

SAFESTART HUMAN FACTORS CONFERENCE



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SafeStart for Personal Ergonomics



CANNON CONSULTING GROUP

What do you think about
when you see the word:

ERGONOMICS?

An applied science concerned with designing
and arranging things people use so that the
people and things interact most efficiently and
safely...

Merriam-Webster

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What do traditional ergonomic programs focus on?

- ✓ Job specific ergonomic training
- ✓ Re-engineering (workstations)
- ✓ Workplace conditions
- ✓ New administrative controls
- ✓ Pre-work stretching

If traditional programs have all the solutions, why do ergonomic injuries persist?



What do traditional ergonomic programs focus on?

Job specific ergonomic training

Re-engineering (workstations)

Workplace conditions

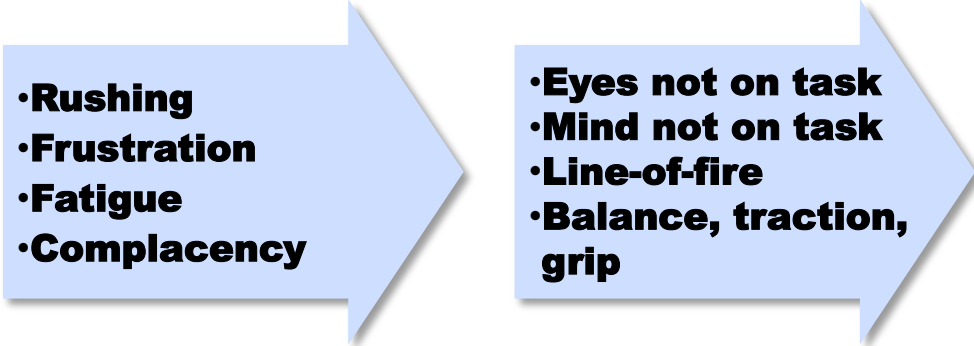
New administrative controls

Pre-work stretching techniques

**Human factors have not been
addressed!**



- In the SafeStart course, we learn that the state you are in can cause you to make critical errors and, if there's enough hazardous energy around, you can be injured.
- The state we are in can also cause us to make poor decisions about how we use our bodies.



•**Rushing**
•**Frustration**
•**Fatigue**
•**Complacency**

•**Eyes not on task**
•**Mind not on task**
•**Line-of-fire**
•**Balance, traction, grip**

The Neck and Upper Back

- For example, let's take a closer look at some specific parts of the body that many people have problems with.



- I said that your head weighs between 10 and 12 lb (4.5 to 5.4 kg).
- If you bend your head down 30 degrees, you head weighs 40 lb (18.1 kg).
- Continue bending your head down 60 degrees, and it weighs 60 lb (27.2 kg).

10–12 lb



- If this teenager looks at her phone for 2 to 4 hours per day with her head bent down, that can add up to **300,000 lb (136,077 kg)** of **repetitive stress** during her years at high school.
- What situations at home or work put your neck in a similar position?

