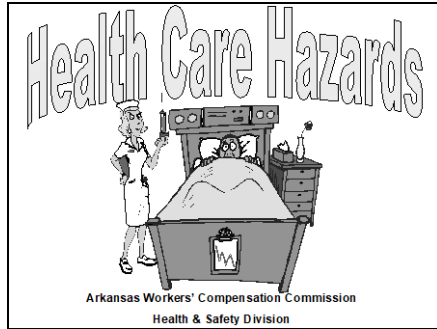


Slide 1



Slide 2

**Bloodborne Pathogens**

**Potential Hazards -**

- Exposure to blood and other potentially infectious materials

A cartoon illustration of a blood spill on a surface. A dark, irregular shape represents the blood, with a small, light-colored object (possibly a needle or sharp) embedded in it.

Exposure to blood and other potentially infectious materials (OPIM) from contaminated sharps injuries.

Slide 3

**Possible Solutions -**

- Engineering Controls
- Work Practice Controls
- Compliance with Universal Precautions
- Personal Protective Equipment (PPE)

**Follow the requirements of OSHA's Bloodborne Pathogens Standard and implement** engineering and work practice controls to minimize exposure to blood and bloodborne pathogens. **Engineering and Work Practice Controls** must be the primary means used to eliminate or minimize exposure to bloodborne pathogens. Where engineering controls will reduce employee exposure either by removing, eliminating, or isolating the hazard, they must be used, and changes to the

Exposure Control Plan (ECP) must include these engineering controls.

**Engineering Controls** are measures (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace.

**Work Practice Controls** are measures that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

Other requirements include:

**Compliance with Universal Precautions** (an infection control principle that treats all human blood and other potentially infectious materials (OPIM) as infectious).

**Personal Protective**

**Equipment (PPE)** Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, PPE shall also be used.

**Worker training** in appropriate engineering controls and work practices, to eliminate or minimize worker exposure.

**Proper handling** and containerization of sharps.


**Post-exposure evaluation and follow-up**, including post-exposure prophylaxis when appropriate.

Slide 4

**Needlestick Injuries**

**Potential Hazard -**

- Exposure to blood and other infectious materials because of unsafe needle devices.



In an average hospital, workers incurred approximately 30 needlestick injuries for 100 beds per year.

**Potential Hazard**

Exposure to blood and other potentially infectious materials (OPIM) because of:


**Unsafe needle devices.**

Improper handling and disposal of needles.

Slide 5

**Possible Solutions -**

- Use safer needle devices and needleless devices
- Properly handle and dispose of needles and other sharps



Use safer needle devices and needleless devices to decrease needlestick or other sharps exposures. See Safer Needle Devices Section.

Properly handle and dispose of needles and other sharps according to the Bloodborne Pathogens Standard.

**Handling Needles/Sharps:**

Do not bend, recap, or remove contaminated needles and other sharps unless such an act is required by a specific procedure or has no feasible alternative.

Do not shear or break contaminated sharps. (OSHA

defines contaminated as the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface).

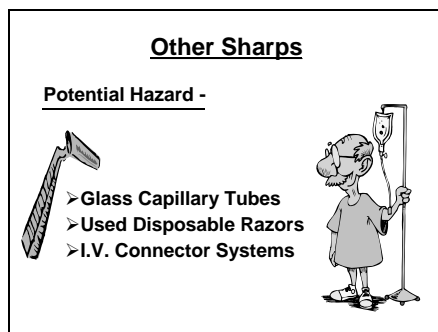
**Containerization:**

Have needle containers available near areas where needles may be found. Discard contaminated sharps immediately or as soon as feasible into appropriate containers.

**Appropriate containers, must be:**

Closable, puncture-resistant, and leak-proof on sides and bottom. Accessible, maintained upright, and not allowed to overfill. Labeled or color coded. Colored red or labeled with the biohazard symbol. Labeled in fluorescent orange or orange-red, with lettering and symbols in a contrasting color. Red bags or containers may be substituted for labels.

Slide 6



"Contaminated sharps" means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

**Potential Hazard**

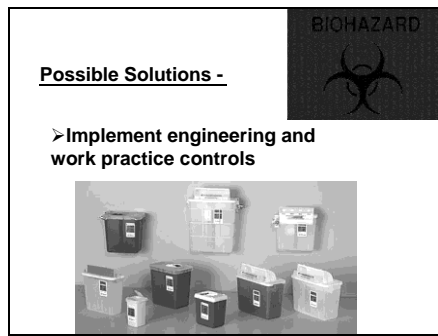
Exposure to blood and other potentially infectious materials (OPIM), from contaminated sharps for example:

**Glass Capillary Tubes** that may break when used and if handled incorrectly may result in a

penetrating wound of employee.  
**Used Disposable Razors** that could be contaminated with blood.

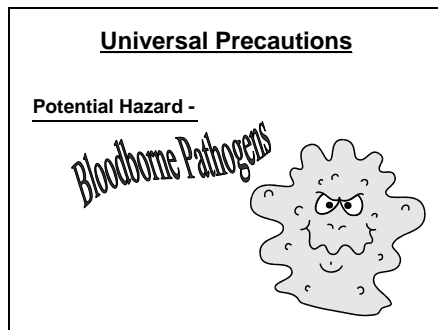
**I.V. Connector Systems** that use needles to connect I.V. setups.

Slide 7



Implement engineering and work practice controls to help prevent exposures.

