

### Welding

#### List challenging conditions for welding on site

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#### The risks

Welding presents workers with a number of hazards. The most common are

- metal fumes
- welding arc light (both visible light and invisible ultraviolet light)
- particles getting in your eyes
- burns
- noise.

Welding also comes with the risk of musculoskeletal disorders (MSDs). Most studies on this topic have found that the main contributing factors to MSDs come from work conditions:

- awkward postures such as squatting, kneeling, or stooping due to the confined or tight locations
- lifting heavy equipment or materials
- keeping your neck bent or keeping your shoulders raised for a long time
- the stress on your neck from supporting the heavy weight of your hard hat and welding mask.

These conditions can lead to MSDs such as back, shoulder, neck, or knee problems.

More than half of the injuries to welders involve the back, neck, shoulders, arms, and hands. Your workplace should focus on preventing injuries to these parts of the body.

#### Reducing MSD risk

You can prevent MSDs associated with welding. Your focus should be on reducing or eliminating

- forceful exertion (e.g., heavy lifting).
- awkward postures, including body positions where you don't move for a long time.

#### Reducing exertion

To reduce forceful exertion, consider the following:

- Use auto-darkening lenses. They darken as soon as the arc is struck. They eliminate the need to keep opening and snapping-closed your helmet, and so they reduce neck strain.
- Use mechanical lifting equipment whenever you can, particularly when loading or unloading material.
- Use height-adjustable mobile lift tables for transporting material into the workshop. These tables can also be used to support material when you're loading machines. A smaller table can be used for smaller sheets of metal or machines such as a punch press. The larger table can be used for the "break and bending presses" as well as incoming materials.
- Pre-assembly and material handling equipment help reduce unnecessary lifting.
- When you have to lift, ask someone to help you.

#### Reducing awkward postures

To reduce awkward postures, consider the following:

- Position the work at a height between your waist and your shoulder.
- Use lifting and turning tables with wheels.
- Use welding guns which have swivels and can be used in either hand.
- Sit on a work stool when the work is low.
- Use a work table or work bench instead of bending over to work on the ground.
- Use a rotating clamp for pipe.
- Put your welding leads on pulleys.
- Take stretch breaks throughout the day to relieve discomfort and get the muscles moving.