Ergonomics: Sitting Posture

By:
Steven Gomes
Kelley Dippold
Daryyl Slicks
Brett Brennan
Objectives

1. Correct sitting posture
2. Effects of poor sitting posture
3. Therapeutic Exercise used in clinic
4. Exercises to pass the time while sitting
“Ergonomics is the scientific study of people at work. The goal of ergonomics is to reduce stress and eliminate injuries and disorders associated with the overuse of muscles, bad posture, and repeated tasks.” (cdc.gov)
Why is this important?

- Patient education
- Personal well being
- Can result in chronic long term pain
1/3rd of all occupational injuries occur from work related musculoskeletal disorders

626,000: Lost work days

15–20 billion $$$: Employers pay to workman’s compensation cases
How many of you have ever been in this position before?
And paid for it the next day and the next day, and the next day!
Poor Sitting Posture Can Cause...

- Paresthesia in fingers
- Aching wrists or carpal tunnel syndrome
- Upper and lower back pain
- “Eye strain (redness, dryness, temporary blurry vision, soreness, and headaches)
- General aches in neck, shoulders, arms, back, thighs, and lower legs
- Persistent pain or discomfort in muscles, tendons, and other soft tissue
- Decreased blood flow to the heart
- Invites osteoporosis”
- Bursitis
- Tendonitis
- Thoracic Outlet Syndrome

http://ais.its.psu.edu/newsletter/jan_13.asp
Incorrectly using a mouse

Leaning over and “hunching” during air flight

The “it will only take me 5 minutes to do” posture. Don’t do it!!!

Bad workstation ergonomics
When you are sitting, it is important to take care of your SPINE by keeping your EARS in line with your SHOULDERs and SHOULDERs in line with the HIPS. UPPER ARMS should be close to the body and relaxed and WRIST should be in line with FOREARM.
Take this quick test to see if you have an Ergonomically correct workstation.

- Click on the following link and answer the questions.
Therapeutic Exercise (Clinical Setting)

Faulty Posture = 3 areas are faulty

1. Forward Head Posture (it all starts here!)

   Strains and weakens the cervical extensors

   This leads to the 2\textsuperscript{nd} faulty area....

Correct it with chin tuck exercises.
Faulty Posture = 3 areas are faulty

FHP leads to.....

2. Rounded shoulders and kyphotic posture

Lengthens and weakens the posterior scapular retractors and thoracic extensors and shortens the pectoralis major

Correct it with variations of scapular retraction exercises such as a face pull and thoracic extension exercises off of a raised surface. Stretch out the pec major by doing a gentle pec stretch.
3. Lumbar instability and vulnerability

Constant flexed lumbar spine can leave disks prone to herniation and weakens the lumbar stabilizers (core - abdominals)

Correct it with core strengthening such as planks and lumbar extension exercises for relief to disks such as prone on elbows
Workplace Exercises

- **Upper Trap Stretch**
  - Place one hand behind head
  - Other hand on side of head
  - Gently pull head down toward shoulder
  - Hold 10sec x 10times

- **Levator stretch**
  - Same hand positioning as one above
  - This time turn chin toward your armpit and pull in that direction
  - Hold 10sec

- **Chin Retractions**
  - As seen on previous slide
Workplace Exercises

- **Door pec stretch**
  - Find a door way and place your forearms along the frame with your arms bent at 90 degrees
  - Lean in and hold for 20 sec x 5 times

- **Shoulder Retractions**
  - Sitting in chair, sit up nice and tall
  - Squeeze your shoulder blades back squeeze them together
  - Hold for 5 sec 3 x 10

- **Shoulder shrug**
  - Sitting/Standing arms to your side, shrug your shoulders up, then rotate back, then down
  - 3 x 10
Standing Lumbar extension
- place your hands on your buttocks, and lean backwards
- Hold 2 sec repeat 10x every hour

Squats/wall squats
- Lean back against wall, place feet a couple steps forward, bend your knees sliding your back down the wall
- Or squats while standing making sure when u squat your knees do NOT go past your toes
- Do this 3x10
While in the workplace if you are sitting for most of the day you should try to get up and walk around every 2 hours.

Try breaking up your routine by standing at a standing terminal with a computer. Or sitting at your desk on a physioball.

LISTEN TO YOUR BODY!!! If you are starting to feel aches and pains during the day get up move around and stretch.

Following all the tips, exercises, and stretches we just provided you will set you up for success and help prevent or delay any pains caused by poor sitting posture.
References

- http://www.bls.gov/
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- http://www.ehs.utoronto.ca/services/Ergonomics/exercise.htm
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