Slide 8



An approach to infection control which treats all human blood and other potentially infectious materials as if they were infectious for HIV and HBV or other bloodborne pathogens


**Potential Hazard**

Exposure to bloodborne pathogens because employees are not using Universal Precautions.

Slide 9

**Possible Solutions -**

➤ Treat all blood and other potentially infectious materials with appropriate precautions.



Implement Universal Precautions according to the Bloodborne Pathogens Standard:

Treat all blood and other potentially infectious materials with appropriate precautions such as:

Use gloves, masks, and gowns if blood or OPIM exposure is anticipated.


Use engineering and work practice controls to limit exposure.

There are other concepts in infection control that are acceptable alternatives to universal precautions, such as Body Substance Isolation (BSI) and Standard Precautions. These methods define all body fluids and substances as infectious and incorporate not only the fluid and materials covered by the Bloodborne Pathogens Standard, but expand coverage to include all body fluids and substances.

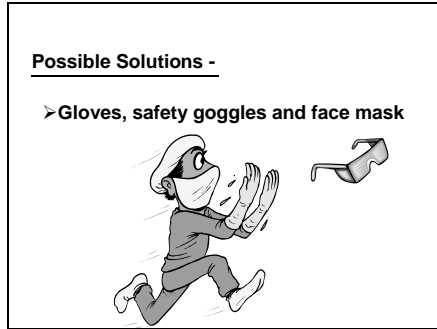
Slide 10

**Personal Protective Equipment (PPE)**

**Potential Hazard -**



Exposure to blood and other potentially infectious material (OPIM) due to an ineffective PPE program.



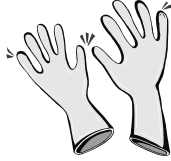
Appropriate Use of PPE:  
Personal Protective Equipment (PPE) is required by the Bloodborne Pathogens Standard (if exposure to blood and OPIM is anticipated and where occupational exposure remains, after institution of engineering and work practice controls. Gloves must be worn when hand contact with blood, mucous membranes, OPIM, or non-intact skin is anticipated, and when performing vascular access procedures, or when handling contaminated items or surfaces. Employers must ensure that employees wash their hands after contact with blood or OPIM. Employers must provide readily accessible hand washing facilities. Employers must ensure that employees wash hands and any other skin with soap and water or flush mucous membranes with water as soon as feasible after contact with blood or other potentially infectious materials (OPIM). Disposal of PPE Protective clothing must be removed before leaving the room, and disposed of in an appropriately designated area or container for storage, washing, decontamination or disposal.

Slide 12

**Latex Allergy**

**Potential Hazard -**

➤ Latex sensitivity or allergy




Developing latex sensitivity or latex allergy from exposure to latex in products like latex gloves.

Slide 13

**Possible Solutions -**

➤ Alternatives shall be readily accessible to those employees who are allergic to the gloves



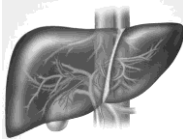
Employers must provide appropriate gloves when exposure to blood or other potentially infectious materials (OPIM) exists. Alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.

Slide 14

**Hepatitis B Virus**

**Potential Hazard -**

➤ Hepatitis – an inflammation of the liver that can lead to liver damage



Hepatitis is an inflammation of the liver that can lead to liver damage and/or death. The CDC estimates 800 healthcare workers became infected with HBV in 1995. This figure represents a 95% decline in new infections from the 1983 figures. The decline is largely due to the immunization of workers with the Hepatitis B vaccine, and compliance with other provisions of OSHA's Bloodborne Pathogens Standard.

**Potential Hazard**

Exposure to potentially fatal



bloodborne illnesses such as Hepatitis B Virus (HBV).

Hepatitis is much more transmissible than HIV.

Risk of infection from a single needlestick is 6%-30% (CDC, 1997).


50% of the people with HBV infection are unaware that they have the virus.

The CDC states that HBV can survive for at least one week in dried blood on environmental surfaces or contaminated needles and instruments.

Slide 15

Possible Solutions -

- Prevent the exposure in the first place
- Employers must offer the hepatitis B vaccination.



Prevent the exposure in the first place by implementing an effective Exposure Control Plan as required by the Bloodborne Pathogens Standard.

Employers must offer to all employees who have occupational exposure to blood or OPIM, under the supervision of a licensed physician the **hepatitis B vaccination**, unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons, at no cost to employee, at a reasonable time and place:

After the employee has received the required training.

Within 10 working days of initial assignment.

Those declining the Hepatitis B vaccine must sign a declination statement. A sample declination form is available.

OSHA provides a non-

mandatory sample form: Written Opinion for Hepatitis B vaccination.

Healthcare workers who have ongoing contact with patients or blood and are at ongoing risk for injuries with sharp instruments or needlesticks must be offered testing for antibody to Hepatitis B surface antigen one to two months after the completion of the three-dose vaccination series.

Employees who do not respond to the primary vaccination series must be offered a second three dose vaccine series and retesting. Non-responders must be offered medical evaluation. Following a report of an exposure incident the employer shall make immediately

available to the exposed employee a confidential medical evaluation and follow-up.

If a worker is exposed to HBV, timely post-exposure follow-up with hepatitis b immune globulin and initiation of hepatitis b vaccine which must be offered, are more than 90% effective in preventing HBV infection.

A healthcare professional's written opinion is required after an exposure incident.

OSHA provides a non-mandatory sample form: Written Opinion for Post-Exposure Evaluation.


The updated standard also requires employers to maintain a log of injuries from contaminated sharps.

