PRESENTER'S GUIDE

"HAND, WRIST AND FINGER SAFETY"

Part of the General Safety Series

Quality Safety and Health Products, for Today... and Tomorrow
OUTLINE OF MAJOR PROGRAM POINTS
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The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- Whether we're at work, making dinner or playing catch with the kids, our hands are involved in just about everything we do.

- They're exposed to many different hazards every day.
  - Getting hit can bruise or break them.
  - Sharp edges and rough or splintery materials can cut, scrape and puncture them.
  - Powered equipment can grab, crush and even amputate them.
  - Even small stresses can cause severe injuries over time.

- Fortunately, there are ways to guard against these hazards and prevent hand injuries.

- Our hands have the strength, dexterity and sensitivity to grasp, lift and manipulate objects of many shapes and sizes.
  - That's because of their efficient design.

- The 27 bones that give the hand and wrist their structure are connected by muscles, ligaments and tendons.
  - They give the hands motion and strength.

- The nerves in the hand not only provide sensation but also tell the muscles when and how to move.

- Blood vessels feed the different tissues in the hand, and the whole system is covered by layers of skin.
  - But there's only so much that skin can do to protect that system.
All of the tissues in the hand are close to the surface, the bones in them are small, and their joints can be complex. — Because we use them for so many things, it can be easy to forget how delicate our hands can be.

Just hitting your thumb with a hammer can injure skin, nerves, connective tissue and bone. — In fact, a single "traumatic mistake" like this can affect your hands seriously, even permanently.

Our hands are also vulnerable to stresses and strains that can cause injuries gradually, over long periods of time. — These are called "ergonomic" hazards.

The wrist, for example, is an ergonomic "weak spot". — Nerves, muscles, tendons, ligaments and blood vessels pass through it on their way to the hand. — Placing extra strain on the wrist can damage them over time.

To keep our hands, wrists and fingers safe, we need to watch out for ergonomic hazards that can hurt us, as well as for the hazards that can cause traumatic injuries.

The best way to protect our hands, wrists and fingers from injury is to prevent accidents from happening in the first place. — So you need to pay attention to the basics and think "safety first" throughout the day.

Before you start any task you should first ask yourself if you're in the right state of mind to work safely. For instance:
— If you're feeling angry, or are distracted, you're more likely to get hurt.
— If you're upset, take a minute to cool off.
— Keep yourself focused on the task at hand.
• Next, take a good look at your work area. Identify any hazards and eliminate or control them.
  — If there’s not enough illumination to see clearly, turn on some lights.
  — Clutter on a workbench? Clean it up.
  — Extension cords on the floor? Tape them down.

• If your work requires you to use tools or equipment, make sure you know how to operate them properly.
  — When in doubt, consult the user’s manual or talk to your supervisor.

• Always inspect hand and power tools before working with them.

• Don’t use them if they are worn, dull or broken.
  — Dull and worn tools require you to apply extra force.
  — The more force you use, the more likely the tool is to get "out of control", which can cause an injury.

• Check that machine guards and other safety devices are in place and fully functional.
  — They can't protect you if they've been damaged or removed.

• Pace yourself as you work. "Hurrying" can result in taking risky "short cuts" that increase the chance of injuries.
  — The "slow and steady" approach will help you keep track of what your hands and fingers are doing at all times.
  — That way you can keep them clear of sharp edges, pinch points, moving parts and other hazards, which is how you finish a task safely.

• "Ergonomics" is the study of how we can work more efficiently and safely by minimizing discomfort and fatigue.
• "Ergonomic hazards" are situations or processes that can force the body to move in ways it wasn't designed to.
  — Ergonomic hazards often don't cause injuries right away but can result in significant damage over the long term.

• They can end up causing painful and debilitating conditions for the hands, wrists and fingers, including carpal tunnel syndrome, repetitive motion syndrome and tendinitis.

• To prevent these injuries, you need to avoid:
  — Repetitive motion.
  — Working in awkward positions.
  — Applying excessive force, either manually or with a tool.

• Repetitive motion involves making the same movements over and over again without a break.
  — If your work involves repetitive motions, you should insert other tasks into your routine throughout the day to vary the movements that you make.

• If you find yourself working in an awkward position, stop what you're doing and look for a less stressful way to get the job done. You might try:
  — Changing your position by standing up or sitting down.
  — Repositioning the material that you're working with, turning it, raising it or lowering it.

• Sometimes using a tool of a different size or design can help you get into a more natural posture, too.

• To avoid using excessive force, you first need to understand the two types of "grips" your hands can make.
• For tasks that require strength, such as using a hammer or handsaw, we curl our fingers, palm and thumb around the object. This is called the "power grip".
  — It distributes the weight of the object evenly over the muscles and tendons of the entire hand and allows the wrist and forearms to help carry the load.

