Office Ergonomics, Mindfulness, and Stretching in the Clinic
ATI Physical Therapy
February 3rd, 2017

Agenda
- Introductions
- Effects of Posture
- Postural Muscles
- Ergonomics
- Stretching
- Mindfulness

Introductions
Presenters
Kerri Zabel, PT  
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- Clinic Director
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- F.I.R.S.T. Program Director
Jim Peters, PT  
- Physical Therapist

What is posture?

Traditional Thoughts
In 1949, Florence Kendall defined posture as: “A composite of the positions of all the joints of the body at any given moment.”

AAOS (American Academy of Orthopedic Surgeons) distinguish good posture vs. poor as musculoskeletal balance and states muscles will function efficiently when balance is present.

Objectives
- Develop understanding of traditional posture vs. dynamic posture
- Learn ways to incorporate proper posture and ergonomics in the clinic
- Understand how movement is beneficial in reducing pain and stress throughout the day
- Understand mindfulness and learn techniques to incorporate into daily activities

The posture our mothers wanted...

Cues
"Sit up straight!"
"Get your shoulders back!"
"Stop slouching!"
"Walk with a book on your head."
"At attention soldiers!"

Results
Normal response is to extend, have a proud chest, but what are the results?

CAUSES
disharmony, overworked agonists, loss of function of antagonist muscles
1/12/2017

What is balance?

Sway Back  Lumbar Lordosis  Thoracic Kyphosis  Forward Head  Good Posture

It’s never too early

Effects of Posture

Systems affected by poor posture

Postural Muscles:
Two Unsuspecting Culprits

Postures effect on nerves

Vagus Nerve
- Cardiac
- Respiratory
- Parasympathetic
- Sympathetic nervous system
- Digestive

Phrenic Nerve
- Supplies the diaphragm

Fig. 1 Poor Posture

Fig. 2 Anatomy

Musculoskeletal  Nervous system
Psychosocial  Respiratory  Digestive/Urinary
Circulatory

Fig. 2 Anatomy

Fig. 1 Poor Posture
Disharmony not only means overworked muscles, loss of function of other muscles but...Causes
Ineffective use of multiple systems...Think endless looping of effects

James Peters, 1/6/2017
The Diaphragm

Attachments

Anterior:
  • Xyphoid process and costal margin

Lateral:
  • Ribs 6-12

Posterior:
  • T12, L1, L2

The Muscular Chain

The diaphragm shares attachments to psoas.

For example, poor length-tension can decrease hip extension, leading to possible overuse of plantarflexors.

The Hamstring Group

More than just a knee flexor

Due to an anterior tilted pelvis, hamstrings appear to be short/tight

Breathing’s Influence on Upper Quarter Dysfunction

Realize...

- Posture is not just sitting up straight or standing tall, but awareness of body position throughout the day.
- Good posture is achieved when your muscles can turn off when they need to and turn on when they need to.
- Good posture connects the systems more efficiently.
- We need to set ourselves up to adapt to changes in work and environment.

What do we do with this information?

Demonstration
JP2 shares attachment sites to abdominals, so lack of abdominals due to poor posture, the diaphragm is forced to act as a stabilizer.

attaches to intercostal controlling rib cage function

Causes overuse of anterior neck muscles so on so forth

James Peters, 1/6/2017

Slide 17

JP3 Thoracic kyphosis is normal curvature of the spine we don’t need to change that

James Peters, 1/6/2017
**Sitting Posture**

- Start with your pelvis, feel your sit bones
- Stack pelvic floor under diaphragm
- Feel your heels
  - Ground yourself: hamstring facilitation, proprioception
- Ribs down, back, and in
- Set shoulder blades
- Chin position, active neck

**Start with the pelvis...**

*Good posture can make you taller!*

**Sitting Posture Correction**

Ischial sitting vs Pelvic floor sitting

Either way, you need the ability to hip hinge and safely move out of your base of support

**Car Posture**

Left foot connected to the floor of car encourages core engagement and active sitting with pelvis, allowing for efficient sitting

**Janda Crossed Syndrome (Janda, 1987, 1988)**

Goal: To facilitate inhibited muscle groups. (Principle of reciprocal inhibition: activate flexors to inhibit extensors)

**Standing Posture**

- Stack heels under pelvis, pelvis under shoulders
- Turn off back extensors
- Hamstring involvement
  - “Heels into floor”

Further tips for postural awareness from the Institute of Physical Art:

- Distribute weight evenly on each leg, through midfoot.
- Stack chest over pelvis. Tip: place hand on chest and abdomen.
- Back and shoulders relaxed.
Slide 19
KF2  Dan Demonstration
Kali Frantz, 1/6/2017

Slide 22
JP4  Dan to talk through this one
James Peters, 1/6/2017
Standing Posture

Examples of poor standing posture

- 3rd base coach
- Blown in the wind
- Downhill skier
- Teenage daughter
- Baby on the hip

Standing posture at work station and talking to patients

Everyday challenges

Are you guilty of ‘text neck’? It can increase the weight of your head by up to six times!

Dynamic Posture

Gait

- Reciprocal motion
- Arm swing
- Engaged core
- Proper pelvic movement

Dynamic Posture

Gait

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- Arm swing
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Pop Singer vs. Athlete

Madonna

Pop singer vs. Athlete

Fred Couples

“Stretching”
Posture is the position of your joints throughout an activity, either stationary or dynamic. Recognition of this is the start toward engaging the proper muscles to perform a task or to reset your body from a period of activity.

Postural Correction

Head position
Facilitate: Deep neck flexors
Cervical Nod
Cues
- Imagine a dowel going between both ears; nod your head around this dowel
- Tuck your chin toward your throat

Postural Correction

Upper trunk position
Facilitate: Lower Trapezius
Shoulder blade setting
Cues
- Shrug shoulders
- Rotate little finger forward without extending your back
- Depress shoulders down toward back pockets

Postural Correction

Upper trunk position, continued
Facilitate: Serratus Anterior
Serratus Press
Cues
- Sit in chair with feet flat, round back
- Press hands through desk surface
- Inhale and exhale 4 times
- Repeat 3 times

Postural Correction

Lower trunk position
Facilitate: Diaphragm, Abdominals
Cues
- Full Inhale
  - Breathe in through your nose
  - Blow out through your mouth

Postural Correction

Lower trunk position, continued
Facilitate: Gluteals
Isometric Gluteals
Positioning Cues
- Neutral feet
- Externally rotated feet
- Internally rotated feet
- Staggered (tandem) position
Blow up balloon at neutral and end ranges

James Peters, 1/6/2017
Mindfulness

- Sense outside stimuli and how they affect you
- Association rule
- Changes in posture with attitude
- Cleansing breath = conscious breath

CHECK IN WITH YOURSELF

Take Home Message

- What will you do when you get back to your office?
- Adapt your environment to your needs
- Repetitive task during your day?
- Check in with yourself

Work cited

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