

SAFETY SHOWERS AND EYE WASHES

COURSE OUTLINE

- **"Accidents happen"... we hear that expression all the time.**
- **But when it comes to hazardous materials, accidental exposures can create serious problems.**
 - The results can sometimes be tragic.
- **HAZMATs that get onto your skin or into your eyes can cause severe injuries, including burns and blindness ...even death.**
 - So you need to be prepared to wash off hazardous materials as soon as possible after you are exposed to them.
- **That's where safety showers and eye washes come in.**
 - In an emergency this equipment dilutes and flushes HAZMATs away, helping to lessen the severity of any injuries, or preventing them altogether.
- **In this program, we will discuss:**
 - How safety showers and eye washes work.
 - The safety standards that address their design, installation and use.
 - How to use the equipment effectively if you or a coworker are exposed to a HAZMAT.
- **Every day, employees at companies across the country handle hazardous materials.**
- **These substances can include:**
 - Irritants such as solvents, detergents and de-greasers.
 - Toxic materials like chemical reagents, insecticides, herbicides and petroleum products.
 - Corrosives such as acids and caustics.
- **Companies that handle HAZMATs are required to implement policies and procedures to help their employees work with them safely.**
 - But you still need to be prepared for trouble if it occurs.
- **One way to prevent injuries that result from contact with harmful substances is to install safety showers and eye washes in the areas where they are used.**

- **This equipment discharges large amounts of water or other fluids to first dilute and then flush away harmful contaminants.**
 - Safety showers can drench the whole body.
 - Eye washes can gently rinse one or both eyes.
 - "Combination" equipment can get water to multiple areas at the same time.
- **Some of these units are permanently "plumbed-in" so that they have a continual supply of water, while "standalone" and portable types have their own fluid reservoirs.**
 - The liquid that is discharged by the showers and eye washes is often normal drinking water.
 - "Preserved" water or buffered saline solutions are also sometimes used.
- **But more important than the type of fluid that is used is the need to flush the HAZMAT away as soon as possible after exposure occurs.**
 - Prompt decontamination can be especially important if someone is exposed to materials that are corrosive.
- **Corrosive substances can actually destroy body tissue and cause burns, permanent scarring, blindness, even death.**
- **The Occupational Health and Safety Administration (OSHA) has established a standard that requires employers to provide "suitable facilities for quick drenching or flushing of the eyes and body" in work areas where employees handle corrosives.**
 - Workers in these areas should also receive training on how to use the equipment, and practice getting to it quickly.
- **In some situations, a HAZMAT that gets into your eyes could make it difficult for you to see where you are going.**
 - Everyone should practice finding and operating showers and eye washes blindfolded, to ensure that they can access the equipment even when their vision is impaired.
- **While OSHA establishes the requirements for safeguarding employees against hazardous materials, the standards for the design and function of the showers and eye washes themselves have been established by the American National Standards Institute, "ANSI".**

- **These voluntary ANSI standards address a number of things.**
 - They require safety showers and eye wash stations to be located within a 10-second walk of any area where HAZMATs are used.
 - They specify that the area around these devices should be well-lit, so they are easy to locate and get to.
- **The pathways from the areas where HAZMATs are handled to a facility's showers and eye washes must not be obstructed by other equipment, materials, furniture or debris either.**
 - Any doors located along the routes should swing outward in the direction of the device.
- **As for their design, the showers and eye washes themselves should be configured so that a user can activate them in less than a second, with a single motion.**
 - When the activator is released, the flow of water must continue.
- **This "hands-free" operation is needed so that a person can use both hands to:**
 - Hold their eyes open at an eye wash station.
 - Remove contaminated clothing when they are under a safety shower.
- **The ANSI standards also state that all decontamination equipment should be inspected, tested and maintained on a regular basis, to ensure that it will work properly when it's needed.**
- **All decontamination devices should discharge water for at least 15 minutes at a pressure of 30 PSI.**
 - For safety showers, the rate of flow should be 20 gallons per minute.
 - For eye washes, the rate is four tenths of a gallon per minute.
 - Combination units should be able to discharge water at these rates from all of their nozzles at the same time.
- **While rinsing your eyes or body with cold water might feel refreshing at first, over time it can become very uncomfortable.**
- **So to encourage users to rinse for a full 15 minutes, ANSI specifies that the temperature of the water discharged by an eye wash or shower be "tepid".**
 - That is somewhere between 60 and 100 degrees Fahrenheit.

- **If some type of HAZMAT comes into physical contact with your body, it's natural to be upset about it.**
 - You may feel shock, anger, fear or all of the above.
- **To deal effectively with an accidental exposure situation, you need to:**
 - Stay calm.
 - Remember your training.
 - Take action.
- **The longer that a chemical is on your skin the more damage it can do.**
 - So you should call out for help.
 - Your coworkers can assist you in getting to the shower and call for medical assistance as well.
- **When you reach the shower, pull the handle immediately to start the water flowing and get under the spray.**
 - Continue to flush for at least 15 minutes.
- **Fabric that is soaked with a hazardous chemical will keep it in contact with your skin, so you should first drench your clothes to dilute the HAZMAT, then remove them.**
 - This is no time for modesty.
 - Stripping off contaminated clothing, as well as shoes and jewelry, is essential for complete decontamination.
 - The faster that clothing comes off, the better, so coworkers should help you to undress.
- **While you're in the shower, take care to prevent any of the hazardous material that is being washed off of your body from getting into your eyes.**
- **You need to protect your eyes from the spray as well.**
 - An ANSI-compliant shower fixture discharges water with enough force to cause eye damage.
- **After showering for at least 15 minutes, get medical attention.**
 - If emergency assistance has already been summoned, it's a good idea to stay under the shower until the EMTs arrive.

