Tool Box Talk
Respirators

Working around dusts, mists, fumes, aerosols, gases, and vapors can be hazardous to your health. If you can't control the contaminants by using engineering controls like ventilation or enclosures, then a respirator may be required.

If you think you need a respirator, you **must** talk to your supervisor first. Safety and Compliance will need to perform an evaluation of the hazards to determine effective respiratory protection. If a respirator is required, you must complete a medical evaluation, attend training and be fitted into the correct mask. Even dust masks require training!

Depending on the hazard, there are several different types of respirators, as described below. Safety and Compliance will determine the correct type of respirator to be worn.

Negative Pressure Air-Purifying Respirators (NAPRs)
NAPRs filter or clean chemicals out of the air as you breathe. This respirator may be a disposable particulate respirator (dust mask), a half-mask elastomeric facepiece respirator or a full-face elastomeric respirator.

Particulate Respirators (Dust Masks):
Particulate respirators are the simplest, least expensive, and least protective of the respirator types available. These respirators only protect against particles (e.g., dust). They do not protect against chemicals, gases, or vapors, and are intended only for low hazard levels. The commonly known "N-95" filtering facepiece respirator or "dust mask" is one type of particulate respirator.

Chemical Respirators:
These respirators filter chemicals out of the air as you breathe. This type of respirator includes a facepiece or mask, and a cartridge or canister, specific to a type of respiratory hazard. The cartridge may also have a filter to remove particles.

These are only effective if used with the correct cartridge or filter for a particular hazardous substance. Selecting the proper filter can be a complicated process. There are cartridges available that protect against more than one hazard, but there is no "all-in-one" cartridge that protects against all substances. It is important to know what hazards you will face in order to be certain you are choosing the right filters/cartridges.

Powered Air-Purifying Respirators (PAPRS)
Powered air-purifying respirators use a fan to draw air through the filter to the user. They are easier to breathe through; however, they need a fully charged battery to work properly. They use the same type of filters/cartridges as other air-purifying respirators. It is important to know what the hazard is, and how much of it is in the air, in order to select the proper filters/cartridges.

Are there any cautions or limitations when using respirators?
Yes.

Respirators come in several varieties, each with its own set of cautions, limitations, and restrictions of use. Tight fitting respirators require fit-testing to ensure an adequate fit to the face, and cannot be used with facial hair. Some respirators prevent the user from talking while others have speaking diaphragms or electronic communication devices. Every respirator contaminated with hazardous chemicals should be cleaned and decontaminated or disposed of properly.
Anything that prevents the face mask from fitting tightly against your face, such as a beard or long sideburns, may cause leakage. If your respirator requires a tight fit, you must trim back your beard so that it will not interfere with the facepiece seal. If your respirator is a loose-fitting (hooded) positive pressure respirator (e.g., a powered air-purifying respirator, PAPR) then you may have a beard.

Can anyone wear a respirator?
No.

Breathing through a respirator is more difficult than breathing in open air. People with lung diseases, such as asthma or emphysema, elderly people, and others may have trouble breathing. People with claustrophobia may not be able to wear a full facepiece or hooded respirator. People with vision problems may have trouble seeing while wearing a mask or hood (there are special masks for people who need glasses). Employees must be medically evaluated before being assigned to use a respirator.

Remember, respirator users **must** attend annual training and fit-testing, and submit to a medical evaluation regularly (based on your age). For more information on the respiratory protection program, see your supervisor or contact Safety and Compliance.

Let me show you two (2) different grips:

1. The Power Grip and
2. The Pinch Grip.

- The **Power Grip** uses the ring, middle and little fingers like a pistol grip.

- These fingers are on the power side of your hand.

Show the icons and use gestures to get these ideas across.

- The **Pinch Grip** uses the index finger and thumb.

- You use this grip for tasks like writing, tuning the radio or using precision tools.

Now I will demonstrate how changing your grip changes your strength and balance.

- Pick an employee to be the participant in this demonstration.
- Do a brief Safety Check.
- Find out if they are right or left handed.

Stand with your feet shoulder width apart and knees slightly flexed.

L = Leader
P = Participant

- Participant:
  - Elbow in the **Yellow Zone** with the thumb up and wrist straight.
  - Arm extended parallel with their Line of Weakness.
- Leader:
  - Stand to side of participant's arm
  - Hold participant's wrist using a light Power Grip from underneath
  - Do not touch their shoulder or back with your other hand.

First make a Power grip.

Now, keep your arm extended and don't let me push you back.

- Slowly apply a light steady force toward the participant's shoulder.
- Steadily increase your pushing force up to the participant's limit of balance.
- Do not push the participant off balance.

L = Leader
P = Participant

If you have any problems please see Troubleshooting the Power Grip Demonstration on Page 15 of this document and/or Appendix C which will help you solve possible demonstration errors.

Now, change only one thing…Switch to a Pinch Grip.

Continue pushing force while participant switches to Pinch Grip.

Apply slow and steadily increasing force up to their limit of balance.

Ask: What difference did you notice?

- Treat answers with respect.
- Respond to unexpected answers.

Note: If you have only one participant then skip the instructions below and go on to the next page.

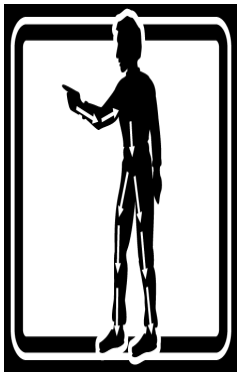
I would like EVERYONE who can safely participate to experience how your strength and balance changes when you switch from the Power Grip to the Pinch Grip and back to the Power Grip.

Give brief instructions on how to hold and push.

Remind them about slow and steady.

No strain, No pain.

Supervise for safety and time.



Ask: Why are you stronger and better balanced when using the Power Grip?

- Be sure to wait for an answer.
- Be sure to treat right and wrong answers with respect.

Answer: When you are using the **Power Grip** you automatically recruit larger muscles along the bottom of the arm and shoulder to do more of the work.

Ask participants to make a Power Grip and feel the muscles move on the bottom of their forearm.
(Show icon)

That is why you noticed more strength. And, these larger muscles conduct more of the force down your trunk to your legs.

That is why you noticed better balance.

The **Pinch Grip** recruits muscles along the top of the arm and shoulder.

When using the Pinch Grip more of the force is conducted along the top of the shoulder and across the body.