University of Massachusetts Lowell

DEPARTMENT OF WORK ENVIRONMENT

Ergonomics Training for Nursing Home Workers

Instructors Guide

Ergonomics Training for Nursing Home Workers

Agenda

1. Introduction, Training Overview……..5 min.

2. *What is Ergonomics?.....10 min.*

3. Musculoskeletal Disorders……20 min.

    a. Where Does Your Body Hurt?
    b. Why Does it Hurt?

4. What Makes it Hurt?.....20 min.
    a. Risk Factors
    b. Ergonomic Job Analysis
    c. How Can Jobs Be safer?

5. Evaluation……5 min.

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This material was produced under grant number SH-22314-11-60-F-25 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

NECESSARY MATERIALS

You will need the following materials for this training:

TRAINING MATERIALS

- Flip chart with easel NOTE: Some of the flip chart pages will need to have specific text written in advance for specific activities.
  These pages should read as follows:

  SECTION 1 – INTRODUCTION
  - "Experience is the best teacher.
    Years of experience in the room _____ ."

  SECTION 2 – WHAT DO YOU KNOW ABOUT ERGONOMICS?
  - "What have you heard about ergonomics?"
  - "What is this picture showing us?"
  - "Ergonomics is the science and the art of fitting the job and the workplace to the workers' needs, to take advantage of the workers' strengths, capabilities and individual tendencies, and to recognize natural individual limitations in order to prevent injury."

  SECTION 3 – WHERE DOES YOUR BODY HURT?
  - "What seems consistent about the location of the Post-Its on the body?"
  - "What do the locations of the Post-Its tell us about your work?"

  SECTION 4 – WHAT MAKES IT HURT?
  - "Ergonomic risk factors:
    - ✓ Awkward posture, static posture
    - ✓ Repetition
    - ✓ High force
    - ✓ Contact stress
    - ✓ Cold temperature
    - ✓ Fatigue, overwork
    - ✓ Job stress, mental fatigue"

  - "Tasks that could be changed"

  - Three flip chart pages (one for each group of participants divided up for this section)
    Each sheet should have the following three terms on them:
    - "Task:"
    - "Risk factor to reduce:"
    - "Idea to reduce risk:"

- Markers for the flip chart
- Pencils or pens for each participant Jelly doughnut and plastic can holder for tissue demonstrations
- A table-top back model (to be provided by UMass Lowell)
- A 5 lb. weight for lifting during the biomechanics demonstration
- A jelly donut for demonstration
- Wet Wipes or damp paper towels (Jelly donuts are sticky!!)
- A plastic can holder for demonstration

Worker's Guides/ Forms (To be provided by UMass Lowell)

- A sign-in sheet
- Worker Guides – 1 for each person - to distribute at the start of the training. (To be provided by UMass Lowell)
- Evaluation forms – 1 for each person
- A pre-addressed envelope to UMass Lowell to return all fill-out training forms

The materials needed specifically for each section are also described and itemized per section.

GETTING STARTED

Before the training starts:

- Make sure the flip chart is set up, and markers are working and available.
- Have all prepared flip chart sheets filled in (see training materials)
- Have everyone sign in
- Distribute the Worker's Guide to the participants or have one at each seat to save time

SECTION 1: INTRODUCTION/ TRAINING OVERVIEW

BACKGROUND

In this section, instructors initiate the ergonomics training. The training is designed to use simple language, to define terms that may be either unfamiliar or have common usage. It is most important to establish that participants will be comfortable with the language, that the training is very simply and logically constructed, and that participants are the experts with respect to the content of the training. Their opinions and experience is what matters. Their health is why the training is being conducted. The sections of the training are meant to lead to change in the workplace to reduce exposure to risk factors for poor health outcomes. The introduction is the key to setting the stage for a productive training.

The **SECTION GOALS** are to:

- Introduce definitions about ergonomics with familiar and academic language
- Give an overview of the ergonomics training
- Reinforce the importance of their experience as experts in the specific ergonomics of their environment
- Emphasize that participation is the key, and outcomes will be a result of participant input.

On completion of INTRODUCTION TO TRAINING, training participants will be able to:

- Anticipate the remainder of the training
- Realize that this training will draw on their experience and participation

The materials required for this SECTION are:

- Flip chart page (#1) on which you have previously written:
  - "Experience is the best teacher.
    Years of experience in the room: _____ ."
- Markers for the flip chart

The activities in this SECTION are:

- Preparation before the training (for the trainer only)
- "Experience is the best teacher"

GETTING STARTED (EXPERIENCE IS THE BEST TEACHER)

Time: 5 Minutes

To start (This section needs to be delivered in a very brief time.):

- Begin immediately by stating, “Experience is the best teacher.”
- Ask participants how many years they have on the job.
- Write years of experience on the flip chart.
- Share an outline of the sections of the training and the training’s objectives. Refer to the Worker’s Guide, where the training is outlined on Page 2 . Read the outline out loud as they read it in their Worker’s Guide.

