



Carbon Monoxide and its effects on the body

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Preamble

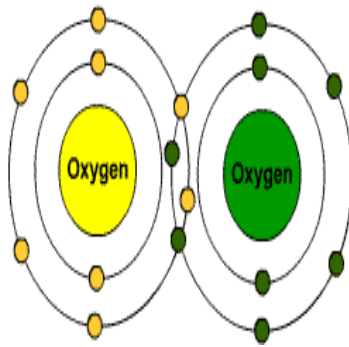
In the paranormal community, we use a lot of tools to measure the environment. One of the main reasons paranormal investigators do this is to attempt to explain a reason for perceived paranormal activity, and another is to be able to accurately recreate events. As I have written about in papers before, the environment can have many effects on the body from unseen forces such as infrasound, electromagnetic fields, certain lights, radiation and so on. In this article, I will discuss the effects that carbon monoxide (CO) can have on the body.

Section 1: What is CO?

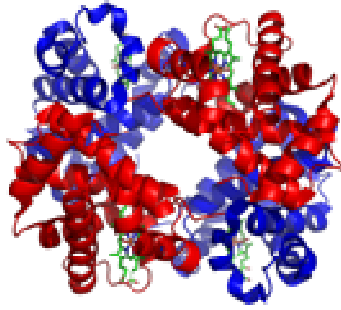
Carbon monoxide is a colorless, odorless, tasteless and toxic gas produced as a by-product of combustion. Any fossil fuel burning appliance, vehicle, tool or other device has the potential to produce dangerous levels of carbon monoxide gas.

Examples of carbon monoxide producing devices commonly in use around the home include:

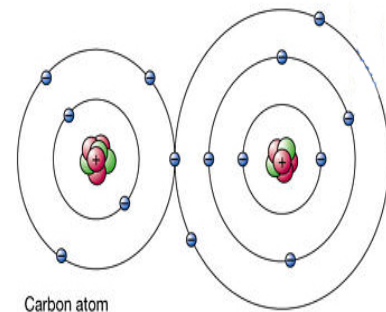
- Fuel fired furnaces (non-electric)
- Gas water heaters
- Fireplaces and woodstoves
- Gas stoves
- Gas dryers
- Charcoal grills
- Lawnmowers, snow blowers and other yard equipment
- Automobiles



Oxygen O₂ Molecule



Haemoglobin Molecule



Carbon Monoxide (CO) Molecule

Section 2: Chemically, how does CO affect the body?

CO inhibits the blood's ability to carry oxygen to body tissues including vital organs such as heart and brain. When CO is inhaled, it combines with the oxygen carrying hemoglobin of the blood to form carboxyhemoglobin (COHb). Hemoglobin has a much higher affinity (240 times) for CO than oxygen (O₂) therefore when you are in an environment that has CO in the air, when you breath in, you are more likely to take in and metabolize CO than O₂. Once combined with the hemoglobin, that hemoglobin is no longer available for transporting oxygen as the CO molecules take the space that O₂ should be occupying. Each hemoglobin molecule can hold up to 8 molecules of CO or O₂ or a combination of both.

Carboxyhaemoglobin also has direct effects on the blood vessels of the body - causing them to become porous or 'leaky'. This is seen especially in the brain, causing the brain to swell, leading to unconsciousness and neurological damage.

How quickly the carboxyhemoglobin builds up is a factor of the concentration of the gas being inhaled (measured in parts per million or PPM) and the duration of the exposure. Compounding the effects of the exposure is the long half-life of carboxyhemoglobin in the blood. Half-life is a measure of how quickly levels return to normal. The half-life of carboxyhemoglobin is approximately 5 hours. This means that for a given exposure level, it will take about 5 hours for the level of carboxyhemoglobin in the blood to drop to half its current level after the exposure is terminated.

Section 3: CO levels and effects on the body

CO toxicity levels are usually expressed in airborne concentration levels (PPM) and duration of exposure. Expressed in this way, symptoms of exposure can be stated as follows:

Symptoms Associated with a Given Concentration of COHb

% COHb	Symptoms and Medical Consequences
10	No symptoms. Heavy smokers can have as much as 9% COHb.
15	Mild headache.
25	Nausea and serious headache. Fairly quick recovery after treatment with oxygen and/or fresh air.
30	Symptoms intensify. Potential for long term effects especially in the case of infants, children, the elderly, victims of heart disease and pregnant women
45	Unconsciousness
50	Death

Symptoms Associated with a Given Concentration of CO Over Time

PPM CO	Time	Symptoms
35	8 hours	Maximum exposure allowed by OSHA in the workplace over an eight hour period.
200	2-3 hours	Mild headache, fatigue, nausea and dizziness.
400	1-2 hours	Serious headache-other symptoms intensify. Life threatening after 3 hours.
800	45 minutes	Dizziness, nausea and convulsions. Unconscious within 2 hours. Death within 2-3 hours.
1600	20 minutes	Headache, dizziness and nausea. Death within 1 hour.
3200	5-10 minutes	Headache, dizziness and nausea. Death within 1 hour.
6400	1-2 minutes	Headache, dizziness and nausea. Death within 25-30 minutes.
12,800	1-3 minutes	Death

As can be seen from the above information, the symptoms vary widely based on exposure level, duration and the general health and age on an individual. Also note the one recurrent theme that is most significant in the recognition of carbon monoxide poisoning- headache, dizziness and nausea. These 'flu like' symptoms are often mistaken for a real case of the flu and can result in delayed or misdiagnosed treatment. When experienced in conjunction with a the sounding of a carbon monoxide these symptoms are the best indicator that a potentially serious buildup of carbon

The commonest symptoms (with frequency of occurrence in brackets) include:

- Headache (90 per cent)
- Nausea and vomiting (50 per cent)
- Vertigo (50 per cent)
- Altered mental status (30 per cent)
- Weakness (20 per cent).

Section 4: How does this relate to the paranormal?

As with many other environmental factors, CO can create altered mental status which, like EMF, can cause hallucinations or an altered view of what is happening around us. Therefore it is an important consideration when performing a thorough investigation of a client's home. It has been documented in the past that CO can trigger perceived paranormal events. Some of the phenomena generally associated with haunted houses, including strange visions and sounds, feelings of dread, illness, and the sudden, apparently inexplicable death of all the occupants, can be attributed to carbon monoxide poisoning.

Examples include:

In one famous case, carbon monoxide poisoning was clearly identified as the cause of an alleged haunting. Dr. William Wilmer, an ophthalmologist, described the experiences of one of his patients in a 1921 article published in the American Journal of Ophthalmology. "Mr. and Mrs. H." moved into a new home, but soon began to complain of headaches and listlessness. They began to hear bells and footsteps during the night, soon accompanied by strange physical sensations and mysterious figures. When they began to investigate, they found the previous residents had experienced similar symptoms. Upon examination, their furnace was found to be severely damaged, resulting in incomplete combustion and forcing most of the fumes into the house rather than up the chimney. After the stove was fixed, the family fully recovered and did not experience any further unusual events.

A report published in 2005 described a 23-year-old female victim of carbon monoxide poisoning, found delirious and hyperventilating, who claimed to have seen a ghost while in the shower. A new gas water heater had just been installed in her home, apparently improperly, which flooded the house with carbon monoxide when the victim closed all the exterior windows and doors and took a shower.

Section 5: Conclusion

So, as described in this article, CO is an important factor to consider when performing an investigation. Not only to attempt to explain paranormal activity, but also for the safety of you and your investigators.