Slide 16

**Human Immunodeficiency Virus (HIV)**

**Potential Hazard -**

➤ Exposure to HIV can be potentially fatal.



HIV infection has been reported following occupational exposures to HIV-infected blood through needlesticks or cuts; splashes in the eyes, nose, or mouth; and skin contact. Most often, however, infection occurs from needlestick injury or cuts.

**Potential Hazard**


Exposure to potentially fatal bloodborne illnesses such as HIV.

Risk of HIV infection after needlestick is 1 in 3000 or 0.3%. The CDC documented 55 cases and 136 possible cases of occupational HIV transmission to US healthcare workers between 1985 and 1999.

Slide 17

**Possible Solutions -**

➤ Prevent the exposure



Prevent the exposure by implementing an effective Exposure Control Plan as required by OSHA's Bloodborne Pathogens Standard.

Under certain circumstances post-exposure prophylaxis for HIV must be provided to healthcare workers who have an exposure incident.

Limited data suggests that such prophylaxis may considerably reduce the chance of becoming infected with HIV. However, the drugs used for prophylaxis have many adverse side effects.

No vaccine currently exists to prevent HIV infection, and no treatment exists to cure it.

Employees who have an incident must be offered a confidential medical evaluation and follow-up.

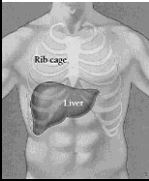
A healthcare professional's written opinion is required after

an exposure incident non-mandatory sample form is available: Written Opinion for Post-Exposure Evaluation. The updated standard also requires employers to maintain a log of injuries from contaminated sharps.

Slide 18

### Hepatitis C Virus (HCV)

Potential Hazard -



- Potentially fatal liver disease
- Leading reason for liver transplants

HCV infection is the most common chronic bloodborne infection in the United States, affecting approximately 4 million people. Hepatitis C infection is caused most commonly by needlestick injuries. HCV infection often occurs with no symptoms, but chronic infection develops in 75% to 85% of patients, with 70% developing active liver disease (CDC 1998).

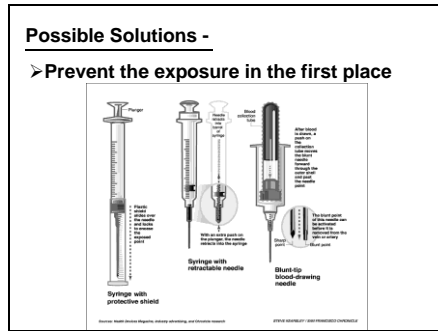
#### **Potential Hazard**

Exposure to potentially fatal bloodborne illnesses such as Hepatitis C Virus (HCV), which is:

A major cause of chronic liver disease.

The leading reason for liver transplants in the United States in 1997 (CDC).

Slide 19



Prevent the exposure in the first place by implementing an effective Exposure Control Plan as required by OSHA's Bloodborne Pathogens Standard.

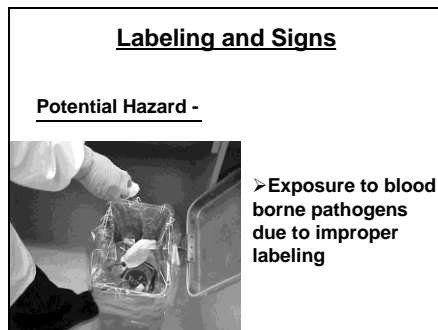
Employees who have an exposure incident shall be offered a confidential medical evaluation and follow-up.

A healthcare professional's written opinion is required after an exposure incident.

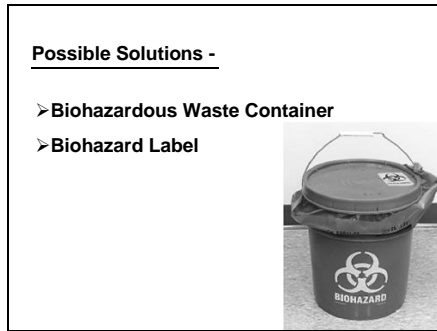
A non-mandatory sample form is available: **Written Opinion for Post-Exposure Evaluation.**

No vaccine is available for hepatitis C. Immunoglobulin or antiviral therapy is not recommended and no effective post-exposure prophylaxis is known at this time (CDC 1998).

Slide 20



Exposure to bloodborne pathogens due to improper labeling of potential hazards. Disposal of contaminated I.V. tubing into a biohazardous waste container. Biohazard label on regulated waste containers. Individual units of blood, for transfusion.



Implement labeling and signs required by OSHA's Bloodborne Pathogens Standard, such as:

**Biohazardous Waste**

**Container:** Regulated waste, such as I.V. tubing used to administer blood, contaminated PPE, and needles etc., must be disposed of into appropriately labeled biohazardous waste containers.

**Biohazard Label:** Containers that contain regulated waste, (contaminated PPE, needles, etc.), must bear the biohazard symbol.

These labels shall be fluorescent orange or orange-red, with lettering and symbols in a contrasting color.


Red bags or red containers may be substituted for labels.

**Exception for Blood Products:** Individual containers of blood, blood components or products that are labeled as to their contents and have been released for transfusion or other clinical use need not be labeled as hazardous.

Individual containers of blood or OPIM need not be labeled if placed in a labeled container for storage, transport, shipment or disposal.