SECTION 2: WHAT DO YOU KNOW ABOUT ERGONOMICS?

BACKGROUND

This SECTION dissects and demystifies ergonomics. The term itself has been used for many purposes. Even academic perspectives and definitions about ergonomics vary. The trainer will facilitate discussion regarding ergonomic hazards in the work environment, from identifying the hazards, sympathizing with the pain, understanding how pain relates to hazards, acknowledging different reasons that people take risks, to affirming that the group can achieve the goal of reducing risk by drawing on their collective experience. The trainer "breaks the ice" in "WHAT DO YOU KNOW ABOUT ERGONOMICS?". Discussion will tend to be lively and creative, if not surprising to some participants. The time for "WHAT DO YOU KNOW ABOUT ERGONOMICS?" is limited in practice. However, during an actual training session, several points about work environment risk can be raised, and the trainer can enhance the discussion with prepared awareness.

The SECTION goals are to:

- Have trainees gain a deeper understanding about ergonomics
- Share a concise and complete definition about ergonomics, but realize that there are other ways to say the same thing.
- Understand that ergonomics can be a very simple but relevant concept to every day work life.
- Begin to

On completion of WHAT DO YOU KNOW ABOUT ERGONOMICS, training participants will be able to:

- Discussion pains in the workplace
- Cite common ways people experience ergonomics
- Think about their own knowledge or biases about ergonomics

The materials required for this SECTION are:

- Flip charts (#2, #3, #4) which you have previously written on:
    - "What have you heard about ergonomics?"
    - "What is this picture showing us?"
    - "Ergonomics is the science and the art of fitting the job and the workplace to the workers' needs, to take advantage of the workers' strengths, capabilities and individual tendencies, and to recognize natural individual limitations in order to prevent injury."
- Worker's Guide pages 4-5

The activities of this SECTION are:

- "Break the Ice"
- "What is this picture showing us?"
- Define "Ergonomics"

BREAK THE ICE

Time: 2 Minutes

Immediately following the INTRODUCTION, break the ice by asking "WHAT HAVE YOU HEARD ABOUT ERGONOMICS"?

- Write answers on flip chart with marker.
- Ask follow-up questions: "Where have you heard it?"
- "What does it mean?"

Not everyone has to answer these questions. Try to get a few people to give answers. There is no good or bad answer. You only need two or three answers to write on the flip chart. If more people answer, you might simply affirm the input, but not write on the flip chart, which will take extra time.

When you ask, "What does it mean?" you are trying to find out what the various answers might mean about how people tend to view ergonomics. Common answers might be about the driver's seat of an automobile or something about the computer, or "carpal tunnel." Discussion does not need to be in-depth. There is no right or wrong. People may or may not have heard about ergonomics, but even within the field of study there are various definitions and usages of the word. This brief discussion should affirm that people have some familiarity with the term, that it may mean different things to different people. Later, we will share a specific meaning with them.

WHAT IS THIS PICTURE SHOWING US?

Time: 2 Minutes

Refer to the Motrin ad that participants have in their Worker's Guide on page 4. Hold up your own copy. Ask the questions below, allowing for a few answers for each. Write the answers on the flip chart in large letters.

- Ask "What is this picture showing us?" and allow about a minute of answers.

There are several items in the picture that can be discussed. The most obvious is the strain on the person's body due to the material being handled. The strain could be from at least one or all of the items below:

- The weight of the meals
- The precarious balance required
- The poor coupling between the person's hands and the tray
- The size of the tray.

There is strain evident at her:

- ankles/feet
- knees
- abdomen
- shoulders
- elbows
- wrist/hands
- neck
- back

In plain language, you should make note of the fact that the STRAIN at these body segments is directly related to the successful completion of a TASK that she is required to do for employment. It is fair to say: "She would not put herself into this kind of strain without a reason."

Other issues apparent from the image:

- She can't see where she's going.
- The location she needs to lift from or lower to is not a fit for a person of her stature.
- The floor is hard concrete.
- The age of the worker
- There appears to be no one available to help. Perhaps, she is expected to do this kind of material handling on a routine basis. Do you think that there would be greater or less risk involved with this material handling if it were routine vs. once in a while? Do you think that workers should be asked to adapt to a routine with a task that would be a risk if it were simply attempted once?

The image also shows something about STRESS:

The demand is burdensome, as it is implied that risk is being taken just to keep up. More subtle clues about stress can be identified by the sign "WALK, DON'T RUN" over the serving doorway. Here you can say that not only is the job demand very high, but the apparent response to it is to take away one of the waitresses few options to keep up with it. While it may be safer to "walk, don't run", it shows that alternative solutions may not be getting addressed, such as locating the food closer to the door so no one needs to walk or run anywhere in the kitchen.

The sign and the Motrin ad focus the problem on the worker's actions rather than on the relationship of the worker to the work.

