**Basic Principles of Back Care**

**The spine:**

The spine is one of the most vulnerable parts of the body and those individuals whose work involves manual handling are particularly prone to back injury.

The basic structure of the spine and how it works:

**Structure:**

Column of 33 bones (vertebrae) linking the skull and pelvis, 24 are mobile, 9 are fused

The spinal cord is protected by the vertebrae

From the side it has 4 curves

5 different areas of the spine – Cervical (neck), Thoracic (chest), Lumbar (lower back), Sacral (back of pelvis), Coccyx

Intervertebral discs bind the vertebrae together

Ligaments and muscles attach the vertebrae

**Function:**

To provide a central support to the body

To protect and distribute the spinal cord and nerves

To provide flexibility and movement

**Work-related musculoskeletal disorders and back injuries:**

According to the HSE statistics/report, there were 470,000 workers suffering from work-related musculoskeletal disorders (new or long-standing) in 2020/21. *Labour Force Survey (LFS)*

Work-related musculoskeletal disorders by affected area, 2020/21:

* Upper limbs or neck 45%
* Back 39%
* Lower limbs 16%

Industries with higher-than-average rates of musculoskeletal disorders, averaged 2018/19-2020/21.

* Construction
* Human health and social work activities
* All industries

A healthy back requires all the components of the spine to work in harmony. Back pain and injury rarely occur in an instant but usually develop gradually over time (months or years).

* Muscles can be stretched, torn or overworked, resulting in strains and sprains
* Ligaments can be stretched or torn
* Nerves can be stretched or trapped
* Intervertebral discs can be damaged if too much pressure is applied, particularly when stooping.

Causes of musculoskeletal injuries:

* Cumulative stress – can be from repeated poor postures, stooping, twisting, pulling and pushing. This can be aggravated by sustaining, repeating, loading and jerky/sudden movement.
* Traumatic injury – a sudden application of violent force.
* Degenerative changes – natural ageing leads to gradual wear.
* Psychological factors – emotional stress is being increasingly recognized as a contributory factor to back pain. A typical physical reaction to stress is to tighten the muscles in the neck and back.

***References:***

*HME (Handling, Movement and Ergonomics), (2005), Moving and Handling Core Skills Handbook.*

*HSE: Work-related musculoskeletal disorders statistics in Great Britain, 2021* [*Work-related musculoskeletal disorders statistics in Great Britain, 2021 (hse.gov.uk)*](https://www.hse.gov.uk/statistics/causdis/msd.pdf)