Delivering Accident Prevention at local level in the new public health system

Part 2: Accident prevention in practice

Fact Sheet Carbon monoxide safety

Reduced Risk of Injury
FACT SHEET: Carbon monoxide safety

There are approximately 50 accidental deaths per year in the UK from carbon monoxide (CO) poisoning, and over 4000 cases of recorded admissions to hospital – which can often lead to lasting neurological damage. Many more people are likely to suffer unknowingly from CO poisoning, and the impact on health may well be underestimated. Those most at risk are the under 14s and the over 65s, with these age groups accounting for 31% and 25% of these hospital admissions respectively.

What is carbon monoxide?
Carbon monoxide (CO) is a highly poisonous substance produced by the incomplete burning of gas and Liquid Petroleum Gas (LPG). This happens when a gas appliance has been incorrectly fitted, badly repaired or poorly maintained. It can also occur if flues, chimneys or vents are blocked. Oil and solid fuels such as coal, wood, petrol and oil can also produce carbon monoxide.

What is carbon monoxide poisoning?
Carbon monoxide poisoning occurs when you breathe in even small amounts of the gas.

When you breathe in carbon monoxide, it gets into your blood stream and prevents your red blood cells from carrying oxygen. Without oxygen, your body tissue and cells die.

Levels that do not kill can cause serious harm to health when breathed in over a long period of time. Long term effects of carbon monoxide poisoning include paralysis and brain damage. Such long term effects occur because many people are unaware of unsafe appliances and subsequent gas leaks.

What are the main symptoms to look out for?
Carbon monoxide symptoms are similar to flu, food poisoning, viral infections and simply tiredness. They include headaches, dizziness, nausea, breathlessness, collapse and loss of consciousness. For this reason people often mistake carbon monoxide poisoning for something else.

Other signs that could point to carbon monoxide poisoning:
- Symptoms only occur when you are at home
- Symptoms disappear or get better when you leave home and come back when you return
- Others in your household are experiencing symptoms (including your pets) and they appear at a similar time.

Advice for people experiencing symptoms of carbon monoxide poisoning:
- Get fresh air immediately. Open doors and windows, turn off gas appliances and leave the house
- See your doctor immediately or go to hospital – let them know that you suspect carbon monoxide poisoning. They can do a blood or breath test to check.

Preventing carbon monoxide poisoning

The key action to prevent carbon monoxide poisoning is to ensure that boilers and appliances are well maintained and serviced annually. In the case of gas appliances this needs to be done by a gas safe registered engineer who will check that:
- The appliance is positioned in the right place
- Burning correctly and not producing carbon monoxide
- Harmful gases are safely removed from the appliance to the air outside
- Ventilation routes are clear and work properly
- Safety devices are working.

The engineer will also make sure that the Local Authority is notified where it is a legal requirement, which is the case for some gas work.

Other prevention measures are to check for signs that gas appliances are not working properly and to ensure that rooms with gas and solid fuel appliances are well ventilated. Signs that might indicate that fuel is not burning correctly leading to a build up of CO:
- The appliance is burning with a lazy yellow or orange flame (a healthy flame is crisp blue)
- Soot or yellow or brown staining around or on appliances
- The pilot light keeps going out
- There is a lot of condensation on the windows.

Ventilation is also important:
- Flues, chimneys and air vents need to be kept clear to allow fumes to get out
- For coal, wood or peat burning fires, the chimney needs to be swept every year no matter how often or little it is used
- Chimneys and flues need to be checked for bird’s nests, leaves and other natural debris to make sure nothing is blocking the exit.
- In a property with a shared flue or chimney, a date needs to be agreed with neighbours to get them checked each year.

Carbon monoxide alarms
Because carbon monoxide has no taste, smell or colour an audible carbon monoxide alarm provides important back-up to the prevention measures. It is no substitute for using a Gas Safe registered engineer to ensure appliances are serviced properly, but it does help to ensure that people are alerted when CO is present.

Carbon monoxide alarms should conform to BS:EN50291+ and have a British or European approval mark on them, such as a kitemark.

Gas Safe Register® and Gas Safe Charity®
In 2006, the Health and Safety Executive (HSE) carried out a review of gas safety. They found that, while safety was improving, there was no room for complacency because people still had low awareness of gas and carbon monoxide risks. This led to a new gas registration scheme being established in April 2009, the Gas Safe Register, which replaced the previous CORGI scheme. By law, all gas engineers must be on the Gas Safe Register. It also led to the creation of the Gas Safe Charity in October 2009, established by HSE and Gas Safe Register to promote and support gas safety in order to advance health and save lives.