- Ask "What are they proposing as a solution?"

  Obviously, the ad is for a pain killer. It should be clearly understood that, in this context, the use of the ad is neither an endorsement nor a campaign against the product or pain killers. Regardless, the image is meant to reach people's common perception of the pain associated with work. The point for the trainer to set up is that the pain is not being prevented. Instead, Motrin is trying to capitalize on it. As will be discussed later, the pain and suffering to the individual has an additional economic cost beyond the individual. Solutions to reducing exposure to risk factors also will best come from the individual and others who have a stake in the cost of work exposure.

  Some participants may question whether the worker is going to experience debilitating pain. It should not simply be overlooked that work itself has a healthy effect on the individual. The balance between the healthy effect of work and the exposure to risk at work can and often is weighted against the worker. The point of this training is that when the balance favors the worker, the cost and pain of suffering is prevented. Therefore, pain killers are only a solution to be taken when a workplace is out of balance.

- Ask "What alternative solutions would you suggest?"

  Fewer plates? Make the trays smaller, or designed to hold the plates and allow the staff to see, and to lift and lower, without putting themselves at risk.

  Fatigue reducing mats on the concrete.

  Place the lifting point closer to the destination point, both horizontally and vertically.

As implied earlier, it would be important to have additional information, such as how often, and why, is the staff expected to carry this size of a load. Would it be possible to eliminate this task and not negatively affect the productivity of either the staff's or the restaurant as a whole?

- Conclude this section by stating, "You have just done an Ergonomic Job Analysis" This point will be well-received, and may counter people's expectations of a typical training which puts emphasis on how to lift, rather than draws on the participants' knowledge and experience to analyze their environment.

DEFINE ERGONOMICS

Time: 4 Minutes

At this point, you have already given an overview of the training, broken the ice, and induced the group to analyze a task for ergonomic risk factors and then how to reduce them. Almost without effort, the group will be showing that, because they are workers, they are experts on the subject of work exposure. Now it is time to briefly share a more detailed definition and focus on the subject of the training: "ergonomics".

Use you prepared flip chart page with the following definition:

- "Ergonomics is the science and the art of fitting the job and the workplace to the workers' needs, to take advantage of the workers' strengths, capabilities and individual tendencies, and to recognize natural individual limitations in order to prevent injury."

The emphasis should be that "ergonomics" refers to changing the job, not the worker.

Key Points to Remember:

- "Fix the job, not the worker."
- "Use your brain, not your back."
- "Work smarter, not harder."

These words are found in the participants Worker's Guide on page 5, so you don't have to write them out on a flip chart.

If you have time (if less than 10 minutes have passed since you started), you can read the following statement:

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

Or, if 10 minutes have already passed, you can point out that this root definition is in the Worker's Guide on page 5, and then move on to the next section.

SECTION 3: WHERE DOES YOUR BODY HURT?

OBJECTIVES

In this section there will be information given out, as well as engaging activities, discussions, and demonstrations. The instructor will be prepared to guide people to recognize patterns of pain that people suffer in the first "Mark up your body discussion". Back pains are commonly prevalent. Some unusual pains may be represented which also make for useful discussion. In between the "Mark up a body discussion" and "How does a musculoskeletal disorder develop" are two informational activities that will not involve much discussion. It is important to move through these quickly and clearly so that the engaged activities have enough time. Always remind the people that they have copies of everything that you read in their Worker's Guide.

Underlying this section is the importance of recognizing the major challenge that pain and suffering in the workplace is. It is also important to explicitly focus on the shared nature of the problem, from the burden of suffering, to the partnerships for treatment and prevention.

The SECTION goals are to:

- Share experience-based ideas about working in nursing homes and the pains that have come with the experiences.
- Be aware of the results of the CPH-NEW study on health of nursing home staff (in Genesis facilities).
- Review some history and current federal regulatory and non-regulatory means to protect workers.
- Increase familiarity with typical language used to describe musculoskeletal health and safety.

On completion of this SECTION, training participants will be able to:

- Have knowledge of the findings of the CPH-NEW inquiry into Genesis staff musculoskeletal issues.
- Relate how federal ergonomics regulation history affects the current status of the work environment.
- Understand the progression of musculoskeletal disorders, from discomfort to debilitation, and where ergonomics can intervene in the progression to prevent debilitation.
- Use different names for musculoskeletal disorders.
- Observe the limits of certain musculoskeletal tissue through the demonstration of familiar objects that have analogous qualities.

The materials required for this SECTION are:

- Flip charts with questions pre-written on them
- Markers for writing answers to the questions
- Jelly doughnut and plastic can holder for tissue demonstration
- A weight for lifting during the biomechanics demonstration
- Worker's Guide pages 6-14

The activities of this SECTION are:

- Mark up a body
- "Mark up a body" discussion
- What did a survey say about pains and discomfort working in a nursing home?
- What is a musculoskeletal disorder?
- How do musculoskeletal disorders develop?
- Look at extra information about musculoskeletal disorders

MARK UP A BODY – WHERE DOES IT HURT?