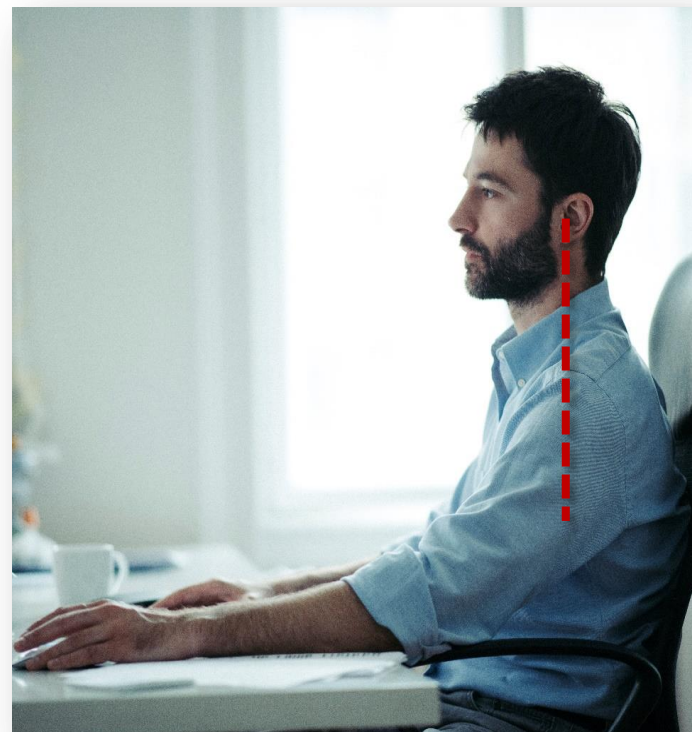


DL Simaging

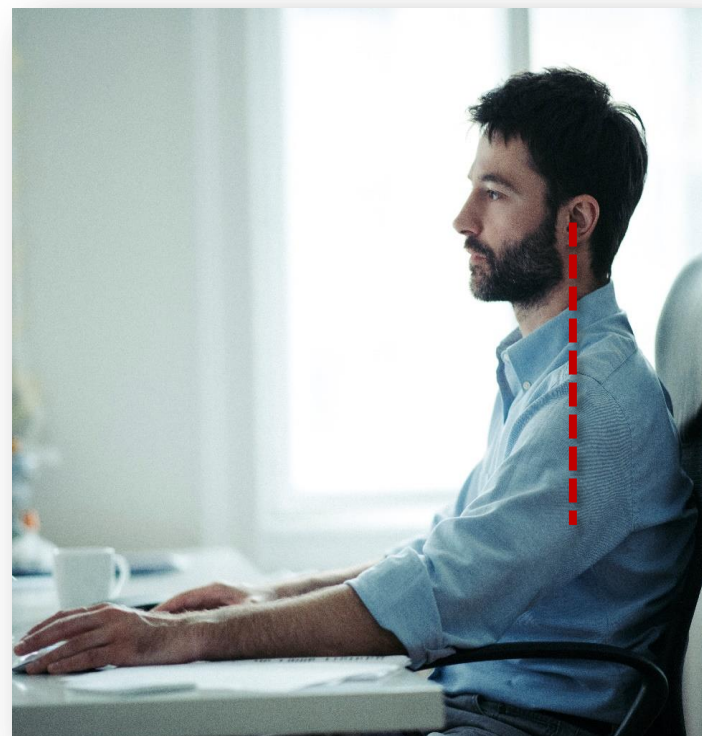
CAUTION

- Do not do this or any exercise demonstrated or discussed if you have any preexisting problems.
- This exercise, as well as others I'll demonstrate today, may cause some mild stiffness a day or so later as you might expect from any new activity.
- However, they should not cause you any pain or discomfort. If any of the exercises or stretches cause you pain or discomfort, **stop immediately** and see your health care provider.

- First let me demonstrate a swell way to reduce that stress and tension.
- The goal is to move your head to a neutral position with your ear hole in line with the center of your shoulder.



- OK, try the neutral head position (ear over the center of your shoulder).
- This is actually the position I want you to strive for. It not only improves your posture but reduces pain and stiffness as well



Make it a habit

- Set your rear view mirror at the best height
- Do chin retraction at a red light
- Get someone to help you remember
- Put a sticky note on your workspace
- When sitting, try a low back cushion or rolled towel
- Raise up your work surface or in the case of the office worker, raise the screen and get a Bluetooth monitor



Human Factors



Unfortunately not all jobs and activities allow us to maintain a neutral head position.



- So, anytime you have been working for a while with your head forward, do the chin pull-back stretch to relieve the muscle strain and discomfort.