**Ergonomics**

**Potential Hazards -**



- Mismatch between the physical requirements of the job and the physical capacity of the worker
- Musculoskeletal disorders (MSDs) can result

Ergonomics is the science of fitting the job to the worker. When there is a mismatch between the physical requirements of the job and the physical capacity of the worker, work-related musculoskeletal disorders (MSDs) can result. Ergonomics is the practice of designing equipment and work tasks to conform to the capability of the worker, it provides a means for adjusting the work environment and work practices to prevent injuries before they occur. Health care facilities especially nursing homes have been identified as an environment where ergonomic stressors exist.

**Potential Hazard**


Employee exposure to work related MSDs from ergonomic stressors that have not been effectively identified and addressed in a facilities safety and health program.

Many patients/residents (especially nursing home residents) are totally dependent on staff members to provide activities of daily living, such as dressing, bathing, feeding, and toileting. Each of these activities involve multiple interactions with handling or transferring of patients/residents and could result in employee injuries. Employee injuries lead to increased injury costs, higher turnover rates, increased sick/injured days, and staffing shortages.

Slide 23

**Possible Solutions -**

- Minimize/ eliminate manual lifting of patients
- Identify & address ergonomic stressors



Minimize manual lifting of patients/residents in all cases and eliminating lifting when possible.  
Identify and address ergonomic stressors in your facility's safety and health plan.

Slide 24

**Other Areas to be Addressed -**

- Management Leadership
- Employee Participation
- Accident and Record Analysis
- Hazard Prevention and Control
- Medical Management
- Training

**Management Leadership/Employee Participation:**  
**Management Leadership** should demonstrate a commitment to reduce or eliminate patient/residents handling hazards through establishing a written program that addresses issues, such as:

- Continued training of employees in injury prevention.
- Methods of transfer and lifting to be used by all staff.
- Compliance with transfer and lift procedures.
- Procedures for reporting



early signs and symptoms of back pain and other musculoskeletal injuries.

**Employee Participation** should include:

- Complaint/suggestion program which includes employee reports of unsafe working conditions.
- Prompt reporting of signs and symptoms as well as injuries.

**Workplace Analysis** to identify existing and potential workplace hazards and find ways to correct these hazards. Assessment of work tasks involves an examination of duration, frequency, and magnitude of exposure to ergonomic stressors such as force, repetition, awkward postures, vibration and contact stress to determine if employees are at risk of pain or injury. Observation, workplace walkthroughs, talking with employees and periodic screening surveys are used to help identify hazards such as stressful tasks.

#### **Accident and Record**

**Analysis:** Records of injuries and illnesses should be analyzed to identify patterns of injury that occur over time, enabling the hazards to be addressed and prevented. This includes reviewing OSHA 300 logs, OSHA 301 forms and Workers' Compensation reports.

**Hazard Prevention and Control** including implementing administrative and engineering controls.

#### **Administrative controls:**

Provide for adequate staffing,

assessment of patient/residents needs, and restricted admittance policies.

**Engineering controls:** Help to isolate or remove the hazards from the workplace, for example providing proper selection, training, and use of assist devices or equipment.

**Medical Management:** A medical management program, supervised by a person trained in the prevention of musculoskeletal disorders, should be in place to manage the care of those injured. The program should:

- Accurate injury and illness recording.
- Early identification and treatment of injured employees.
- "Light duty" or "no lifting" work restrictions during recovery periods.
- Systematic monitoring of injured employees to identify when they are ready to return to regular duty.

**Training:** A training program, designed and implemented by qualified persons, should be in place to provide **continual** education and training about ergonomic hazards and controls to managers, supervisors and all healthcare providers, including "new employee" orientation. Training should be updated and presented to employees as changes occur at the workplace, and be at a level of understanding appropriate for those individuals being trained, and should also include:

- The opportunity to ask questions of the trainer.

- An overview of the potential risks, causes, and symptoms of back injury and other injuries. Be able to identify existing ergonomic stressors and methods of control, such as the use of engineering, administrative, and work practice controls particularly safe resident handling techniques.
- Recognizing the signs and symptoms of MSDs and the procedures for reporting potential problems.
- Encouragement of staff physical fitness.

**Lifting guidelines** for health care workers (nurse assistants, licensed practical nurses, registered nurses) which should include:

Never transfer patients/residents when off balance.

Lift loads close to the body.

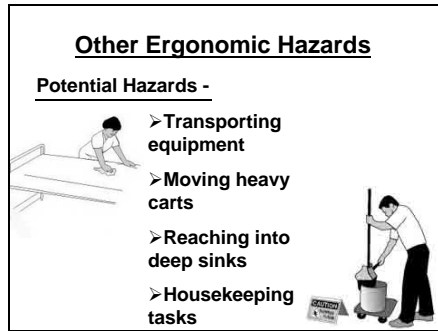
Never lift alone, particularly fallen patients/residents, use team lifts or use mechanical assistance.

Limit the number of allowed lifts per worker per day.

Avoid heavy lifting especially with spine rotated.

Training in when and how to use mechanical assistance.

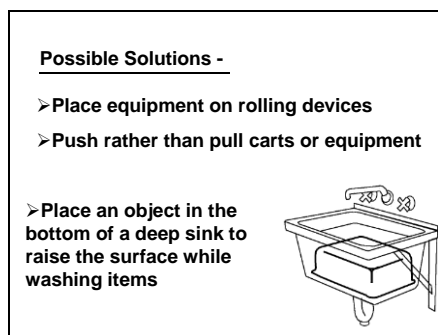
Slide 25



Employee exposure to ergonomic stressors in healthcare workplaces occurs not only during patient/residents handling tasks but while performing other tasks as well in the kitchen, laundry, engineering, and housekeeping areas of facilities, for example during:

Transporting of equipment, moving food carts or other heavy carts, pouring liquids out of heavy pots or containers, reaching into deep sinks or containers, using hand tools, and during housekeeping tasks.

