

## Curriculum Outline: Ergonomics Training for Office Workers in Nursing Homes

### I. Intro, training overview (2 min)

Announce: "Experience is the best teacher." Ask participants how many years they have been doing office work. Add up the years experience in the room and write on flip chart.

Training overview: Read through the overview and objectives. Copies of these are in the Training Manual.

Define ergonomics – what do you know about ergonomics?

Musculoskeletal disorders – where does your body hurt?

Ergonomic job analysis – what makes it hurt, and how can it be changed?

Training objectives

1. Define and share an understanding of ergonomics for office workers with participants.
2. Help participants recognize that there is a wide range of musculoskeletal disorders.
3. Understand the general ergonomic risk factors that can lead to cumulative trauma that may apply to office workers.
4. Introduce ergonomic hazard analysis to evaluate workstation setup and working techniques and assess changes that could improve the health of the work environment.
5. Introduce checklist for conducting workstation assessment.

### II. What do you know of ergonomics? (8 min)

Objective: engage participants, draw on their prior knowledge, gain their comfort with subject, impress upon them that this training is not simply information for them to swallow, but that they are the experts and possess the common sense that is necessary to solve problems in the work environment. Two subsections: ice breaker, and definitions.

(4 min) **A group activity to break the ice** An activity to reflect on many common, relevant issues...

(1) Ask: "What have you heard about ergonomics?"

(2) Ask Follow-up Questions:

Where have you heard it?

What does it mean?

(3) Write answers on board/flipchart

Get a few people to give answers.

Not everybody has to answer.

(4) Display and ask about Motrin Ad [Page 3 of the Training Manual]:

What is the picture showing us?

What are they proposing as a solution?

What alternative solutions would you suggest?

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(5) “You have just done an Ergonomic Job Analysis”

(4 min)

**Define ergonomics** A way to tie together the previous discussion through specific definition.

After concluding “You have just done an Ergonomic Job Analysis”, share the following definitions and extra information about ergonomics. Simple language can be shared much more easily and effectively as key points to remember.

Definition of Ergonomics

Ergonomics refers to changing the job, not the worker: “the science and the art of fitting the job and the workplace to workers’ needs, to take advantage of the workers’ strengths, capabilities and individual tendencies, and to recognize natural individual limitations in order to prevent injury.”

Ergonomics understands that there are physical limits to being human. This includes limits to:

- How much force can be sustained by our muscles, joints, tendons, and ligaments
- How much energy we need to work
- How much stress we can take
- How many things we can concentrate on at once

.....Without Getting Hurt or Sick

Key points to remember

Fix the job, not the worker.

Use your brain, not your back.

Work smarter, not harder.

Extra information – Greek root:

The word “ergonomics” is from Greek: “ergo” means “work,” and “nomics” means “laws pertaining to, or measure.” So, ergonomics is “the laws pertaining to work, the measure of work.”

Refer Participants to Training Manual and remind them that they can keep the Training Manual.

[This is a guide for them during this training and also on the job.

Definition of ergonomics, mottos, and the Greek root definition of “ergonomics” is on page 4 in the Training Manual.]

### III. Where does your body hurt? (18 min)

Objective: a plain language set of activities and discussion designed to show the burden of suffering. Five subsections: locate body pain activity, body pain discussion, recent pain survey review, musculoskeletal disorder definition, demonstrate biomechanics underlying musculoskeletal disorders. Extra information is given to reinforce the nature of musculoskeletal disorders, related language, and the role and history of OSHA in addressing MSDs. The focus will be on physical and mental strain of office work.