• For a delicate touch, such as positioning a nail or twisting a tiny screwdriver, we use a "precision grip" that brings the ends of the thumb, middle and index fingers together around the object.

• But if we try to use the precision grip for tasks that require power, we'll end up applying excessive force to get the job done
  — This can injure our hands, wrists and fingers.

• Another situation where we can find ourselves applying excessive force is trying to "overpower" a stuck or heavy object, manually or with a tool.

• None of these situations are safe, or healthy, so if you find yourself using excessive force while performing any task:
  — Stop what you're doing before you hurt yourself.
  — Find a way to get the job done without straining.

• When it comes to protecting our hands, choosing the right tool for the job can be very important... and this means more than "using a hammer to drive nails" and "using a saw to cut wood".

• Tools come in all shapes and sizes.
  — The "right" tool is the one that fits you as well as the job you're doing.

• The shape, size and feel of the handle on a tool can be very important in preventing strains and other injuries.
• A handle that is too short for your hand can damage nerves, tendons and blood vessels by placing excessive pressure on the palm.
  — To prevent this damaging "localized pressure", you should choose tools with handles that are longer than the widest part of your hand.

• To allow for a safe, strong grip, the handles should be thick enough for the end of the thumb to just cover the ends of the index and middle fingers.
  — The handle should also be free of sharp edges or finger grooves.
  — Handles that are padded with soft or "grippy" material can be a good choice because they're comfortable, easier to control and help absorb shock.

• Also make sure that the handles will allow you to keep your wrists straight as you use them.
  — Working with your wrist in a bent position can injure the nerves, muscles and other connective tissues that pass through it.

• Always try tools out before you use them, to confirm that they fit you well.

• Power tools require the same type of examination.
  — The handles should be comfortable and "fit" your hand.
  — They should allow you to work with a straight wrist and a power grip whenever possible.
  — Their power switches and safeties should be easy to operate.

• Some power tools can vibrate hard enough to damage the hands that hold them.
  — Hammer drills, grinders, chipping hammers, chainsaws, hedge trimmers and many other tools can vibrate excessively.
• Over time, vibration can lead to a condition known as "hand-arm vibration syndrome".
  — This begins with tingling and a loss of nerve sensation, and can develop into a painful and potentially debilitating condition.

• To protect your hands when you're using these types of tools, you should:
  — Limit the amount of time you work with them.
  — Avoid gripping the tool too hard.
  — Don't try to "force" the tool, let it do the work.
  — Wear gloves that are designed to absorb as much vibration as possible.

• Whenever you work with hand or power tools you should monitor yourself continuously.
  — Tingling, numbness or feelings of discomfort in your hands, wrists or fingers could indicate the start of ergonomic problems.
  — If you notice any of these symptoms, let your supervisor know about them.

• One of the simplest and most effective ways you can protect your hands and fingers from injury is to put on a pair of gloves.
  — It's important to remember that all gloves are not created equal.

• You need to choose the ones that will give you the best protection from the specific hazards that you encounter while you work.
  — Light landscaping work can cause scratches, blisters and sometimes even involve encounters with poison ivy.
  — A basic pair of cloth gloves can protect you from these hazards.

• Gloves made of leather are durable enough to protect you from:
  — Materials with rough or splintery surfaces.
  — Sparks or slag that's thrown from equipment you're using.
• Sharp-edged tools and materials can cause painful cuts and scratches.
  — But cut-resistant gloves made of metal mesh or similar tough materials can prevent this.

• If you are exposed to high temperatures in your work, you should wear heat-resistant gloves made of aluminized fabric or other special materials.

• Gloves made of rubber, vinyl or neoprene can protect your skin from corrosive substances such as:
  — Organic liquids.
  — Lyes.
  — Petroleum products.

• Disposable gloves made of latex, nitrile and polyethylene can shield you from biological hazards such as:
  — Germs.
  — Bacteria.
  — Viruses.

• Whatever types of gloves you wear, you need to make sure that they fit properly.
  — Gloves that are too large will feel clumsy and can snag in machinery.
  — Gloves that are too small can tire your hands out and may tear or split as well.

• Always inspect your gloves for rips and other defects before you put them on.
  — If you find any problems, don’t use them!
  — Get yourself another pair.

• Remember, no one type of glove can protect your hands in every situation… and no gloves will protect you if you don’t wear them!
**SUMMARY**

- To protect your hands, always follow safe work practices and stay focused on what you're doing.

- Avoid ergonomic hazards such as repetitive motions, working in awkward positions and using excessive force when performing any task.

- Choose tools that "fit" you and use them in ways that place the least stress on your hands, wrists and fingers.

- Never try to operate a tool that you are unfamiliar with, or that has been altered or damaged.

- Wear gloves that are designed to protect you from the specific hazards that you encounter in your job.

- Now that you understand the hazards that can affect your hands, and know how to avoid and protect against them, you can go home pain-free at the end of every day!