Hospital Ergonomics

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About VSI

- Human Factors and Ergonomics Engineers
  - Ergonomic Evaluations
    - Individual
    - Departmental
  - Product Recommendations
  - Relocation Sweeps
  - Product Usability Studies
  - Training Classes
Outline

- What is Ergonomics
- Ergonomic Risk Factors
- How does this apply in Hospitals
- Questions
What is Ergonomics?

DADDY... WHAT'S ERGONOMY?

IT'S MAKING CHILDREN TALL ENOUGH NOT TO HAVE DADS BEND SO MUCH!

PL 2003
What is Ergonomics?

The term ergonomics is derived from the Greek words:

*ergon* – work

*nomos* – natural laws

**Definition:**

Ergonomics looks at the design of tasks, tools, equipment & overall workplace layout in order to fit the task and workstation to the person.
What is the most common area of the body injured in healthcare workers?
Anatomy of the Spine

- 24 moveable Vertebrae
- 3 Natural Curves
- Vertebrae
  - Cervical (neck) C1 – C7
  - Thoracic (ribs) T1 – T12
  - Lumbar L1 – L5
  - Sacrum (5 fused)
  - Coccyx (tailbone)

**Lumbar is most injured area of the back.**
Ergonomic Risk Factors
Ergonomic Risk Factors
POSTURE
Neutral Posture: Ears over shoulders over hips, shoulders relaxed, elbows at sides.
Awkward Postures – Back

- Flexion
- Extension/ Hyperextension
- Rotation/ Twisting
Awkward Postures – Neck

- Flexion
- Extension
- Rotation
Awkward Postures – Shoulders

- Abduction
- Flexion
- Elevation
Awkward Postures– Wrist

- Flexion
- Extension
- Radial Deviation
- Ulnar Deviation
- Pronation/ Supination
FORCE
Force

- Pushing
- Pulling
- Lifting

Force can depend on location in relation to the body
Patient Handling – Leverage

- Force on your muscles depends on the **mass** (weight) and **distance** (from the pivot point)

- Keep the work **as close as possible to your body**. It puts less of a strain on your back, legs and arms
REPETITION
What tasks are repetitive

- Doing something once may not injure you, but doing those same things repeatedly can!

- Repetitive Stress Injuries (RSI)
- Cumulate Trauma Disorders (CTD)
  - musculoskeletal disorders (MSD) due to repetitive activities wearing on the body
    - Carpal Tunnel Syndrome
    - Tendinitis
    - Tenosynovitis
    - Bursitis
    - Lateral Epicondylitis
    - DeQuervain’s
    - Trigger Finger
Where do you see these Risk Factors in Hospitals?
Front Desk Tasks
Frequently used items should be in primary work zone to reduce reaching and leaning
Computer Work

- Legroom
- Chair Adjustment
- Keyboard Height/ Location
- Monitor Height/ Location
- Space!

Seated/ Desk Computer
Computer Work

Computer on Wheels (COW)                  Wall Mounted
Storage

- Don’t store heavy or frequently used items above shoulder height
- Do not overload shelves
- Use containers if items are likely to fall
- Use a Step stool when needed

www.osha.gov
Patient Handling

“In 2008, Bureau of Labor Statistics documented that 36,000 healthcare workers were injured by lifting and transferring patients.”

–NationalNursesUnited.org

- Awkward postures
- Short staff
- Clearance room
- Patient weight
- Patient can’t help
- Hard to predict
- Emergency Situations
Patient Handling Aids

Patient Lift

Transfer Belt

Transfer Mattress

VIDEO
Patient Transfer– Clearance Spaces

- Avoid clutter (from staff and patients)
- Move unused items out of the way before a lifting
- Look for cables/ cords
- Visualize your lift before beginning
Bed Making

- Bedmaking often involves reaching, bending and awkward postures.
  - Always raise bed as high as possible
  - Walk around the bed rather than reach when possible
  - Avoid twisting
Push Carts

- Use when carrying heavy or bulky items more than 10 feet
- Often only rear wheels rotate, so ensure you are using the correct way
- Hold cart near waist level, and not above shoulder height (i.e. food carts)
- Store frequently used items near waist level (housekeeping)
- Request maintenance when needed
IVs and Blood Draw

- Repetitive task for many employees
- Bending of neck and back
- Use a staggered stance
- Stand as close as possible
- Take breaks on long tasks
- Stretch neck, shoulders and hands
You Can Prevent Injuries!

- Educate yourself and others
- Share best practices
- Help coworkers
- Report risks to management
- Request ergonomic assistance
- Stretch
- Take care of yourself outside of work
Stretch Break

Stretching Guide

Remember to:

• Warm up before stretching
• Hold each stretch for at least 30 seconds
• Stretch both right and left
• Breath & Enjoy

Shoulders & Neck

Shoulder Shrugs
• Move shoulders in a semicircle: up, back, down

Upper Trapezius
• Reach one hand behind back
• Hold top of head with other hand
• Tilt head to the side

Levator Scapula
• Place one hand on shoulder blade
• Place other hand on top of head
• Tilt head down

Chest & Arms

Tricep
• Place one hand between shoulder blades
• Gently pull on elbow

Chest and Bicep
• Lace fingers and press palms of hands together
• Squeeze shoulder blades together
• Lift arms

Wrist Extensor And Flexor
• Keep elbow straight
• Pull fingers with opposite hand

Legs

Hamstring
• Reach out, above toes
• Keep head up

Quadriceps
• Pull heel toward buttock
• Keep knees together
• Press hip forward

Back

Standing and Sitting Lower Back
• Standing – lift up and back with chest
• Sitting – let top of head fall to floor
Questions?

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Keep a Happy Back!