



The Definition and Causes of **Musculoskeletal Disorders (MSDs)**

Musculoskeletal Disorders (MSDs) are a common and costly problem for many people and companies and are the leading cause of pain, suffering and disability in developing countries where only cases that cause workers' disability are recorded.

The truly unfortunate part about it is that a simple change in philosophy would empower organizations to prevent nearly ALL MSDs.

Employees wouldn't have to suffer through the painful experience of an injury that can have long lasting effects on their health and ability to provide an income for their families.

Organization wouldn't have to suffer high worker's compensation / medical costs, lower productivity, lower product quality and a damaged safety culture.

It all begins with a clear understanding of what MSDs are and what they are not.

Definition of Musculoskeletal Disorder

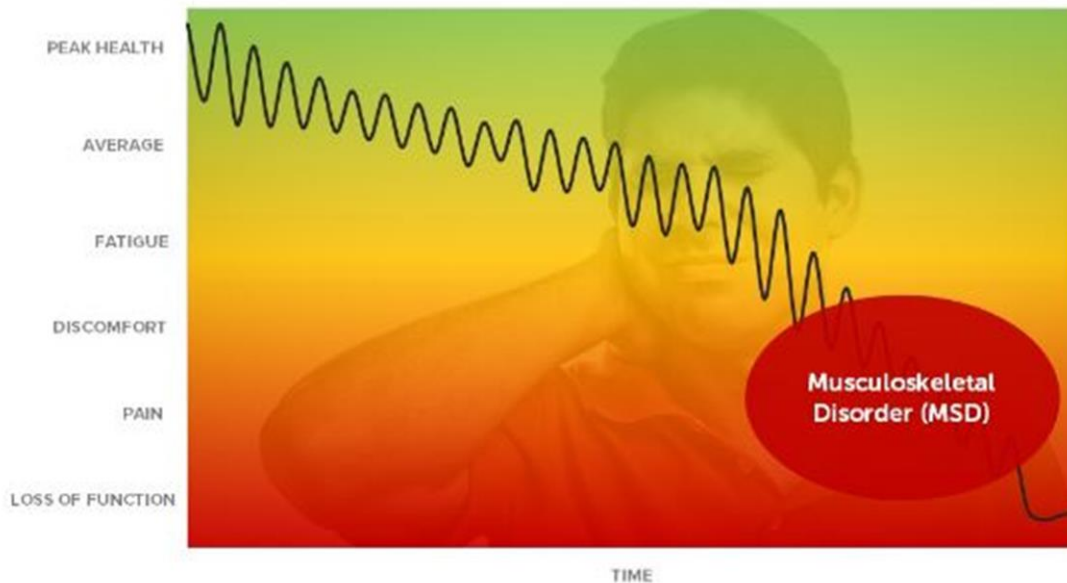
So what is a musculoskeletal disorder?

It's simple.

Musculoskeletal Disorders or MSDs are injuries and disorders that affect the human body's movement or musculoskeletal system (i.e. muscles, tendons, ligaments, nerves, discs, blood vessels, etc.).

The musculoskeletal system is made up of tendons, ligaments, nerves, soft tissue, etc. and is designed to enable your body to move. You can think of an MSD as a "movement system disorder".

What happens is that over the course of time, micro-trauma to the soft tissues begins to outrun the body's recovery system. This creates a muscle imbalance that, over the course of time, develops into an MSD.



Common MSDs include:

- ◇ Carpal Tunnel Syndrome
- ◇ Tendonitis
- ◇ Muscle / Tendon strain
- ◇ Ligament Sprain
- ◇ Tension Neck Syndrome
- ◇ Thoracic Outlet Compression
- ◇ Rotator Cuff Tendonitis
- ◇ Epicondylitis
- ◇ Radial Tunnel Syndrome
- ◇ Digital Neuritis
- ◇ Trigger Finger / Thumb
- ◇ DeQuervain's Syndrome
- ◇ Mechanical Back Syndrome
- ◇ Degenerative Disc Disease
- ◇ Ruptured / Herniated Disc,
- ◇ and many more.

The only way to prevent something is to know what caused it, understand what caused it and then systematically eliminate those causes.

The Cause of MSDs

The work environment is a complex set of systems and the human body is a complex set of systems. MSDs happen at the intersection of these systems, and so it won't surprise you that there are many causative risk factors that can lead to the formation of MSDs.

We break these risk factors down into two categories in order to simplify the issues at hand:

1. **Ergonomic Risk Factors** (risk factors related to the work environment)
2. **Individual Risk Factors** (risk factors related to the individual themselves)



When workers are exposed to these risk factors over the course of time, it puts a tremendous amount of stress and strain on their soft tissues. An MSD is formed when this “wear and tear” outruns the worker’s normal soft tissue recovery process.

Reactive Ergonomics

A reactive ergonomics philosophy allows workers to be exposed to ergonomic risk factors.

The three primary ergonomic risk factors are:

- ◆ **High task repetition:** Many work tasks and cycles are repetitive in nature, and are frequently controlled by hourly or daily production targets and work processes. High task repetition, when combined with other risks factors such high force and/or awkward postures, can contribute to the formation of MSD. A job is considered highly repetitive if the cycle time is 30 seconds or less.
- ◆ **Excessive Force:** Many work tasks require high force loads on the human body. Muscle effort increases in response to high force requirements, increasing associated fatigue which can lead to MSD.
- ◆ **Awkward Postures:** Awkward postures place excessive force on joints and overload the muscles and tendons around the effected joint. Joints of the body are most efficient when they operate closest to the mid-range motion of the joint. Risk of MSD is increased when joints are worked outside of this mid-range repetitively or for sustained periods of time without adequate recovery time.

Reactive Healthcare

A reactive healthcare philosophy allows workplace athletes to be exposed to individual risk factors and only provides help after an injury occurs.

The primary individual risk factors are:

- ◆ **Poor work practices:** Workplace athletes who use poor work practices, body mechanics and lifting techniques are introducing unnecessary risk factors that can contribute to MSDs. These poor practices create unnecessary stress on their bodies that increases fatigue and decreases their body’s ability to properly recover.

- ❖ Poor self-care habits: MSDs develop when fatigue outruns the workplace athlete's recovery system, causing a musculoskeletal imbalance. Workers who do not properly warm-up for work or get adequate rest and recovery after work put themselves at a higher risk of developing an MSD.
- ❖ Poor health habits: Workers who smoke, drink excessively, are obese, or exhibit numerous other poor health habits are putting themselves at risk for not only musculoskeletal disorders, but also for other chronic diseases that will shorten their life and health span.

Now go back to the Air Niugini Intranet and follow the Link: [Home/Business Support/Human Resource Services/ Occupational Health and Safety](#) to read Ed's MSD Story.

Ed's MSD Story

Behind every number at the end of the injury column is a story.

This is Ed's story.