Time: 2 Minutes

Hand out post-its to everyone in the group. As you are doing this, select a volunteer from the group to stand in front of the group. It should be someone who will not be shy or offended by the activity, which requires the other participants to place Post-Its on her body. As she is making her way to the front of the group, you should introduce this activity by announcing: "The purpose of this activity is to identify how our jobs affect our bodies."

Ask trainees to place a Post-it on the volunteer on any part(s) of their body that hurt during or after work.

Typically, most Post-Its will accumulate in the back, shoulders, and feet. Some will accumulate on the hand/wrist area and the knees. As the trainer, you do not need to be guiding where the Post-Its go. The discussion to follow immediately will reveal if there are common themes and experiences of pain.

MARK UP BODY DISCUSSION

Time: 5 Minutes

After marking the volunteer's body with Post-Its, a pattern will likely appear. In any case, the trainer will facilitate a discussion about where Post-Its are and what it means about nursing home work.

Tell the group to look at all the Post-Its after all the participants are done posting them. Write people's thoughts on the flip charts in large letters so everyone can read them. You generate discussion by asking, **"What seems to be consistent about the Post-Its on the body?"** Answers to the question might be to suggest that backs are a common area for people to feel pain, for example. Because you've asked about what is consistent among the positions of the Post-it notes, the participants will be looking for clusters of Post-Its in the same place. This point should be easily recognizable and understood by everyone. If no one makes the point from the group, you can bring their attention to the fact that there are certain locations where more than one Post-It was placed, and certain locations where there are either one or no Post-Its. That is an indication that people typically share pain in that area. If there is an area where a single Post-It is placed away from others, apart from any cluster, it might be interesting to have the individual describe something about this pain, if they are willing to do so. No one should be made to feel uncomfortable about talking. Usually, people enjoy the bonding experience of relating these ideas among their peers.

Remember that an important goal of this SECTION is to share thoughts on pain and the experience of working in a nursing home.

Next, you continue the discussion by asking, **"What do the Post-Its on the body tell us about your work?"** Again, write the answers on the flip chart in large letters.

Any thoughts on the matter should be encouraged. However, it is important to consider the time l imitations. The main and central point to discuss is the work-relatedness of the locations of the Post-Its. Whether or not they are all experiencing the same pain is not as important as the fact that they are all experiencing the same work. Another interesting point that might be brought up is that people continue to work with pain, or that there are so many instances of pain. If people do not respond immediately, call on a participant who is known to not be shy and ask her whether she thinks there is any specific activity that is related to one of the Post-It spots.

WHAT DID NURSING HOME EMPLOYEES SAY IN A SURVEY ABOUT PAIN AND DICOMFORT?

Time: 2 Minutes

Refer participants to the Worker's Guide by asking them, "Please look at pages 6 and 7 of the Worker's Guide."

On pages 6 and 7 of the Worker's Guide are body maps with numbers associated with various parts of the body. These represent the percentages of people who had pain at the time of that a large corporation (Genesis) was given a survey about musculoskeletal aches and pains. The second map is the percentages of the clinical staff, and the map on the first page is the percentages of the non-clinical staff, including dietary, housekeeping, business, and maintenance staff. It is interesting to note that there are high percentages at each of the body regions for both groups. This point should affirm the experiences and discussion of the previous section. Interestingly, the major differences between the groups' percentages are at the back and knee regions, which do suggest that the clinical staff is exposed to something that increases their risk to back and knee injuries. Discussion of these points does not need to be extensive.

WHAT IS A MUSCULOSKELETAL DISORDER?

Time: 4 Minutes

After reviewing the survey data, and the preceding discussion about the work-relatedness of pain, you should now say, "**The pain that you feel is often an indication of an ergonomic disorder. Ergonomic disorders are called 'Musculoskeletal Disorders', or 'MSDs'**."

Then, refer the group to the Worker's Guide, where specific language regarding the following can be found. **Read these points as they follow along reading from their Worker's Guide**:

- "MSD" is the language used by OSHA (A description of OSHA is below if there are immediate questions from the participants) when it issued an Ergonomics standard at the end of the Clinton administration in November 2000. It was repealed by the Bush Administration in March 2001. [A definition of MSD is in

the Worker's Guide on page 8]. OSHA relies on the "General Duty Clause" to enforce ergonomics issues when necessary. [The General Duty Clause states that employers are legally responsible for providing a workplace "free from recognized hazards that are causing or are likely to cause death or serious physical harm".]