Slide 26



**Use engineering or work practice techniques to eliminate the hazard or decrease the hazard for example:**

**Transferring Equipment:**

Strains and sprains can occur if employee is transferring equipment like IV poles, wheelchairs, oxygen canisters, respiratory equipment, dialysis equipment, x-ray machines, or multiple items at the same time.

To reduce the hazards of transferring equipment: Place equipment on a rolling device if possible to allow for easier transport, or have wheels attached to the equipment.

- Push rather than pull equipment when possible. Keep arms close to your body and push with your whole body not just your arms.
- Assure that passageways are unobstructed.

- Attach handles to equipment to help with the transfer process.
- Get help moving heavy or bulky equipment or equipment that you can't see over.
- Don't transport multiple items alone for example if moving a patient/residents in a wheelchair as well as an iv pole and/or other equipment get help, don't overexert yourself.

**Reaching into deep sinks or containers:** If washing dishes, laundry, or working in maintenance areas and using a deep sink, limit excessive reaching and back flexion by:  
Placing an object such as a plastic basin in the bottom of the sink to raise the surface up while washing items in the sink or  
Remove objects to be washed into a smaller container on the counter for scrubbing or soaking and then replace back in the sink for final rinse.

**Limit reaching or lifting hazards when lifting trash, laundry or other kinds of bags by:** Using handling bags for laundry, garbage, and housekeeping when possible that have side openings to allow for easy disposal without reaching into and pulling bags up and out. The bags should be able to slide off the cart without lifting.

- Limiting the size and weight of these bags and provide handles to further decrease lifting hazards.
- Using garbage cans that have a frame vs. a solid can to prevent plastic bags from

sticking to the inside of the can or use products that stick to the inside of the garbage can that prevent the bag from sticking.

- Limit the size of the container to limit the weight of the load employee must lift and dump.

- Place receptacles in unobstructed and easy to reach places.

- Installing chutes and dumpsters at or below grade level.

- Using spring-loaded platforms to help lift items such as laundry keeping work at a comfortable uniform level.

- **Limit reaching and pushing hazards from moving heavy dietary, laundry, housekeeping or other carts**

**by:** Keeping carts, hampers, gurneys, or other carts well maintained to minimize the amount of force exerted while using these items.

- Using carts with large, low rolling resistance wheels. These can usually roll easily over mixed flooring as well as gaps between elevators and hallways.

- Keeping handles of devices to be pushed at waist to chest height.

- Using handles to move carts rather than the side of the cart to prevent the accidental smashing of hands and fingers.

- Keeping floors clean and well maintained.

- Pushing rather than pulling whenever possible.

- Removing from use all malfunctioning carts.


- Getting help with heavy or bulky loads.

### **Using Hand Tools in maintenance areas:**

Limit strains and sprains of the wrists, arms, and shoulders, of maintenance workers by choosing hand tools carefully hand tools should:

- Be properly designed, and fit to the user.
- Have padded non-slip handles.
- Allow the wrist to remain straight while doing finger intensive tasks. Select ergonomic tools such as ergonomic knives or bent-handled pliers.
- Have minimal tool weight.
- Have minimal vibration or use vibration dampening devices and vibration-dampening gloves.
- Use trigger bars rather than single finger triggers.
- Not be used when performing highly repetitive manual motions by hand, use power tools (e.g., use power screwdrivers instead of manual screwdrivers).

Slide 27



#### Housekeeping Tasks

- Alternate leading hand
- Clean objects at waist level, if possible
- Use knee pads when kneeling
- Use tools with extended handles to limit overhead reaching
- Alternate tasks or rotate employees
- Use carts to transport supplies rather than carrying.

### **Housekeeping Tasks: To**

decrease ergonomic stressors when employees are performing cleaning tasks employees should:

- Alternate leading hand.
- Avoid tight and static grip and use padded non-slip handles.
- Clean objects at waist level if possible, rather than bending over them (e.g., push wheelchairs up a ramped platform to perform cleaning work, or raise beds to waist level before cleaning).
- Use knee pads when kneeling
- Use tools with extended

handles, or use step stools or ladders to avoid or limit overhead reaching.


- When sweeping or dusting use flat head dusters and push with the leading edge; sweep all areas into one pile and pick up with a vacuum.
- Use chemical cleaners and soaks to minimize force needed for scrubbing.
- Frequently change mopping styles when mopping (e.g., push/pull, figure 8, and rocking side to side) to alternate stress on muscles.
- Be sure buckets, vacuums, and other cleaning tools, have wheels or are on wheeled containers with functional brakes.
- Alternate tasks or rotate employees through stressful tasks.
- Avoid awkward postures while cleaning (e.g. twisting and bending).
- Use carts to transport supplies rather than carrying.
- Use buffers and vacuums that have lightweight construction and adjustable handle heights.
- Use spray bottles and equipment that have trigger bars rather than single finger triggers.



Slide 28

**Patient Handling Controls**

**Potential Hazards -**



➤ Handling, transferring and repositioning of patients/residents


Employee exposure to injury from ergonomic stressors during handling, transferring and repositioning of patients/residents. Hospital health care workers (especially nursing assistants, who do a majority of the lifting in many facilities) may develop musculoskeletal injuries such as muscle and ligament strain and tears, joint and tendon inflammation, pinched nerves, herniated discs and others from patient/residents handling.

