handling Operations Regulations

## Each Employer shall:

“So far as is reasonably practicable” avoid the need for his employees to undertake any manual handling operations at work which involve a risk of injury.

- **Does the item need to be moved?**
- **Can mechanical assistance be used to move the load?**

Where it is not possible to avoid manual handling, ensure a suitable and sufficient assessment of manual handling operations is in place

## Have these been considered?

- Avoid the need for hazardous manual handling
- Assess the risk of injury
- Reduce the impact of injury



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