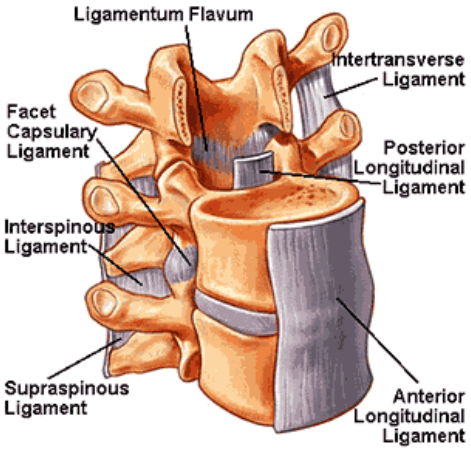
- OSHA is currently working on a new emphasis program for nursing homes that will come out shortly. [Refer participants to page 10 and 11 of the Worker's Guide]. The special emphasis program means that OSHA will be paying closer attention to how nursing homes are reacting to the rising rate of injuries in the industry.
- OSHA (Occupational Safety and Health Agency) 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 Worker's Guide.
- MSDs are also known as RSIs (Repetitive Strain Injuries), CTDs (Cumulative Trauma Disorders) [also on page 8 of the Worker's Guide]. A "Repetitive Strain Injury" is a general term for a wide range of injuries to the hands, wrists, arms, elbows, shoulders, neck and even the back, the result from repetitive work. A "Cumulative Trauma Disorder" is a condition where a part of the body is injured by repeatedly overusing or causing trauma to that body part.
- A body map with some common MSDs listed is included in the Worker's Guide on page 9.

HOW DO MUSCULOSKELETAL DISORDERS DEVELOP? (3 DEMONSTRATIONS)

Time: 5 Minutes, total time for the three demonstrations combined

Time: 5 Minutes, total time for the three demonstrations combined

The following demonstrations will illustrate soft tissue in the back and its limitations. You can show the small model you have, and point to the discs and the ligaments in the back. By pointing to these tissue representations in the model will give the participants a context for the demonstrations to follow.



**The image to the right is from a web page:* (http://www.spinediagrams.com/)

Demonstration 1 – "Jelly Doughnut as Spinal Disc"

In this demonstration, you will show the shape, structure, and performance under pressure of spinal disc using the jelly doughnut as a model. First, as you hold up the doughnut, and show its shape by revealing each of its sides as well as possible, say "**A jelly-filled doughnut makes an excellent model for a spinal disc**." Of course, it is unremarkable that the shape is round, yet that is, after all, the shape of a disc. Note that a real disc would have a hole in it for the spinal cord. However, the consistency of the material is very similar. While it holds its structure, it is soft, squishy. When you hold it between the palms of your hand, you can show the way it would act while it is providing cushioning between two vertebrae. It will give on one side while tending to bulge toward the other side. Ask, "**What do you think will happen as I apply more pressure to the doughnut?"** When you apply too much pressure between your palms, especially while pinching slightly to one side, the doughnut will rupture, much the way a disc has the potential to rupture if too much pressure is applied between vertebrae. Pressure on the spinal column during a lift comes not only from the pinch between vertebrae, but from the high forces generated by the muscles to maintain posture and to counter the forces acting on the mass being lifted.

The theme: Discs are for cushioning, not for rupturing.

Demonstration 2 – "Plastic Can Holder as Ligaments"

In this demonstration, you need the plastic holder commonly used to bind together a six-pack of aluminum soda cans. As you hold it up, say, "**Ligaments are like plastic."** You can hold the plastic with one hand or two hands and show that it can twist around or easily bend and old: **"They are flexible."** While they are easily flexible, ligaments, like the plastic, are can be stretched to only a small extent without changing their form. Grip two ends of the plastic and pull it until it is taut, then hold it: **"They hold their form when you try to pull them because their job is to hold bones together, unlike the discs which are meant for cushioning."** Now, pull the ends of the plastic a little harder, and the plastic will begin to stretch. After you have stretched the plastic a bit, hold it loosely so that it is not taut, with one hand or both: **"If too much tension is applied, then they tear or lose their shape."**

The theme: Ligaments are strong and pliant, and meant to connect bones. They do not stretch.

Demonstration 3 – "Lifting Near or Far"

Now choose a volunteer to demonstrate mechanical advantage. Set the object you have for this demonstration on the floor in front of the volunteer. Ask the 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 that she feels, particularly at the lower back area [a biomechanical figure of forces in this lift are in Worker's Guide on page 12].

The theme: **"The muscles of the lower back have to work harder to lift an object farther away"**

EXTRA INFORMATION ABOUT MUSCULOSKELETAL DISORDERS

Time: 2 Minutes

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. Ask them to refer to page 8 of the Worker's Guide, while you read the following out loud: "**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**."

[Also in the Worker's Guide are these points, which you may or may not have time to read, but they can have with them when they leave]

"Pain" is a term and a feeling which is subjective. Other early warnings include burning, cramping, numbness, swelling, tingling, weakness, or fatigue.

Three important facts about musculoskeletal disorders... [page 8 of the Worker's Guide]
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.)