Slide 29

**Possible Solutions -**

➤ Minimize manual lift and


➤ Eliminate lifting when possible



Good work practice includes continually identifying the most hazardous tasks and implementing engineering and work practice controls to help reduce or prevent injuries in those tasks. Remember to minimize manual lifting of patients in all cases and eliminate lifting when possible. Provide employees with proper assist devices and equipment to reduce excessive lifting hazards. Proper equipment selection depends on the specific needs of the facility, patients/residents, staff, and management.

**Proper Assist Devices and Equipment**

- Shower chairs to fit over toilets
- Shower stalls that allow for shower chairs
- Toilet seat risers
- Mechanical lift equipment
- Overhead track mounted patient lifters



**For example, implement the use of:**

**Shower chairs that fit over the toilet,** using this device can eliminate multiple transfers, saving health care workers multiple lifts. A patient/residents can be moved to the shower chair, toileted, showered, and transferred back to the wheelchair.

**Shower stalls that allow for shower chairs** to be pushed in and out on level floor surfaces. This is a standard shower without the front lip to allow for easy access.

**Other** bathing systems include: Bath Cabinets and Adjustable Tubs.

**Toilet seat risers:** Use toilet seat risers on toilets to equalize the height of wheelchair and toilet seat, making it a lateral transfer rather than a lift up and back into wheelchair.

**Mechanical lift equipment** to help lift patients/residents who cannot support their own weight. Choose a lift that does not require manual pumping to avoid possible repetitive motion disorders to workers' arms or shoulders.

**Lift equipment** can be categorized into 2 main categories:

Lean-Stand Assist Lift

Sling-Type Full Lift

**Overhead track mounted patient lifters:** A tract system built into the ceiling that sling lifts attach to. This system provides patient/residents mobility from room to room without manual lifting.

Slide 31

**Proper Assist Devices and Equipment, contd.**

- Lateral transfer devices
- Sliding boards
- Slip sheets/ Roller sheets
- Repositioning devices
- Height adjustable beds
- Trapeze lifts
- Walking belts or gait belts



**Lateral transfer devices:**

Devices used to laterally transfer a patient/residents for example from bed to gurney. They usually involve multiple staff members to help do the lifting. This is often done with the help of a draw sheet, or similar device. Some new lateral transfer systems do not require any lifting by staff, and are totally mechanical. This type of device helps prevent staff back injuries.

**Sliding boards:** A slick board used under patients/residents to help reduce the need for lifting during transfer of patient/residents from bed to chair, or chair to car. Patients/residents are slid rather than lifted.

**Slip sheets/Roller sheets:** Help to reduce friction while laterally transferring patients/residents or repositioning patients/residents in bed and reduce the force workers need to exert to move the patient/residents.

**Repositioning Devices:**

Mechanically pulls patient/residents up in bed eliminating manual maneuvering

by staff.

**Height adjustable electric beds** that have height controls to allow for easy transfers from bed height to wheelchair height.

These beds can be kept low to the ground for patient/residents safety and then raised up for interaction with staff. Avoid hand cranked beds, which can lead to wrist/shoulder musculoskeletal disorders such as strain or repetitive motion injuries.

**Trapeze lifts:** A bar device suspended above the bed which allows patients/residents with upper muscle strength to help reposition themselves. This device is particularly useful with adjustable beds and armless wheelchairs.

**Walking belts or gait belts (with handles)** that provide stabilization for ambulatory patients/residents by allowing workers to hold onto the belt and support patients/residents when walking. Not designed for lifting patients/residents.

Slide 32

**Proper Assist Devices and Equipment, contd.**

- Wheelchairs with removable arms
- Sitting-standing wheelchairs
- Descent Control System (DCS)
- Patient care plans
- Roll on weight scale
- Back belts



**Wheelchairs with removable arms** to allow for easier lateral transfers. Especially useful with height adjustable beds.

**Sitting-standing wheelchairs:** Wheelchairs that provide  
➤ sitting-to-standing options for patients/residents and health care workers.

**Descent Control System (DCS):** Emergency evacuation or retrieval from older or disabled structures may require using stairs or negotiating rough terrain

when moving patients. These devices allow ambulance technicians or emergency evacuation personnel to safely move a loaded hospital cot or gurney down stairs or any steep decline. The Device easily attaches to any ambulance cot currently in the pre-hospital care market. When not in use, the DCS simply folds up and out of the way.

**Patient care plans:** A written care plan that describes specific patient/residents needs, degree of assistance required, special treatments etc. Possible scenarios include:

Color coding of patient/residents lift requirements for posting at bedside. By simply looking at displayed color coding system an employee can know what kind of assistance the patient/residents will need with moving or transfers.

Segregation of patients/residents based on need so equipment and trained staff are appropriately assigned.

Staggered staffing to provide additional manpower for peak periods.

**Roll on weight scale:**

Patients/residents who cannot stand can be weighed in their wheelchairs.

**Pivot transfer disk devices:**

Used for standing pivot transfers and seated pivot transfers for patients/residents that have weight bearing capacity and are cooperative.


**Back belts:** The effectiveness of back belts in reducing the risk of back injury among healthy

workers remains unproven. If workers falsely believe that they are protected when wearing belts they may attempt to lift more weight than they would have without a belt, risking potential injury.

