CO-Gas Safety Unintentional Carbon Monoxide Poisoning Case Study

KERRY POTTER, Survived in 2016

Kerry Potter and her family

Fuel: Mains gas
Appliance & Location: Gas fire in her privately-owned home.
Notes by CO-Gas Safety: Kerry has worked for SGN, the regional gas network provider for Scotland and the South of England, since 2020. In her role at SGN, as the Group Social Impact and Vulnerability lead, she works with organisations that safeguard our communities, working to ensure that all of us can live in a safe and warm home. It is in these meetings that she came to learn about CO-Gas Safety and the work we do to increase awareness. As a result, she kindly offered to share this case study with us, which took place before she joined SGN and gained knowledge of CO.

A few years ago, as part of our annual gas service checks, a Gas Safe registered engineer recommended to my husband Chris and I that we purchase a CO alarm, after he found an issue with the cupboard our boiler was housed in. Since we own our own home the Gas Safety Check is not a legal requirement, but we were glad we had it carried out – there was a hole in the wall near the flue that we needed to fill to keep the boiler working safely. We took the engineer's advice and bought an alarm from our local DIY store - but it stayed in its box in the hallway for a good few weeks.

Alarm is moved from kitchen

After our boiler cupboard issue was eventually fixed, I suddenly remembered about the CO alarm and set it up near to our gas-burning appliances in the kitchen. For whatever reason, as it wasn't fixed in place it was then moved into the living room to the mantle above the fireplace and, if I'm honest, I never gave it a second thought again.

Months later, on a fairly chilly winter evening, my husband and I decided to shut the living room doors and turn on our very rarely used gas fire to get cosy and watch a film after putting the kids to bed. It was a Friday evening, so after a hard week at work in a lovely warm room we inevitably drifted off to sleep.

At around 2am, we woke up on the sofa in absolute panic to the sound of a loud alarm. At first, we presumed there was a fire in our home but soon realised it was our CO alarm that was going off. We didn't have any symptoms of CO poisoning (like headaches, nausea, difficulty focussing on the alarm or getting up off the sofa to respond to it), but we realised it must be the gas fire that had caused the alarm to sound and so we turned off the fire and went on upstairs to bed.

Cause of carbon monoxide identified

The next day we arranged for our Gas Safe engineer to come and check the fire. He explained that the gas 'bricks' had been moved and not placed back where they needed to be, so ventilation was reduced, particularly as we had the windows and doors shut too. Also, the chimney was blocked due to birds nesting. We presume that this wasn't the case when the Gas Safety Check had been carried out earlier in the year – it could have happened anytime after that check and that is why we were so fortunate to have the CO alarm in the room that night.

As a parent, thinking about the consequence of not having had that alarm is just unbearable; our children may have come down the stairs in the morning to find Chris and I in an unconscious state, or even worse. Although we had the living room doors closed and they were upstairs when the fire

was on, I now know of cases where fumes have travelled upstairs through minute gaps in the ceiling/floor join or through the chimney brickwork, so they could have been exposed too. I'll never know what caused me to move the CO alarm from the kitchen to our living room, but I'm forever grateful that I did and it made me realise that so many people are still completely unaware of how serious CO can be.

Be aware of how and where CO may be created

I guess what I'd like you to take from my story is to think about which rooms in your home need a CO alarm. I think most of us would automatically put a CO alarm in the kitchen near to the boiler and other gas burning appliances, but don't forget that the kitchen isn't the only space in your home where there is a danger of CO. To keep you and your family safe you might need two or three alarms in separate rooms. Many are also unaware that *all* fuels that burn have the capacity to produce deadly levels of carbon monoxide – heating (or range cookers) powered by oil, woodburners, open fires, charcoal and gas BBQs, portable fires that use gas bottles/cylinders, solid fuel range cookers, petrol-driven generators, or even a petrol or diesel vehicle running in an adjoining garage are all common risks too.

Also, I'm not ashamed to admit that before this happened to me, I wasn't really aware of what CO is and the potentially life-threatening impact it could have on myself and my family. When the engineer suggested we get a CO alarm I didn't get a feel for how important it could be as I didn't have all of the information that I now do.

CO-Gas Safety comments

As Kerry points out in her account, this incident could have ended very differently if there had not been a CO alarm in the room with her and her husband. The lack of ventilation created by the lack of air bricks or open windows (also made worse by the internal door to the room being closed) created an all-too-common viscous circle of increased CO levels – without a sufficient oxygen supply to any fire, using any fuel, the combustion of the fuel cannot be complete and greater amounts of carbon monoxide are produced. The lack of airflow then also prevents that raised CO from escaping and levels build up in the enclosed space increasingly quickly. Once birds had created a blockage problem in the chimney and restricted airflow there too, the perfect conditions for CO production and poisoning had been created. As soon as Kerry and her husband had fallen asleep they risked never regaining consciousness without the loud alarm to wake them.

If that had happened, their children may also have been in danger, despite their distance from the fireplace. As CO is a colourless, odourless gas it can easily seep between floors and walls without being detected by human senses. Prominent CO awareness campaigners Stacey Rodgers and Jilna & Jay Patel know this and encourage everyone to install at least one CO alarm in their home.

Stacey's son, Dominic, was just 10 years old when he was killed in 2004 by fumes from a neighbour's faulty boiler, which vented into a shared outdoor passageway beneath his bedroom. From there the carbon monoxide seeped through the exterior wall and into his room via the floor.

Jilna & Jay Patel suffered extreme CO poisoning in 2015, which went undiagnosed until a paramedic suspected CO at the second ambulance callout to them within two days. It was subsequently discovered that the occupant of the flat beneath them was already deceased. His faulty gas fire not only tragically killed him but sent fumes up a shared chimney and into the Patel's flat. Neither flat had a CO alarm at the time and the Patels suffered long-term conditions as a result of the exposure.

CO-Gas Safety recommend buying CO alarms to the safety standard EN 50291, and from reputable retail outlets rather than from cheap internet suppliers. More information is available on our website, including alarms produced for the deaf, and alarms for specific locations such as on boats and in caravans. Please see *www.co-gassafety.co.uk/about-co/alarms*