SECTION 4: WHAT MAKES IT HURT?

OBJECTIVES

In this SECTION, the training participants review the risk factors for developing musculoskeletal disorders. With a list of generic risk factors, and specific cues relevant to the type of work they do, they will analyze a task or set of tasks that have high "ergonomic" risk. The Worker's Guide also includes a form for an Job Hazard Analysis, which they will use to complete during this section of the training. Extra forms are intended for them to use in their workplace at any time after the training.

The SECTION goals are to:

- Examine risk factors for musculoskeletal disorders
- Explore the relationship between exposure to risk factors for injury in the workplace to the progression of musculoskeletal disorders
- Think about why and how to change the work environment to reduce risk for injury

On completion of this SECTION, training participants will be able to:

- State what a risk factor is
- Name the common risk factors for musculoskeletal disorders
- Discuss ways of reducing exposure to risk.
- Generate intervention ideas based on a recognized exposure to an identified risk factor for musculoskeletal disorder.

The materials required for this SECTION are:

- Flip charts (#7, #8, #9-11) with questions pre-written on them:
    - "Ergonomic risk factors:
    - "Tasks to change"
    - Three flip charts (one for each group) with the following three terms written to be filled in by the answers from the participants:
        - "Task:"
        - "Risk factor to reduce:"
        - "Idea to reduce risk:"
- Markers for writing answers to the questions
- Job Hazard Analysis forms found in the Worker's Guide pages 15-22. Different types of forms suit different categories of staff: nursing, office, diet/housekeeping/maintenance

The activities in this SECTION are:

- "Acting out ergonomics risk factors"
- "A Job Hazard Analysis" (Steps 1 – 4)

ACTING OUT ERGONOMIC RISK FACTORS

Time: 5 Minutes

Introduce this activity to identify risk factors of actual tasks by stating: **"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."**

But first, the terms to use must be clear. It is helpful in ergonomics to think in terms of risk factors for musculoskeletal disorder, and of your exposure to those risk factors as a worker in the environment. It can be very simply stated: **"The aspects of your jobs that cause MSDs are called risk factors."** If there are no questions about this, then move on.

There is a short, well-accepted list of the risk factors, in general, that you may be exposed to in any work environment. Read list of risk factors for MSDs [included in the Worker's Guide on page 13; in addition, clinical staff will also have the ANA's list of risk factors for injury on page 14]:

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

Ask for a volunteer: "**I need someone to show us, to act out, a task or tasks that they do**."

Ask the group: "**Which risk factors do you see?"** (Get a few different people to do this and try to include as many of the listed risk factors as possible.)

A JOB HAZARD ANALYSIS

Time: 3 Minutes

The following activity is designed to generate group discussion on how to reduce work-related pain through ergonomic intervention. An expected outcome will be three intervention ideas

from them that you will write on the flip chart. Have your marker ready. It is useful to remember that within the last 10 years, there has been a push to study ergonomics in nursing homes, and as a result, lifting programs and equipment have been introduced on a wide scale. Ask participants to: "**Name some ergonomic equipment available to them in this facility.**" As they answer, point out to them that the activity they are about to complete may result in widespread acceptance of new ideas as well, if not in change to their own workplace. The participants should be encouraged to not limit their imagination. You do not need to write these ideas on a flip chart.

Ask the participants: "**Please form three groups for the rest of the training.**"

Introduce topic, "Job Hazard Analysis" with a statement, for example, "**For the rest of the training you're going to practice using an analytical tool--called a Job Hazard Analysis or JHA (It is sometimes called an "Ergonomic Job Analysis," or "EJA"). A JHA is how ergonomists figure out how to change a job or task so workers won't get injured. Each group will do an JHA for a task that you are familiar with.**" Clinical or non-clinical staff should use the particular JHA according to which group they are. That will be clearly stated in step 2.

Introduce the activity by asking people to suggest one task that needs to be changed. Say, for example, "**Before we ask how you would change the job after you analyze it to eliminate or reduce the ergonomic risk factors, let's hear from everyone at least one task that they think needs to be changed?**"

Write the suggestions in large letters on the flip chart (2 min.; Flip chart #8). If people are not quickly responding with their own ideas, there are a few tasks which we have identified from an analysis of corporate injury data which ought to be addressed. Suggest the following tasks:

- Resident handling in or out of bed, chair, toilet, stretcher (be specific)
- Delivering soiled linen to bin in closet
- Repositioning resident in bed

The following steps are a deliberate and objective process of ergonomic analysis that participants can later do on their own. For the purpose of the training, it won't be necessary that everyone takes each step on their own. However, they should understand that they will have the forms, and the steps outlined, to complete the job hazard analysis on their own at their own pace. As the activities are happening, pay attention to people that may be chosen to either do the writing or drawing within the group, or to do the reporting back from the small group to the whole group.