Slide 33

**Trips/ Slips/ Falls**

**Potential Hazards**



- Slippery or wet floors
- Uneven floor surfaces
- Lifting in confined spaces
- Cluttered or obstructed work areas/passageways

**Trip/slips and falls from spills or environmental hazards.**


Environmental hazards such as:

- Slippery or wet floors.
- Uneven floor surfaces.
- Lifting in confined spaces.
- Cluttered or obstructed work areas/passageways.
- Poorly maintained walkway or broken equipment.
- Inadequate staffing levels to deal with the workload, leading to single person lifts and greater chances of falls.
- Inadequate lighting, especially during evening shifts.

Slide 34

Possible Solutions

- Eliminate uneven floors
- Create non-slip surfaces
- Clean up spills immediately
- Eliminate clutter



**Good work practice includes implementing engineering and work practices controls to help prevent slips/falls such as:**

Eliminate uneven floor surfaces.

Create non slip surfaces in toilet/shower areas.

Immediate clean-up of fluids spilled on floor.

Safely working in cramped working spaces-avoiding awkward positions, using equipment that makes lifts less awkward.


Eliminate cluttered or obstructed work areas.

Provide adequate staffing levels to deal with the workload.

Slide 35

Awkward Postures

Potential Hazards



Twisting while lifting

Back flexion

**Awkward postures occur with twisted, hyper-extended or flexed back positions. They are unsafe back postures for patient/residents lifting.**

Increased potential for employee injury exists when awkward postures are used when handling or lifting patients/residents. Awkward postures include:


- Twisting while lifting.
- Bending over to lift
- Lateral or side bending.
- Back hyperextension or flexion.
- Forces on the spine increase when lifting, lowering or handling objects with the back bent or twisted. This occurs because the muscles must handle your body weight in addition to the weight of the patient/residents being lifted.

- More muscular force is required when awkward postures are used because muscles cannot perform efficiently.
- Fixed awkward postures (i.e., holding the arm out straight for several minutes) contribute to muscle and tendon fatigue, and joint soreness.
- To be considered a risk factor, awkward postures need to last more than 1 hour continuously or for several hours in the work shift.
- Reaching forward or twisting to support a patient/residents from behind to assist them in walking.

Slide 36

Possible Solutions

- Good work practices
- Train employees
- Use assist devices
- Team lifting



Good work practice recommends avoiding awkward postures while lifting or moving patients/residents.

- Educate and train employees about safer lifting techniques.
- Use assist devices or other equipment whenever possible.
- Team lifting based on assessment.




Slide 37

**Electrical Hazards**

**Potential Hazards**

Possible electric shock with electrical hazards from:




- Faulty electrical equipment or wiring
- Damaged receptacles and connectors
- Unsafe work practices.

Employee exposure to electrical hazards including electric shock, electrocutions fires, and explosions. Damaged electrical cords can lead to possible shocks or electrocutions. A flexible electrical cord may be damaged by door or window edges, by staples and fastenings, by equipment rolling over it, or simply by aging. Possible electrocution or electric shock or contact with electrical hazards from:  
Faulty electrical equipment/machinery or wiring.  
Damaged receptacles and connectors.  
Unsafe work practices.

Slide 38

**Possible Solutions**

- Ground Fault Circuit Interrupters (GFCIs)
- Establish an Assured Equipment Grounding Conductor Program



Electrical equipment shall be free from recognized hazards. Listed or labeled equipment shall be used or installed in accordance with any instructions included in the listing or labeling. Sufficient access and working space shall be provided and maintained around all electric equipment to permit ready and safe operation and maintenance of such equipment. Ensure that all electrical service near sources of water is properly grounded. Tag out and remove from service all damaged receptacles and portable electrical equipment. Repair all damaged receptacles and portable electrical equipment before placing them back into service. Ensure that employees are

trained not to plug or unplug energized equipment when their hands are wet.

Use safeguards for personnel protection and electrical protective equipment.

Select and use appropriate work practices.



Follow requirements for Hazardous Classified Locations.

Employers should use ground-fault circuit interrupters (GFCIs) on all 120-volt, single-phase, and 15- and 20-ampere receptacles.

Wear and tear on electrical equipment or tools can result in insulation breaks, short-circuits and exposed wires. If there is no ground-fault protection, these can cause a ground-fault that sends current through the worker's body, resulting in electrical burns, explosions, fire, or death.

The ground-fault circuit interrupter, or GFCI, is a fast-acting circuit breaker designed to shut off electric power in the event of a ground-fault and prevent injury to the worker.

## Slide 39

<b><u>Stress</u></b>	
<b><u>Potential Hazards</u></b>	
➤ Overwork, understaffing, tight schedules, paperwork,	
➤ Intricate or malfunctioning equipment,	
	➤ Complex hierarchies of authority and skills,
	➤ Dependent and demanding patients,
	➤ Patient deaths


Hospital work often requires coping with some of the most stressful situations found in any workplace. Hospital workers must deal with life-threatening injuries and illnesses complicated by overwork, understaffing, tight schedules, paperwork, intricate or malfunctioning equipment, complex hierarchies of authority and skills, dependent and demanding patients, and patient deaths; all of these contribute to stress.

**Health Effects:** Stress has been associated with loss of appetite, ulcers, mental disorder, migraines, difficulty in sleeping, emotional instability, disruption of social and family life, and the increased use of cigarettes, alcohol, and drugs. Stress can also affect worker attitudes and behavior. Some frequently reported consequences of stress among hospital workers are difficulties in communicating with very ill patients, maintaining pleasant relations with coworkers, and judging the seriousness of a potential emergency.

