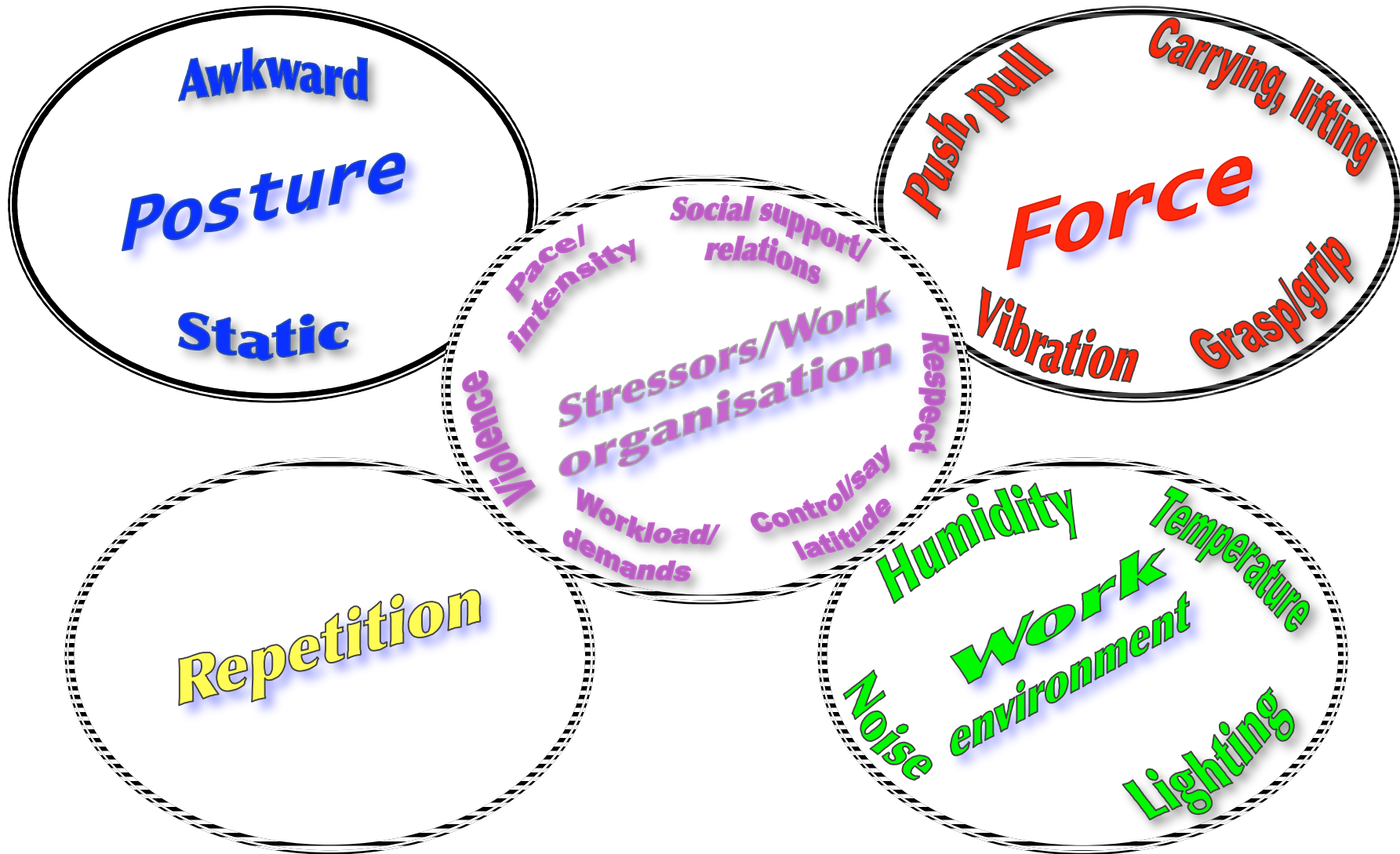


# What causes the aches and pains? Hazards!



*Any one of these on their own, or in some combination, can lead to musculoskeletal injuries, aka MSIs, RSIs, CTDs*

# *Ergonomic hazards lead to musculoskeletal injuries (MSIs)*

If you are exposed to (your body comes in contact with) any of these hazards, or a combination of any of them, the odds are you will end up with “aches and pains”, “sprains and strains”, musculoskeletal injuries (MSIs) -- whatever you call it, it’s a lot of pain.

