

# BILLY BRONCO'S GUIDE TO BASIC ERGONOMICS

Ergonomics focuses on repetitive motions in the work environment which have the potential to lead to employee discomfort or injury.

## Primary Risk Factors for Ergonomics Injuries

- Posture -- awkward, static positions
- Force -- lift, push/pull, grip, punch, carry
- Repetition -- frequency and speed over time



### Risk Factors Modifiers

Risk of injury depends on:

- Duration of exposure
- Frequency of exposure
- Intensity of exposure



## REPETITIVE STRAIN INJURY

This can result in temporary or permanent damage to the soft tissues in the body -- such as the muscles, nerves, tendons, and ligaments - and compression of nerves or tissue

#### CAUSES

This injury is caused by many uninterrupted repetitions of a certain activity or motion, unnatural or awkward motions such as twisting the arm or wrist, overexertion, or incorrect posture.



#### PREVENTION TIPS

- Type in a neutral wrist position
- Adjust the keyboard
  - Make sure keyboard is flat and at or below elbow level
  - Do not rest your wrist on the wrist rest while not typing
- Make sure you're using your mouse correctly
  - Move the mouse with your arm not with your wrist
- Sit up straight
- Adjust your chair
  - Remember to have your arms and feet at a 90 degree angle
  - Lay your feet flat on the ground
- Take breaks
  - To prevent any motion injuries, it is recommended that you take five minute breaks every half hour
  - When you do take a break: get up, walk around, or stretch



## CARPAL TUNNEL SYNDROME



Carpal tunnel syndrome (CTS) is a condition where the median nerve, one of two main nerves to the hand, is compressed at the wrist, leading to pain in the hand, wrist and sometimes arm, and numbness and tingling especially in the thumb, index and middle finger.

## HOW CAN YOU PREVENT CARPAL TUNNEL SYNDROME?

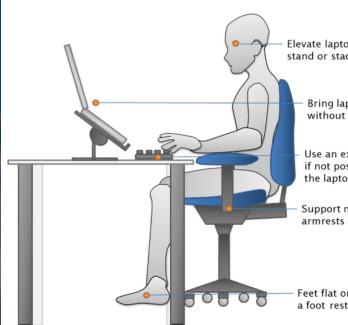
- Center your work in front of you, as low as possible without touching your legs (your forearms are parallel to the floor or slightly lowered). If you work while standing, have your work surface at about waist height.
- Keep your hands and wrists in line with your forearms. For example, if you work at a keyboard, tilt it to help keep this alignment. Use proper hand and wrist position for manual tasks.
- Hold your elbows close to your sides.
- Avoid leaning on the heel of your hand or your wrist.
- Take little breaks every 10 to 15 minutes.
- Use a reminder alarm if needed.
- Do stretching exercises every 20 to 60 minutes.





## ERGONOMIC TIPS FOR YOUR WORKSTATION

### **LAPTOP WORKSTATION**



 Elevate laptop to eye level with a stand or stacks of books

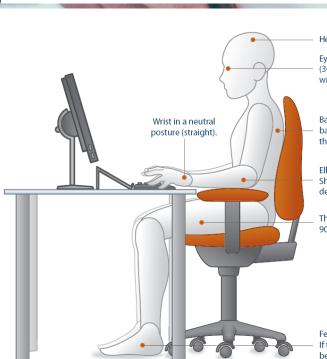
Bring laptop close enough to see without tilting your head forward

Use an external keyboard & mouse; if not possible, use a stand to angle the laptop keyboard

- Support neutral elbow posture with armrests or cushions

Feet flat on the floor or a foot rest, if necessary

## DESKTOP WORKSTATION



Head upright and over your shoulders.

Eyes looking slightly downward (30° range from horizontal line of sight) without bending from the neck.

Back should be supported by the backrest of the chair that promotes the natural curve of the lower back.

Elbows bent at 90°, forearms horizontal. Shoulders should be relaxed, but not depressed.

Thighs horizontal with a 90°-110° angle at the hip.

Feet fully supported and flat on the floor.

If this isn't possible, then the feet should be fully supported by a footrest.



## WORKSTATION ERGONOMICS



#### TAKE MICRO BREAKS!

- It is important to move often during your workday.
   Prolonged sitting places excessive stress on the body and can lead to sore muscles and stiff joints.
- Micro-breaks (short breaks approximately 2 minutes in length) are used for standing, stretching and moving.
- These breaks help relieve muscle strain and fatigue, improve breathing and circulation, and increases attention and engagement.