- **If you are assisting a coworker when they decontaminate in a safety shower, remember that the run-off water can contain residual amounts of hazardous material.**
 - So you should shower yourself after helping a coworker.
- **A hazardous chemical that gets in your eyes puts your eyesight in danger right away.**
- **To protect your eyes, you have to respond quickly and decisively, because the longer that you wait, the more damage the HAZMAT can do, so:**
 - Don't hesitate.
 - Stay calm.
 - Head for the nearest eye wash station in your work area.
- **On the way, call out to your coworkers for help.**
 - They can guide you to the station and also call for medical assistance.
- **Do your best to keep your eyes open.**
 - Closing them can trap the HAZMAT against your eyes, where it can do more damage.
- **But even with them open, the material that's in your eyes may make it difficult for you to see where you're going.**
 - This is why you should practice getting to your eye wash stations blindfolded, so you can find them even if you can't see them.
- **Once you reach the eye wash, turn it on and get your eyes directly into the water, so that it can dilute the chemical and start to flush it away.**
- **If you are wearing contacts, don't delay flushing your eyes to remove them.**
 - Begin rinsing and then take your contacts out, so they don't trap any of the material in your eye.
- **Continue to rinse for at least 15 minutes. You should:**
 - Hold the affected eyes open with your fingers.
 - Gently rotate your eyeballs left and right, up and down.
 - Make sure that the water reaches all areas, including under your eyelids.
- **If only one eye has the HAZMAT in it, don't let it get into your other eye.**

- **When your eyes start to feel better, you might be tempted to turn the water off. Don't do it.**
 - Some hazardous chemicals take time to do damage, so you should always rinse for a full 15 minutes to ensure that the substance is completely flushed away.
- **Remember, using an eye wash is only the first step in responding to a HAZMAT exposure.**
 - As soon as you finish rinsing, you should seek medical attention.
- **If someone you work with is exposed to a hazardous material, using a safety shower or eye wash to flush away the substance is an important first step in reducing or preventing injury.**
- **But what you do after you help to decontaminate them is important as well.**
 - Getting professional medical assistance for the person who has been exposed is a top priority.
- **That means calling for emergency aid as soon as possible after a HAZMAT exposure occurs.**
 - Contact information for first responders should be readily available in your work area.
 - It can also be found in your company's HAZCOM Program and Emergency Action Plan.
- **Both of these documents should be available to all employees, and it's a good idea to become familiar with them.**
 - That way you'll know both who to call and what to do in a HAZMAT emergency.
- **Once help is on the way, you should get a copy of the Safety Data Sheet for the substance that was involved in the incident, so you can give it to the EMTs when they arrive.**
- **Any clothing that the victim has removed during the decontamination process is likely to contain residual amounts of the HAZMAT, so:**
 - It qualifies as a hazardous material.
 - It should be decontaminated before normal laundering.

- **If the HAZMAT that's involved is particularly nasty, it can be a good idea to dispose of the clothing permanently.**
 - Just remember that it should be handled as "hazardous waste", according to the procedures described in your HAZCOM Program.
- **The clothing of anyone who assists a coworker in decontaminating may need the same treatment, since they can be exposed to the HAZMAT "second hand".**
 - The assistants may also need to get under the shower themselves.
- **It's important to remember that the run-off created by safety showers and eye washes qualifies as hazardous waste too.**
 - If it has been caught in a retention basin or drained into a storage tank, it will need to be disposed of properly.
- **Where no basin or drain exists, the contaminated liquid will need to be contained, cleaned up and disposed of.**
 - Your Hazard Communication Program will describe the equipment and procedures that should be used to comply with federal and local clean-up regulations.
- **Wastewater that drains into a sewer can create serious environmental problems by contaminating the local watershed.**
 - If the drains for safety showers or eye washes in your facility are plumbed into a sewer system, your Hazard Communication Program will describe what should be done in the event of a wastewater release.

*** * * SUMMARY * * ***

- **Safety showers and eye washes use large amounts of water to dilute and remove hazardous substances that get on our bodies or in our eyes.**
- **OSHA requires employers to provide safety showers and eye washes for employees who handle materials that are corrosive.**
- **If a HAZMAT gets on your skin or in your eyes, go to the nearest safety shower or eye wash station immediately, and flush the affected area for at least 15 minutes.**
- **At an eye wash, hold your eyes open with your fingers and rotate your eyeballs in the water streams.**
- **Under a shower, first drench any clothing that has been soaked with the HAZMAT, then remove it.**
- **Always seek medical attention after being exposed to a HAZMAT.**
- **Now that you understand the hazards that are associated with coming into contact with hazardous materials, and how using safety showers and eye washes can reduce those hazards, you can help yourself and your coworkers to return home safely... every day.**