Slide 40

Possible Solutions

- Address some other work- related stressors
- Establish stress management programs
- Provide counseling & group therapy
- Provide adequate staffing
- Provide flexible shift schedules



Some of the methods that have successfully reduced hospital worker stress and job dissatisfaction include:

Educate employees and management about job stress.

Address work-related stressors, such as inadequate work space, unreasonable work load, lack of readily available resources, inadequate and unsafe equipment.

Establish regular staff meetings and discussions to communicate feelings, gain support, and share innovative ideas.

Establish stress management programs.

Provide readily available counseling from a nonjudgmental source.

Provide flexibility and innovation by supervisors to create alternative job • arrangements.

Provide adequate staffing.

Provide reasonable shift

schedules for house staff to allow adequate time for sleep each day.

Provide group therapy for staff with particularly difficult professional problems such as dealing with cancer patients, chronic illness, and death.

Provide an organized and efficient work environment.

Recognize and take action on legitimate complaints regarding overbearing physicians and supervisors.

The use of individual approaches such as relaxation exercises and biofeedback to relieve symptoms of stress until the sources are identified and evaluated.

Provide frequent in-service educational sessions and other opportunities to improve skills and confidence.

Provide more flexibility and worker participation in scheduling (possibly a 10 hr, 4-day workweek).

Provide scheduled rotation of unit assignments.

Establish programs to address workplace stress, such as: Employee Assistance Programs (EAP), or Organizational Change Programs.

An employee assistance program (EAP) can improve the ability of workers to cope with difficult work situations. Stress management programs teach workers about the nature and sources of stress, the effects of stress on health, and personal skills to reduce stress-for example, time management or relaxation exercises.

EAPs also provide individual

counseling for employees for both work and personal problems.  
Change in hospital policies and procedures to reduce organizational sources of stress. This is done by bringing in a consultant to recommend ways to improve working conditions. This approach is the most direct way to reduce stress at work. It involves the identification of stressful aspects of work (e.g., excessive workload, conflicting expectations) and the design of strategies to reduce or eliminate the identified stressors. Some strategies include:  
Ensure that the workload is in line with workers' capabilities and resources.  
Design jobs to provide meaning, stimulation, and opportunities for workers to use their skills.  
Clearly define workers' roles and responsibilities.  
Give workers opportunities to participate in decisions and actions affecting their jobs.

Slide 41

#### **Violence Prevention Plan**

##### **Potential Hazards**

- Exposure to violent patients and/or family members
- In 1999 - estimated rate of 8.3 nonfatal assaults per 10,000 hospital workers
- Estimate rate of nonfatal assaults for private-sector industries - 2 per 10,000 workers

In 1999 Bureau of Labor Statistics estimate 2,637 nonfatal assaults on hospital workers-a rate of 8.3 assaults per 10,000 workers. This rate is much higher than the rate of nonfatal assaults for all private-sector industries, which is 2 per 10,000 workers.

#### **Potential Hazard**

Exposure to workplace violence because no violence prevention program was in place to help reduce hazards.

Slide 42

Possible Solutions

Establish a Violence Prevention Program

- Make available to all employees, and provide specific training of its content
- Track progress in reducing work-related assaults
- Reduce severity of injuries sustained by employees
- Decrease threat to worker safety
- Reflect the level and nature of threat

It is recommended that employers establish and maintain a violence prevention program as part of their facility's safety and health program. The prevention program should:

- Be made available to all employees, including managers and supervisors; and all employees should receive specific training concerning its content and implementation.
- Track their progress in reducing work-related assaults,
- Reduce the severity of injuries sustained by employees,
- Decrease the threat to worker safety.
- Reflect the level and nature of threat faced by employees.

Slide 43

Violence Prevention Written Plan

- Management Commitment and Employee Involvement
  - Demonstrates concern for employee safety and health
- Worksite Analysis
- Hazard Prevention and Control
- Safety and Health Training
- Recordkeeping and Evaluation

The main components that should be included in a facility's Violence Prevention Program are:

**Management Commitment and Employee Involvement:**

Demonstrated concern for employee emotional and physical safety and health, incorporated into a written program for safety and security.

**Worksite Analysis:** A step by step common sense look at the workplace to find existing or potential hazards for workplace violence.

**Hazard Prevention and**

**Control:** Implementation of engineering and work practices to prevent and control identified hazards.

**Safety and Health Training:** To make all staff aware of security hazards and how to protect themselves through established

policies, procedures and training.  
**Recordkeeping and Evaluation  
of Program**

Slide 44

**Violence Prevention Written Plan**

- States that violence, verbal and nonverbal threats will not be tolerated
- Ensures that reprisals are not taken against employees who report workplace violence
- Encourages reporting of all violent incidents
- Recordkeeping of incidents to assess risk and to measure progress
- Establishes plan for maintaining security in workplace

**Violence Prevention Written**

**Plan:** To prevent workplace violence a written program should incorporate the above areas and state clear goals and objectives suitable to the size and complexity of the given workplace.

Although not every incident can be prevented, many can be, and the severity of injuries sustained by employees reduced by following a violence prevention plan.

"Universal Precautions" for violence, states that violence should be expected but can be avoided or mitigated through preparation.

A violence prevention written plan:

Creates and disseminates a clear policy that violence, verbal and nonverbal threats, and related actions, will not be tolerated.

Ensures that no reprisals are taken against employees who report or experience workplace violence.

Encourages prompt reporting of all violent incidents and

recordkeeping of incidents to assess risk and to measure progress.  
Establishes a plan for maintaining security in the workplace which includes law enforcement officials and other specialists.

Slide 45



Slide 46