A JOB HAZARD ANALYSIS STEP 1 – DRAW

Time: 3 Minutes

Read Instructions: "**Each group is to select a task that you think needs to be changed, and one person in the group should *quickly draw the task -- Include the equipment,***

the workers, and the resident, if necessary." At that moment, ask participants: "**Please go to the first page of the JHA on page 15 (for clinical staff) or page 18 (for non-clinical staff) to draw the task**."

Problems might occur if the group spends too much time trying to decide what to draw, or who will draw. You can allow them just a few minutes to complete a drawing. Assure them that it only needs to represent the task visually somehow, to any degree of their ability; it does not need to be "the best". As long as the images they can explain the images that they draw, that will allow them to complete this task. They could use a stick figure for a person, for example, or a rectangle for a bed. Again, it is most important to get the drawing done within a minute or two, so that the group can take the next steps. It is useful to remind the people, too, that there are additional JHA forms in the Worker's Guide so that they can use them to develop more ideas on their own later.

A JOB HAZARD ANALYSIS STEP 2 – CHECK RISK FACTORS

Time: 3 Minutes

Each group will now have a simple drawing of a task chosen to be changed.

Referring to Worker's Guide Job Hazard Analysis (JHA) Forms, read Instructions: "**Turn to page 16 (for clinical), 19 (for non-clinical) of the Worker's Guide and: *Check off all the ergonomic risk factors that are part of the job. (*Please work together)**"

Once again, time for this activity is limited. Therefore, you can help the groups by assuring them that they should not be expecting that they will be able to find all the hazards. Usually, after having discussed and drawn a hazard, at least one person in the group will be able to lead the others through the checklist. Others in the group may be uncomfortable reading the list. Check to see whether there is a group where no one will volunteer to lead the others. If you find such a group, you can get them going by reading the top few items on the checklist, and asking them whether the task they have drawn has this risk.

After two minutes, the activity needs to stop and move on. It does not matter if they have checked all the risk factors. Only one will be selected in the next step.

A JOB HAZARD ANALYSIS STEP 3 – GENERATE IDEAS TO REDUCE RISK

Time: 5 Minutes

Read Instructions: "**Turn to [the next page of the *JHA form in the Worker's Guide*]: 'THE SOLUTIONS – Step 3: For each ergonomic risk factor checked on the previous page, identify how the job can be changed to reduce the ergonomic the risk factor'."** We are going to *identify ways of changing how the job is done to eliminate or reduce the risk factors***.**

Since time will be limited, 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. As everyone will see, the form is set up for a box to copy the risk factor identified on the previous page in one column (on the left), and a box for them to identify their solution to reduce the risk (on the right). They might prefer to use words in writing or to draw a solution. Let them know that either way is acceptable, and they should do what they feel most comfortable doing.

A JOB HAZARD ANALYSIS STEP 4 – REPORT BACK

Time: 9 Minutes

Each group prepares a report back. Allow 1 minute, with each group working simultaneously to prepare something to report. Choose 1 group to report back first. Suggest one person per group to give the report. It should be one person who appears to be comfortable talking, and that has clearly taken an interest in the drawing, the risk factor list, or the solution. She should quickly tell us (in 2 minutes):

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

As each report is coming from the groups, write changes on flip-chart in large letters. You will have to write each of the three items, but you can abbreviate. You should write out the solution as clearly as possible. Once you have written the idea on the flip chart, stop to be sure that what you have written is what the group meant. Once you have

their approval, then ask for the same three items from the next group, and write their proposed change.

When you have written each of the groups' ideas on the flip chart, then the content of the training is complete. At this time, it will be useful to remind them again that the JHA (with a checklist for each group) is in the Worker's Guide and it begins on page 15, with extra copies on pages 27-31. In addition, for the computer/administrative staff, there is a computer workstation hazard checklist on page 21, 22. You can also remind them that the list of the three suggested changes on the flip chart may be used as ideas for job change within their center.

SECTION 5: EVALUATION

OBJECTIVES

There should be a few minutes left before the hour is complete to evaluate the training. The evaluation is meant for the participants to give suggestions about how to improve the training. It may be possible that they will be inspired to give ideas about how to change and improve the training. The information from the evaluation will be useful in multiple ways. First, it may help you reflect on what happened, and what parts of the training were more effective than others. In addition, development of the training and ideas that come from the training are part of the same overall process for the trainers and for the facilities where these trainings are taking place. The ideas that come out of this evaluation section will be helpful information for and for the support structure being developed among the facilities in cooperation with UMass Lowell.

The SECTION goals are to:

- Give the participants the opportunity to suggest change to the presentation of the materials and to the content of the training
- Draw on thoughts and experiences of the participants to further facilitate and improve this training as well as the work environment for the participants.

The materials required for this SECTION are:

- Evaluation forms
- Pencils or pens

The activities in this SECTION are:

- Complete an evaluation form

All evaluation forms must be collected. Count to make sure you have one for each person. For each class you will put the following in a pre-addressed envelope provided by UMass Lowell:

(1) Instructor form, (2) sign-in sheet, (3) evaluations. These must be sent to UMass Lowell within 5 days of the training. You may include several trainings in 1 envelope, but each class must be clipped or banded separately.