All Gas Safe registered engineers carry a Gas Safe Register ID card. Before any gas work is carried out consumers are advised to always check the card and make sure the engineer is qualified for the work that needs doing.

24 hour emergency number
If a carbon monoxide or gas leak is suspected the 24 hour emergency gas service contact number is 0800 111 999.
Landlords’ responsibilities

The Gas Safety (Installation and Use) Regulations 1998 places responsibilities on landlords to make sure tenants are safe. Anyone who lets a property must make sure that the gas pipe work, flues and appliances supplied for tenants are in good condition. A Gas Safe registered engineer must carry out a safety check in rented properties every year, and provide a Gas Safety Record.

The Gas Safety Record confirms the gas appliances have been checked and are safe. Landlords must give your tenants a copy of the record within 28 days of the safety check or before they move in. They must also show your tenants how they can turn off the gas supply in the event of a gas leak.

Landlords must keep a record of each safety check for two years. The HSE website provides more information about landlords’ responsibility for gas safety.

Carbon monoxide poisoning away from home

In 2012 in UK campsites, seven people have died from carbon monoxide poisoning and seventeen have been injured by bringing barbecues inside tents and enclosed spaces. Disposable barbecues can be a source of CO for sometime after they have been extinguished. The Gas Safe Register has issued the following tips to prevent CO poisoning on campsites:

- Never take a smouldering or lit BBQ into a tent, caravan or cabin. Even if you have finished cooking your BBQ should remain outside as it will still give off fumes for some hours after use.
- Never use a BBQ inside to keep you warm.
- Never leave a lit BBQ unattended or while sleeping.
- Place your cooking area well away from your tent. Always ensure there is an adequate supply of fresh air in the area where the BBQ is being used.
- Only use your BBQ in accordance with the operating instructions.
- Remember the signs and symptoms of carbon monoxide poisoning – headaches, dizziness, breathlessness, nausea, collapse and loss of consciousness.

For gas barbecues or gas camping equipment further advice will help people to stay safe:

- Check that the appliance is in good order, undamaged and that hoses are properly attached and undamaged. If in doubt get the hoses replaced or don’t use it.
- Make sure the gas taps are turned off before changing the gas cylinder and do it in the open air.
- Don’t over-tighten joints.
- When you have finished cooking, turn off the gas cylinder before you turn off the BBQ controls – this means any gas in the pipeline will be used up.
- Read the manufacturer’s instructions about how to check for gas escapes from hoses or pipework, e.g. brushing leak detection solution around all joints and looking for bubbles.
- Never take a gas stove, light or heater into a tent, caravan or cabin.

References

3. Gas Safe Register: www.gassaferegister.co.uk
7. Further information can be found at www.carbonmonoxidesafety.org.uk

Case Study: Be Gas Safe Programme

The Royal Society for the Prevention of Accidents and Gas Safe Charity launched a major new programme to raise awareness of carbon monoxide poisoning in 2012. The programme will provide carbon monoxide alarms to 13,000 families across the UK while many more will receive information about how to stay safe from the dangers of CO.

The “Be Gas Safe” programme (www.carbonmonoxidesafety.org.uk) aims to make people aware of the dangers of carbon monoxide (CO) and the steps that can be taken to prevent CO poisoning, such as the need for regular servicing of fuel-burning appliances, good ventilation and the use of audible CO detectors.

Organisations that have regular and direct contact with key risk groups (particularly families with young children and older people who are on low income) have signed up to deliver the Be Gas Safe programme in 40 areas of the UK. They include fire and rescue services, Age UK, Care and Repair agencies, social housing agencies and local authorities.

Each partnership received a briefing pack containing information about how to run a local Be Gas Safe programme, factsheets and a briefing presentation as well as up to 200 CO alarms and 2000 I’m Staying Gas Safe leaflets.

The evaluation of the programme is ongoing but indications from local partners are that it is making a real difference to people’s lives. For example, following receiving the information about carbon monoxide as part of the programme, a family in Wales was prompted to have their boiler serviced. It was found to be faulty and was repaired. A family in Leicestershire received a CO alarm from the programme which subsequently went off, enabling the family to take action and call an engineer. The engineer confirmed that the family could have died if the alarm had not sounded.

Many partners have highlighted the importance of the Programme in enabling them to gain access to people’s homes and provide advice and support on a whole range of safety issues.