



CARBON MONOXIDE POISONING

Carbon monoxide (chemical formula CO) is a gas. It is colourless, odourless, and tasteless. You cannot detect it but you can be aware of it and reduce exposure to it. It is produced where a fuel burns with a restricted amount of oxygen, such as in fuel heaters and petrol / diesel motors.

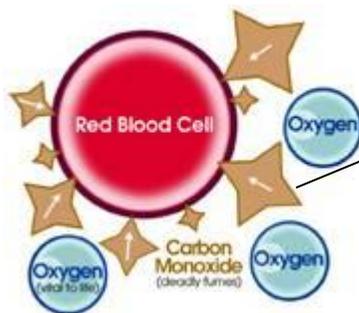


Carbon Monoxide poisoning kills people and many more suffer brain damage, but the symptoms are hard to identify.

The effects

Every year people die accidentally from carbon monoxide poisoning and many more suffer lasting brain damage. It has been linked with various neurological problems such as memory loss, dementia and depression.

The general health of the patient, their age and how long they have been exposed to carbon monoxide (CO) will determine the severity of the symptoms.



This shows Carbon Monoxide molecules attaching to Haemoglobin in preference to Oxygen molecules. They also attach more strongly than Oxygen.

Symptoms

At very low levels of Carbon Monoxide (for example 100ppm or 0.001% in the atmosphere) the symptoms might be headache and dizziness. At higher levels (for example 2000ppm or 0.2%) the symptoms can be nausea, cardiac abnormalities, convulsions and death. The symptoms are vague and are often mistaken for flu, or just overwork.

Sources of CO

CO can be given off by any industry or home appliance that burns a fossil fuel gas, coal, wood, or oil. If the appliance is working properly and well ventilated the CO is normally not a problem – it goes to the outside atmosphere. But if the flue is restricted or the burning is not complete, a build-up of CO can occur.

Cars: a car left idling in a garage for a long time it will create some CO. Modern cars are not a big problem because they have chemical (catalytic) converters which change the CO to the more harmless carbon dioxide CO₂. However an unventilated garage can build up dangerous CO and CO₂ levels. You can die of high CO₂ levels.

Barbecues: burning charcoal can cause a build-up of CO if the barbecue is indoors.

Coal fires stoves: if the fire isn't well ventilated there will be a CO build-up.

Cigarettes: smokers suffer increased levels of CO.

Note:

1. In cases of severe CO poisoning the patient requires 100% oxygen resuscitation and treatment in a Hyperbaric chamber because CO molecules will attached themselves to red blood cells for upwards of 100 days, to the exclusion of oxygen molecules.

2. Have you got the ability to administer 100% oxygen at your worksite? Many units can't deliver this rate.

Sources: *Australian First Aid P/L & Paramedic UK*
www.paramedic.org.uk