

A closer look at the dangers of welder's anthrax

By Rick Pedley



Photo credit: PK Safety

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Welder's anthrax is a relatively new occupational hazard identified by researchers at the Centers for Disease Control and Prevention's (CDC) National Institute for Occupational Safety and Health (NIOSH). It's a special case of pneumonia mainly affecting metal workers, including welders. When metals are burned or broken down into fumes, they can release hazardous particulate matter into the air and bacteria within the *B. cereus* group, the same one that produces the anthrax toxin. This is how the disease got its name. Medical professionals are still unsure how metal particles can cause disease, but employers are encouraged to take precautions to limit exposure.

Employee training

The crew should start by educating workers on the dangers of welder's anthrax and how it can potentially spread. Initial symptoms include fever or chills, cough, shortness of breath (dyspnea), and coughing up blood (hemoptysis). Everyone working with or near metal should have access to the proper safety equipment and be fully trained on how to perform the task at hand safely.

Substitution and prevention

If there are metal particles being released into the air, the team should do its best to remove the hazard from the space by increasing ventilation, substituting equipment, or altering the type of tasks being performed on the work site. Removing the hazard may not be an option when workers are welding and working with metal. Workers can wear personal protective equipment (PPE), such as welding helmets and welding respirator masks, that cover the nose and mouth to block the spread and inhalation of contaminants while welding and working with metal. Fumes produced by welding of iron or steel can often be blocked by wearing a N95 respirator. A N100 mask provides the highest-rated protection by NIOSH filter efficiency. Depending on the welding being done and your environment, a Power Air Purifying Respirator (PAPR) respirator or airline respirator may be more suitable.

Individuals using this equipment must be fully trained on how to inspect and wear it properly. The equipment must be checked at the beginning of each shift. If the mask appears worn, cracked, or frayed in any area, it should be removed for rotation until it can be repaired or replaced. There should be a clean seal between the mask and the worker's face, to block out these hazardous contaminants.

No one should be near the hazard unless it's absolutely essential for their work. Access to any environment in which metal shavings or debris are being released into the air should be limited to reduce exposure. Employers may want to set up barriers or access controls to prevent unauthorized individuals from entering the space.

The crew can also use engineering controls to increase the distance between the workers and the hazard. Airtight barriers and enclosures can help limit the spread of metal particles. They team and also use a vacuum and regularly clean the worksite to remove as much debris from the air and area as possible. Avoid using compressed air or fans near the worksite, as this will only spread the particles around the space.

Welder's anthrax is a serious health risk for anyone cutting or working with metals. Harmful debris can float through the air and cause devastating health effects that can potentially be fatal. Employers can use this information to keep their workers safe from disease.

KEYWORDS: metalworkers respirators Respiratory Protection welding hazards workplace hazards

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Rick Pedley, PK Safety's President and CEO, joined the family business in 1979. PK Safety, a supplier of occupational safety and personal protective equipment and manufacturer of their own new FR line Grit, has been operating since 1947 and takes OSHA, ANSI, PPE, and CSA work safety equipment seriously. PK Safety's customer service can be reached at 800-829-9580 or online at <https://www.pksafety.com/contact-us/>.