Chin Pull-Back Stretch

The Shoulder



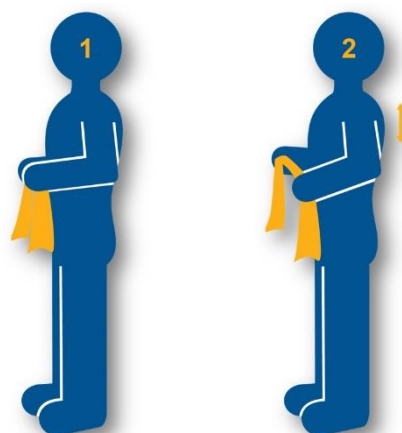


Bathroom Stretch

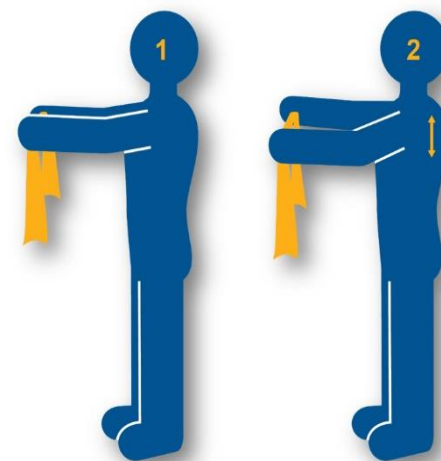


Shoulder Strength

- There are two additional exercises you can do to for your shoulders:
 1. Posterior shoulder strength exercise
 2. Upper back strength exercise



Posterior Shoulder Strength Exercise



Upper Back Strength Exercise

CAUTION

- This exercise, as well as others we'll demonstrate today, may cause some mild stiffness a day or so later as you might expect from any new activity.
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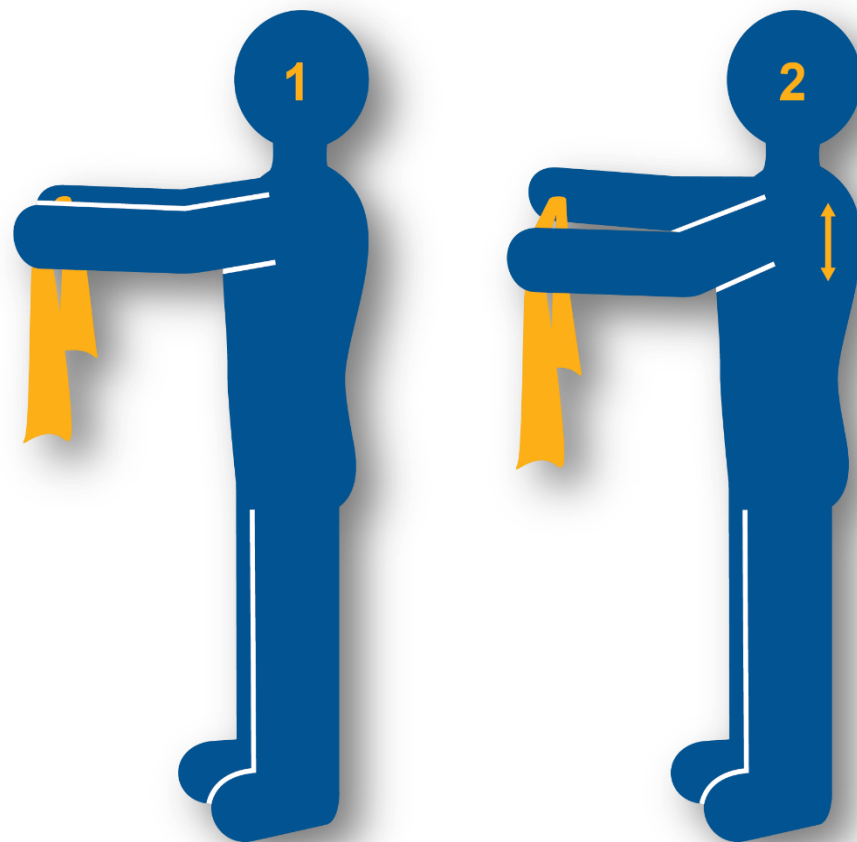
Posterior Shoulder Strength

- Let's do the posterior shoulder strength exercise together.
 - Keep elbows tight against your body with your thumbs up
 - Stretch the band out for 4 seconds
 - Let the band return for 4 seconds
- Repeat 8 to 10 times and 2 to 3 times a week to strengthen the muscles at the back of the rotator cuff.