- (2 min) **Mark up a body** A group activity giving participants an image to share and discuss.
- (1) Introduce Activity: The purpose of this activity is to identify how our jobs affect our bodies.
  - (2) Select a volunteer to stand before the group
  - (3) Directions: [Hand out post-its] Each participant will place a post-it on the volunteer's body to mark the places where each of you hurt after work.
- (5 min) **Discuss** A group discussion to tease out the relationship between pain and exposure. The employees are the experts and will point to typical problems faced by them as office workers. This information will foreshadow the last two sections of the training. The steps follow from the previous activity.
- (4) Tell groups to look at all the post-its after all participants are done.
  - (5) Ask: "What seems to be consistent about the post-its on the body?"  
Write answers on flip-chart
  - (6) Ask: "What do the post-its on the body tell us about your work?"  
Writes answer on flip-chart
- (2 min) **What did nursing home employees tell us in a survey about pain and discomfort?** A review of data obtained in our survey of Genesis facilities.
- [Point out that the map and data are in Training Manual on pages 6, 7]  
Look at Body Map with prevalence of pains to each segment found in CPH-NEW survey. One map is of non-clinical staff, the other of clinical staff.
- (3 min) **What is a musculoskeletal disorder?** These facts tie together the previous discussion with specific language and policy information.
- Announce: "The pain that you feel is often an indication of an ergonomic disorder. Ergonomic disorders are called Musculoskeletal Disorders, or MSDs." Read the following information, and refer to the Training Manual. We will come back to "extra information" again after a demonstration of a biomechanical pathway to tissue damage.
- \* **Extra Information** [in Training Manual]
- MSD is the language used by OSHA when it issued an Ergonomic Standard in November 2000 under the Clinton Administration. It was repealed by the Bush Administration in March 2001. [A definition of MSD is in the Training Manual on page 7]. OSHA relies on the General Duty clause to enforce ergonomics issues when necessary.
  - OSHA has a new emphasis program on nursing homes beginning in October, 2011. [See OSHA press release in Training Manual on pages 10, 11 of

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Training Manual]. The special emphasis program means that OSHA will be paying closer attention to how nursing homes are acting to the rising rate of injuries in the industry.

- OSHA is our federal government’s official agency responsible for enforcing the standards of healthy work environment. They can be reached, anonymously, if desired, at the contact information on page 26 of the Training Manual.
- MSDs are also known as RSIs, CTDs. [also on page 8 of the Training Manual]
- A body map with some common MSDs associated with office work listed is included in the Training Manual on page 8.

(4 min)

**How do musculoskeletal disorders develop?** A demonstration of how some musculoskeletal tissues work and how biomechanics affects the development of musculoskeletal disorders (back).

Demonstrate tissue capabilities using common items:

- a. A jelly-filled doughnut makes an excellent model for a spinal disc. To demonstrate, show that the doughnut has a similar shape, structure, and performance under pressure (outside can rupture and release inside material).
  - i. What discs are for: **cushioning** vertebrae, allowing **movement**
  - ii. Not for rupturing
- b. Use plastic can holder to demonstrate that ligaments are plastic rather than elastic by stretching and showing the point where the plastic does not return to its original shape.
  - i. What they do: **connect** bones, strong and pliant
  - ii. What they can’t do: stretch
- c. Demonstrate mechanical advantage with a volunteer. Ask for a volunteer to lift a mass once originating near her body and once originating at a relatively greater distance from her body. She can describe the different feeling. [a biomechanical figure of forces in this lift are in Training Manual on page 12].

(2 min)

**\* Extra Information** Extra information quickly ties together the activity on the body, the discussion about pain, the review of the pain survey, the definition of the term “musculoskeletal disorder” and the demonstration of biomechanics around the theme of a gradual, cumulative process. Participants can take the information home with them in written form.

\* The pain workers feel daily turns into MSDs gradually. First there’s discomfort, then pain, then the pain turns into symptoms, syndromes or a diagnosed disorder, which can result in permanent disability. “Pain” is a term and a feeling which is subjective. Other early warnings include burning, cramping, numbness, swelling, tingling, weakness, or fatigue.

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\* Three important facts about musculoskeletal disorders... [also included back on page 8 of the Training Manual]

- 1) They affect your **musculoskeletal system** - your muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs.
- 2) They are **cumulative** - they happen gradually, as opposed to accidents.
- 3) They are **chronic** - the effects last a long time.

\* Definitions of “cumulative”, “chronic”:

*Cumulative* = it develops gradually, over a long time, due to lots of small episodes or injuries

*Chronic* = the effects last a long time, you don’t heal quickly, you can be left with a permanent disability

**(Ask for examples of cumulative and chronic from the participants. Do not write on flipchart.)**

### IV. What makes it hurt? (27 min)

Objective: to after examining “where your body hurts”, participants will be ready for information and an activity to focus on the specific categories of risk for developing the pains that have been discussed. Two subsections: acting out ergonomic risk factors, and workstation assessment.