When wear and tear reaches a certain point, the result is some kind of disability. It can be short-term but many take a long time to heal, partly because the hazard is not fixed. Sometimes, the damage is permanent.

Whether it lasts a long time or a short time, an MSI affects life on and off the job. Everyday activities can be difficult or impossible -- opening a jar, chopping an onion, driving a car, lifting a child, turning a door knob, getting dressed, and holding a toothbrush.

These injuries, and their often-unseen effects, can be prevented -- by dealing with the hazard.

Here are some definitions of those hazards.

## **Force:**

The amount of pressure a person uses for a task. It includes pushing, pulling, lifting and even using a computer keyboard. Force puts a strain on the body and can cause damage to body parts or tissues.

Contact stress is one type of force. This occurs when a tool handle or edge digs into the soft tissue of the palm of the hand, the hand is used as a hammer, or someone works on their knees. The contact concentrates force on a small area, putting pressure on those tissues, and sometimes injuring them.

Vibration is another kind of force. It is found in vibrating tools and equipment. When vibration affects the hands and arms, it can damage the nerves and/or blood vessels so that a person’s hands/fingertips go numb and cannot be used easily.

Examples of force include:

- ❑ lifting heavy boxes
- ❑ the grasp or grip used to hold something (avoid pinch grips)
- ❑ computer keyboard work
- ❑ jack hammer (vibration)
- ❑ resting palm of hand or wrist on a tool handle or edge of something

## **Posture:**

Awkward posture is working in positions that feel uncomfortable. It could be having your arms over your head, twisting, bending or reaching, or working with a bent back, bent wrist, etc. This can stretch a person’s physical limits, compress nerves and irritate tendons.

Static posture involves working with your body or (part of) a limb in one position for a

long time. This includes constant standing or sitting or holding your arm, neck or shoulder in one position. Doing this can restrict blood flow and damage muscles.

Examples of posture hazards include:

- ❑ working with arms above your head (awkward; also static if it lasts)
- ❑ working with bent joints (awkward; also static if it lasts)
- ❑ standing or kneeling for a while (static)
- ❑ working with your neck cricked to see the computer screen (awkward and static)

## **Repetition:**

This means doing the same motion over and over, without adequate rest -- even mini-breaks. Repetition “overuses” the same muscles, tendons, and other soft tissues. It can irritate tendons and increase pressure on nerves and may cause permanent damage.

Examples of repetition include:

- traditional assembly line work
- data entry
- piecework sewing

### **Work environment:**

These factors are part of the general work environment; sometimes they are called physical hazards (related to energy sources). They include humidity, temperature, noise and light. People working in cold temperatures can get stiff and sore and more likely to drop things. Noise causes deafness and interferes with your ability to hear and understand people's words and other sounds. Poor lighting can lead to traumatic injuries and poor postures as you try to read things (e.g. with glare).

Examples of work environment hazards include:

- working in a freezer
- working with cold objects
- outdoors work during the summer
- working indoors with low or high humidity
- work with or near loud machinery or equipment

### **Stressors/work organisation:**

These are the things that stress us out, the often-invisible aspects of work.

It's about how much say or control you have about your work. It is the way in which people and technology work together to produce a product or provide a service. It's about too much or too little workload or demands on your body and mind.

It always is the result of choices some people make about the "technical aspects" (production methods, technology, etc.) and "people aspects" (how people will use the technology, whether people will work alone or with others, etc.) of work.

Examples of stressors include:

- pace of work
- workload
- staffing levels
- hours of work
- supervision style
- production quotas
- deadlines
- number and length of rest breaks
- flexibility allowed for family and other responsibilities
- violence (including harassment and discrimination)

Work organization hazards/stressors are at the center of the hazards chart because it is often the reason that many other hazards are present. The way work is organized affects workers' exposure to other hazards that lead to MSIs.

For example, if the speed of a job is increased to maximize production, workers likely have to do more work -- more repetitive motions, perhaps in more static postures. In other situations, deadlines or production quotas can cause muscles to tense up, adding to "wear and tear" on soft tissues and increasing the risk of musculoskeletal disorders.

To figure out the connections between the other hazards and stressors, ask:

- but why? (five times); or*
- what makes the symptoms worse?*