Posterior Shoulder and Mid Back

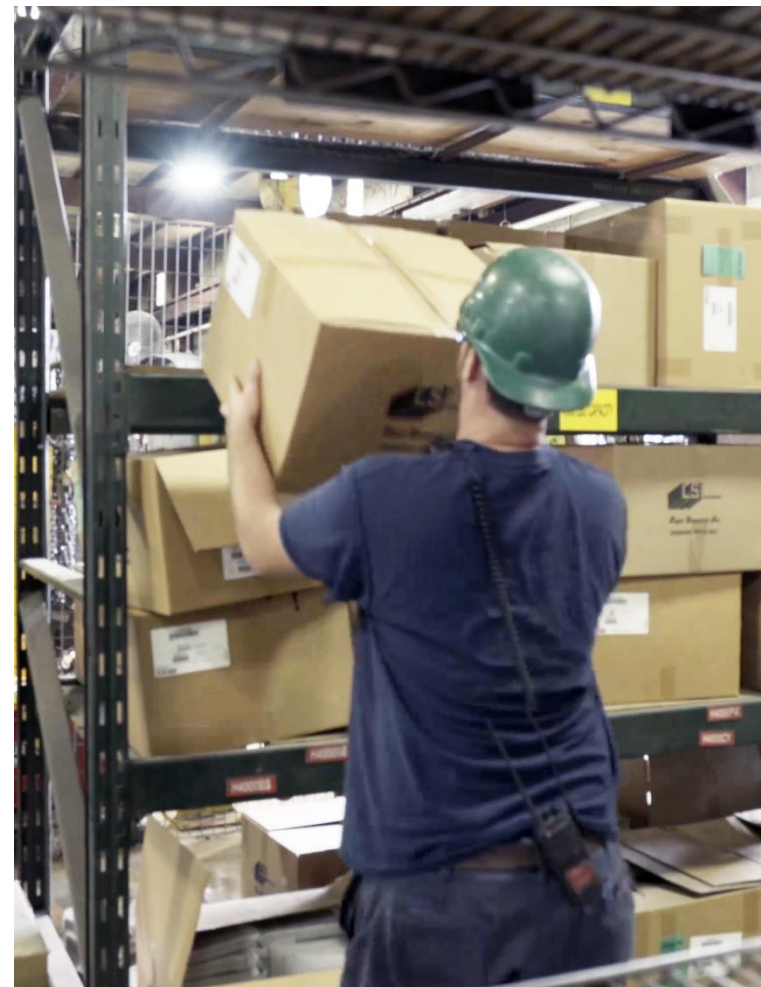
- Now let's do the upper back strength exercise together.
 - Keep your arms straight out
 - Stand in best posture with your chest open
 - Stretch the band out for 4 seconds
 - Let the band return for 4 seconds
- Repeat 8 to 10 times and 2 to 3 times a week to strengthen the muscles between the shoulder blades.





The Rule of Thumbs

- If you must lift anything above the shoulders, the thumbs should be up to avoid pinching the tendon and bursae in the shoulder.
- And keep your elbows close to your body—no “chicken winging.”



The Rule of Thumbs



Remember

States

- ☐ Rushing
- ☐ Frustration
- ☐ Fatigue
- ☐ Complacency

create potential for

Critical Errors

- ☐ Using inappropriate force
- ☐ Too many repetitions
- ☐ Being in the same position too long
- ☐ Improper or awkward posture or position
- ☐ Inadequate recovery time
- ☐ Wrong tool or improper use