SECTION 6: TRAINER RESPONSIBILITIES

Training Supplies

UMass Lowell will provide you with:

- A spine model
- Worker Training Manuals
- Evaluation Forms
- Sign-in sheets
- Course Summary Forms
- Pre-addressed envelopes to return materials to UMass Lowell

You are responsible for providing:

- A manual for each trainee
- Pens, if needed
- Flip chart and easel
- Markers

We are giving you a packet of materials to get you started.

It is your responsibility to tell us when you need more.
Contact: Marian Flum Phone: 978-934-2534

e-mail: Marian_Flum@uml.edu

If you have any technical questions about the training
Contact : Scott Fulmer Phone: 978-934-4854
e-mail: Scott_Fulmer@uml.edu

CONTACT INFORMATION

For Training Materials or General Questions:
Marian Flum 978-934-2534
e-mail: Marian_Flum@uml.edu

For Technical Information or Ergonomic advice: Scott Fulmer 978-934-4854
e-mail: Scott_Fulmer@uml.edu

Your Responsibilities as a Trainer:

Record-keeping and Reporting

Thank you for participating as a trainer in the ergonomics training program at your center.

As you know, this program is funded by OSHA. In order to continue the ergonomic training program, it is IMPORTANT to maintain accurate records and to document all training.

For every class you teach, the following are required:

1. Course Summary sheet
    - To be filled out by instructor
2. Sign-in sheet
    - If names are hard to read, please print next to them, so we can understand
3. Evaluation Forms
    - Evaluations must be filled out by all participants at the end of each class

Return Forms

(Summary sheet, sign-in sheet , and evaluation forms)
within 1 week to:
Marian Flum
Department of Work Environment - Kitson 200
UMass Lowell
1 University Ave.
Lowell, MA 01854

UMass Lowell will provide pre-addressed envelopes, so you can just slip the materials into an envelope and mail.

For any questions or if you need new training supplies, call Marian at 978-934-2534 or e-mail her at Marian_Flum@uml.edu

Thank you for your cooperation

SECTION 7: TRAINING FORMS

The following forms are included:

- Sign-in Sheet
- Evaluation
- Course Summary

Sign-in Sheet

Ergonomics Training for Nursing Home Workers

Center _____ City, State _____

Date _____ Time_____

Instructor _____

Name (print)	Name (sign)	Dept/ Unit	Job Title
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

EVALUATION

Ergonomics Training for Nursing Home Workers

Date ____ Center _____ Department/Unit_____

Please answer the following questions to help us see how useful this training was to you today. You do NOT have to fill in your name.

1. Did you learn anything new today?

   - ☐ YES -- I learned a lot
   - ☐ YES -- I learned a little
   - ☐ NO – I already knew it

2. Will you be able to use this information on your job?

   - ☐ YES
   - ☐ NO

3. How would you rate this training?

   - ☐ Very Good
   - ☐ Good
   - ☐ Okay
   - ☐ Poor

4. How would you rate the hand-outs?

   - ☐ Very Good
   - ☐ Good
   - ☐ Okay
   - ☐ Poor

PLEASE TURN THE PAGE. MORE ON BACK

5. Please check the box that best describes your learning experience:

- ☐ Trainer was easy to understand
- ☐ I could understand most information
- ☐ I was confused sometimes
- ☐ I was confused most of the time

6. What was the most interesting or useful part of this training?

_____

_____

7. In ergonomics what are the key things to remember? Please check <u>all correct</u> answers.

- ☐ If you lift properly, you will never get hurt
- ☐ Fix the job, not the worker
- ☐ Use your brain, not your back
- ☐ Work smarter, not harder

8. Do you have anything you would like to add about the training?

_____

_____

9. Would you like to have more training to improve your health and safety at work?

☐ YES What training would you like? _____

_____

☐ NO

Thank you for your comments.

Ergonomics Training for Nursing Home Workers
Course Summary Form

Please fill out after each class you teach.

Date_____ **Time:** _____ to _____

Center_____ **City, State**_____

Target Group:

___ *CNAs/ GNAS*

___*Housekeeping*

___*Dining Services*

___*Maintenance*

___*Office*

___*Mixed*

___*Other* _____

Number of Trainees:

Total Trainees	_____
Workers	_____
Supervisors/ Managers	_____

Instructor: _____ Signature: _____
(Print)

Comments: _____

Need more training supplies? ____ Yes ____ No
How Many? Manuals____ Evaluations_____

Note: You can copy your own sign-in sheets and course summary forms.

Please return To: Marian Flum, Dept. Work Environment – Kitson 200
UMass Lowell 1 University Ave., Lowell, MA 01854
THANK YOU!!!