ERGONOMICS 101

THE ERGONOMICS IN YOUR LIFE

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CLASS OBJECTIVES

Introduction

Four areas of focus

1. Postures
2. Equipment
3. Workstation
4. Movement

Self Analysis (Active Participation)

Recommendations

Physical Therapy
INTRODUCTION

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
Minimize discomfort, fatigue, and risk for injury of the worker/individual.

Maximize productivity and efficiency in the workplace/environment.
BENEFITS

REDUCED RISK FOR:

- Injury
- Pain
- Fatigue
- Muscle strain
- Joint stress

- Osteoarthritis
- Tension headaches
- Loss of flexibility
- Poor balance
- Long term effects
THE ERGONOMICS IN YOUR LIFE

1. Ergonomic Postures
2. Ergonomic Workstation
3. Ergonomic Equipment
4. Ergonomic Movement
1. ERGONOMIC POSTURES
ERGONOMIC POSTURES

The human body experiences minimal, fatigue, discomfort, and risk from injury when it is positioned in the neutral (optimal) posture.
ERGONOMIC POSTURES

NEUTRAL SITTING POSTURE
How much does your head weigh?

Are you really shorter?
ERGONOMIC POSTURES

Sleeping

Avoid sleeping on your stomach
SLEEPING POSTURES
SLEEPING POSTURES

One knee in front of the other creates twisting of the hips and spine.

Knees together keep straightens the hips and spine.
SLEEPING POSTURES
DRIVING POSTURES
ERGONOMIC POSTURE

Self analysis
ERGONOMIC POSTURES

NEUTRAL SITTING POSTURE
ERGONOMIC POSTURE?
ERGONOMIC POSTURE?
ERGONOMIC POSTURE?
ERGONOMIC POSTURE?

Supportive Seating
ERGONOMIC POSTURE?
ERGONOMIC POSTURE?

Support pillow
ERGONOMIC POSTURE?
3. ERGONOMIC EQUIPMENT
ERGONOMIC EQUIPMENT

Can *help reduce risk* factors that contribute to musculoskeletal dysfunction (MSD)

- High repetition
- Forceful exertion
- Awkward sustained postures
ERGONOMIC EQUIPMENT

**EQUIPMENT**
- Chair
- Desk
- Keyboard
- Monitor
- Mouse

**ACCESSORIES**
- Document holder
- Footrest
- Headset
- *Adhesive Supplies 😊*
ERGONOMIC EQUIPMENT

Designed to be **adjustable** and provide a **better fit** between the people and their work demands
ERGONOMIC CHAIR

Adjustable seat height
Adjustable arm rests
Lumbar support
Head rest *

* Optional feature
ERGONOMIC DESK

1. Adjustable Height

2. Adequate space for:
   - your legs
   - computer equipment
   - accessories
neutral position of the forearm and wrist
ERGONOMIC MONITOR

Adjustable height
Glare control
ERGONOMIC MOUSE

- Trackballs
- Touch pads
- Finger joysticks
- Pucks

... many more
ERGONOMIC ACCESSORIES

Footrests
ERGONOMIC ACCESSORIES

Document Holder

Avoid awkward postures
2. ERGONOMIC WORKSTATION
HEAD
Head back; Chin tucked;
Jaw parallel to the ground
Ears over shoulder and over hips

Neck
Use headphones; Do not cradle phone between head and shoulder!

Elbows
At sides- slightly more than 90 degree bend.

Chair
Fully adjustable with lumbar support in small of the back

Eyes
Level with top 1/3 of screen.
From eyes to screen should be 18-24 inches.

Document Holder
Adjacent to and at same height as monitor.

Keyboard
Same height as elbow with wrists slightly bent.
Keystroke gently!

Mouse
Adjacent to and at same height as keyboard.

Chair Height
Hips slightly more than 90 degrees, feet flat on the floor

Take Breaks every 30 minutes
ERGONOMIC WORKSTATION
ERGONOMIC WORKSTATION

- Arm’s Length
- Adjustable Stool
- Elbow Height
- Footrest
- Soft Mat
HOME OFFICE ERGONOMICS
HOME OFFICE ERGONOMICS
ERGONOMIC WORKSTATION

Self analysis
WHAT'S RIGHT?  WHAT'S WRONG?
WHAT'S RIGHT?  WHAT'S WRONG?

Workstation ergonomics * Top View
WHAT’S RIGHT?  WHAT’S WRONG?
We ALL slump!

Avoid prolonged awkward postures.

Slumping will occur when your muscles fatigue.

Change positions!  Move your body!  TAKE A BREAK!
4. ERGONOMIC MOVEMENT
LIFTING DO’S & DON'TS

**DO** LIFT AS A TEAM
Do lift bulky or heavy loads as a team. Doing so is smart and the safe way to work.

**DO** TURN WITH LEGS
Do move your legs and feet when turning or lowering the load. Avoid twisting at your waist.

**DO** USE YOUR LEGS
Do lift the load using your powerful leg and buttocks muscles. Your feet should be wide apart, head and back upright. Keep abdominal muscles tight and the load in close.

**DO** USE EQUIPMENT
Do use equipment like hand trucks, dolly’s, or forklifts to do the heavy lifting. It’s much less work and less risk of injury.

**DON'T** LIFT BULKY LOADS ALONE
Don’t lift bulky or heavy loads alone. Doing so puts great stress on your low back muscles and spine.

**DON'T** TWIST WHEN LIFTING
Don’t twist when lifting, lowering, or carrying any load as this increases your risk of back injury.

**DON'T** USE YOUR BACK
Don’t lift the load with your rear end high and your load low. Use your leg muscles, not your weaker low back muscles.

**DON'T** LIFT HEAVY LOADS
Don’t lift heavy loads when you can use equipment. It is less work and less stress on your low back.
LIFTING TECHNIQUE
PROPER LIFTING TECHNIQUE

- Bend your knees / hips
- Lean forwards from your hips (not your back)
- Keep your back straight
- Bring weight close to your body first,
- Then stand up
ERGONOMIC MOVEMENT

Self analysis
WHAT’S RIGHT?  WHAT’S WRONG?
WHAT’S WRONG?
WHAT’S RIGHT?
RECOMMENDATIONS
Choose your POSTURES
Choose your LIFESTYLE
Maximize work methods
- Inspect your workstation
- Adjust your workstation

Maximize your wellness
- Assume & maintain neutral postures
- Take breaks every 30 minutes
- Exercise
POSTURE RECOMMENDATION

Be aware of your posture.

Avoid prolonged static postures.

Take a break every 30 minutes (for 1-2 minutes)
  • Balance static postures (sitting) with active movement (walking or exercises)

Exercise: Stretch & strengthen muscles.

Seek assistance before things become serious.
NEED PROFESSIONAL HELP?
A PHYSICAL THERAPIST IS TRAINED TO:

Evaluate and make recommendations to improve your

- Workstation
- Posture
- Movement pattern
- Physical condition
  - (pain, weakness, loss of mobility)
PHYSICAL THERAPY SERVICES

Ergonomic Consulting
Injury Rehabilitation
Pain Management
Prevention & Wellness Physical Therapy
Manual / Massage Therapy
Balance Assessments
Musculoskeletal Assessments
PHYSICAL THERAPY

Evaluate and **treat** current conditions

Evaluate and intervene to **prevent** injury / pain
Rehabilitation, Prevention & Wellness
Physical Therapy
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THANK YOU
for attending
Ergonomics 101

OANA BALASA
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