The ergonomic state-to-error pattern increases the risk of injury



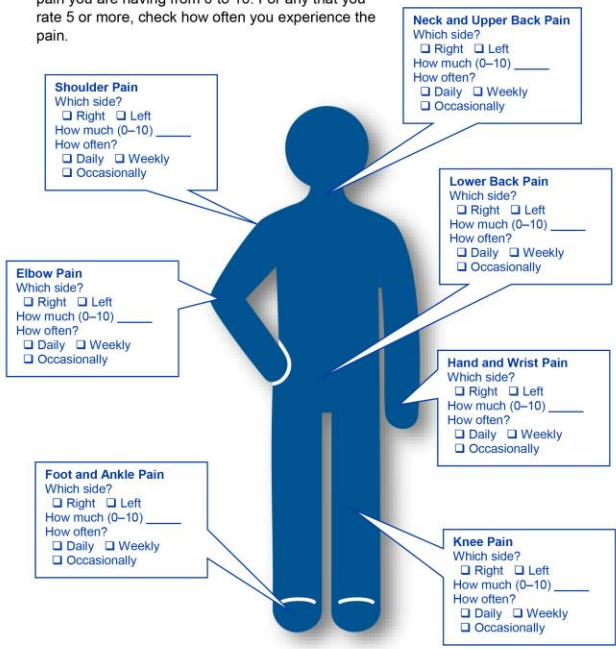
What happened to you?

- The *Where's Your Pain?* survey is intended to help you make better choices
- Pay attention to **your pain levels that are at level five and greater**
- Then think about why it happened (**States and Errors**) and what you need to do to avoid this from happening again.



Where's Your Pain?

If you're having any pain in a specific body part, indicate which side of the body and rate how much pain you are having from 0 to 10. For any that you rate 5 or more, check how often you experience the pain.



Shoulder Pain
Which side?
☐ Right ☐ Left
How much (0-10) _____
How often?
☐ Daily ☐ Weekly
☐ Occasionally

Neck and Upper Back Pain
Which side?
☐ Right ☐ Left
How much (0-10) _____
How often?
☐ Daily ☐ Weekly
☐ Occasionally

Lower Back Pain
Which side?
☐ Right ☐ Left
How much (0-10) _____
How often?
☐ Daily ☐ Weekly
☐ Occasionally

Hand and Wrist Pain
Which side?
☐ Right ☐ Left
How much (0-10) _____
How often?
☐ Daily ☐ Weekly
☐ Occasionally

Knee Pain
Which side?
☐ Right ☐ Left
How much (0-10) _____
How often?
☐ Daily ☐ Weekly
☐ Occasionally

Foot and Ankle Pain
Which side?
☐ Right ☐ Left
How much (0-10) _____
How often?
☐ Daily ☐ Weekly
☐ Occasionally

Elbow Pain
Which side?
☐ Right ☐ Left
How much (0-10) _____
How often?
☐ Daily ☐ Weekly
☐ Occasionally

Department: _____ Date: _____

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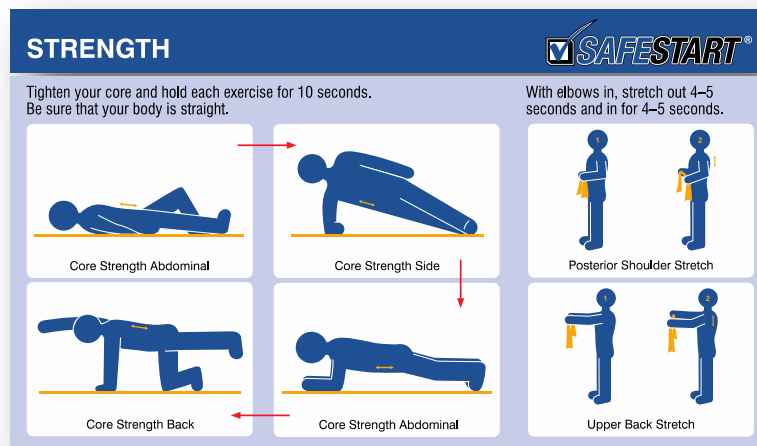
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LOOK AT OTHERS



Make it a habit

- You'll find the neck and shoulder exercises and stretches that we've covered and several more that we haven't on your SafeStart Wallet Card.



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These are the CERTs for Personal Ergonomics

1. Self trigger on the state (or amount of repetition)
2. Analyze minor pain or discomfort
3. Look at others
4. Work on ergonomic-related habits and best practices



Thank you for your participation!