(5 min) **Acting out Ergonomic Risk Factors** An activity to identify risk factors of actual tasks.

Introduce topic, “Ergonomic Risk Factors” with a statement, for example: “In order to decide how to change a job so workers won’t get injured, we must first find out what it is about the job that causes these musculoskeletal disorders.” Pages 14-22 demonstrate typical hazards of office work and how they can be corrected.

(1) Define Risk Factors – State: “The aspects of your jobs that cause MSDs are called risk factors.”

(2) Read list of risk factors for MSDs.

- i. Awkward posture, static posture
- ii. Repetition
- iii. High force
- iv. Contact stress
- v. Cold temperature
- vi. Fatigue, overwork
- vii. Job stress, mental fatigue

(3) Ask for volunteers to physically demonstrate tasks that they do.

Ask the group to say which risk factors they see.

(Get a few different people to do this and try to include all risk factors.)

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[A list of these risk factors is included in the Training Manual on page 13. Clinical staff will also have the ANA's list of risk factors for injury on page 14.]

(24 min)

### **A Job Hazard Analysis/ Work Station Assessment**

Introduce the topic, "Ergonomic Job Analysis" with a statement, for example, "For the rest of the training you're going to practice using an analytical tool specifically designed for ergonomic job analysis of office work. The computer Ergonomics Checklist will be introduced. The trainer will tell the class that this is one way that ergonomists figure out how to change a job or task so workers won't get injured.

Trainees will divide into groups of 4 or 5 for the rest of the training to assess actual work stations. Each group will assess one workstation, using the computer ergonomics checklist on pages 23-27 in the training manual. If the workstation belongs to a group member, s/he will demonstrate typical work positions and activities. The activity is designed to generate group discussion on how to reduce work-related pain through ergonomic intervention. After performing the assessment, each group will propose interventions that will reduce ergonomic hazards. They will propose both short term "fixes" and longer term solutions that may involve new equipment or lighting, for example. A summary of the issues identified and possible solutions will be written on a flip chart to document the work they have accomplished. Trainees will each have blank copies of the check list to use for their own and other workstations.

**Step 1 – Observe work at an actual work station (5 min)** Complete the Computer Workstation Checklist for the job they are observing. They may need to ask questions regarding whether the worker handles files or carries anything heavy as part of the job, the work load, and how often emergencies occur that cause lat minute projects or changes.

#### **Step 2 – Check risk factors (3 min)**

Referring to Training Manual and what they have checked on their forms they will write a list of issues that could be improved to provide a healthier work environment on a flip chart. They will *check off all the ergonomic risk factors that are part of the job.*

#### **Step 3 – Generate ideas to reduce risk (5 min)**

Read Instructions: "Turn to [the next page of the *EJA Training Manual*]: **Identify ways of changing how the job is done to eliminate or reduce the risk factors.**"

Each group should choose at least 1 risk factor to reduce or eliminate. Encourage groups to come up with changes that should be made, regardless of how it might happen. Be as creative as possible, and do not limit thinking. It might be helpful to point out whether a suggested change is something an individual would have to do on her own, or something that administration would do through policy or change of equipment. They will identify easy or temporary fixes as well as longer term more permanent changes.

### **Step 4 – Report back (9 min)**

Each group prepares a report back (1 min per group to prepare a report back).

Choose 1 person to do report back

She should quickly tell us (2 min per group):

1. The job that they analyzed
2. The ergonomic risk factors for the job
3. How they would change the job to eliminate a risk factor

Write changes on flip-chart in large letters.

The list of the three suggested changes on the flip chart may be used as ideas for job change within their center. ]

### **VI. Evaluation (3 min)**

Introduce topic by announcing, for example, “Using the form provided [to be handed out], take the remaining time to give feedback about today’s training.”

### **References**

OSHA eTool for computer workstation hazards

<http://www.osha.gov/SLTC/etools/computerworkstations/index.html>

Office Ergonomics: Practical solutions for a safer workplace, WISHA Services Division  
Washington State Department of Labor and Industries, F417-133-000 [02/2002].

<http://www.lni.wa.gov/IPUB/417-133-000.pdf>