Safety advice: home oxygen use, smoking and nicotine vapes

Essential guidance for protecting lives and property

NCSCT

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About the National Centre for Smoking Cessation and Training

The National Centre for Smoking Cessation and Training (NCSCT) is a social enterprise set up to:

- help stop smoking services to provide high quality behavioural support to people who smoke based on the most up-to-date evidence available
- contribute towards the professional identity and development of stop smoking practitioners and ensure that they receive due recognition for their role
- research and disseminate ways of improving the provision of stop smoking support

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Introduction

Home oxygen therapy is a critical treatment for people with respiratory conditions such as chronic obstructive pulmonary disease (COPD), pulmonary fibrosis and other illnesses that affect breathing. While home oxygen increases comfort and quality of life for many people, it also introduces serious safety risks, particularly when it comes to smoking cigarettes, using nicotine vapes (e-cigarettes) and other activities that may involve flames or sparks.

This briefing offers essential advice on the safe use of oxygen in the home, focusing on the dangers associated with cigarettes and to a lesser extent nicotine vapes, and offering practical strategies to minimise risk.

The nature of oxygen and fire risks

Oxygen is not in itself flammable. However, oxygen is a powerful oxidiser – it can cause other materials that would not normally burn in air to ignite more easily and to burn more fiercely. Even a small spark in an oxygen-rich environment can lead to an explosive fire. For this reason, the presence of home oxygen dramatically heightens the risk of fire and related injuries or fatalities.

Cigarettes and home oxygen: a lethal combination

Never smoke cigarettes near home oxygen. Traditional cigarettes rely on combustion – an open flame or glowing tip that can easily ignite clothing, furniture or even the oxygen delivery equipment itself. Fires related to smoking while using home oxygen are a known cause of injury and death.

- **Oxygen-rich environments**
  When oxygen is in use, the air around the user, as well as their hair, clothing, bedding and even their skin, can become saturated with oxygen. If a lit cigarette is introduced, it may ignite much more easily and combust far more rapidly than in ordinary air.

- **Burn injuries**
  Cigarette-related fires in the presence of home oxygen often result in severe, deep burns to the face, mouth, airways and hands. In the worst cases, these can be fatal.

- **Property damage and loss of life**
  Fires started by smoking around oxygen equipment can quickly spread, causing extensive damage to property and risking the lives of everyone in the home.

Nicotine vapes and home oxygen: a lesser danger but caution is still needed

Nicotine vapes are a safer alternative to smoking around oxygen because they do not have a burning ember. However, caution is needed.

- **Battery risks**
  Vapes use lithium-ion batteries which can malfunction or overheat, especially during charging or use. In an oxygen-rich environment, even a small electrical spark can ignite materials nearby.

- **Heating element**
  Vapes function by heating a liquid to produce an aerosol. The heating coil inside the device can become extremely hot and may generate sparks, particularly if the device is damaged or of poor quality.

- **Fire incidents**
  There have been documented cases of fires and burns caused by the use of vapes, particularly when unregulated devices are used or when they are mishandled. The presence of home oxygen amplifies these risks considerably.

- **E-liquids**
  Some e-liquids may be more flammable than others: more research is needed.

The need for home oxygen should be balanced against the willingness to put safety measures in place. A patient needing home oxygen should be able to switch from smoking to nicotine vaping if this helps them stay smokefree. **Choosing to vape in order to stay smokefree should not be a reason to deny people home oxygen.**

Safe practices: what should and should not be done

What to avoid

- Never smoke cigarettes, cigars, pipes or any combustible tobacco product in any room where home oxygen is in use or stored.
- Do not use nicotine vapes, or any device that produces heat or a spark, in a room where home oxygen is in use or stored. Keep the room well-ventilated and only use regulated devices.
- Never permit anyone else (family, friends, carers) to smoke or vape in a room when oxygen is present.
- Do not use open flames, such as candles, matches or lighters, near oxygen equipment.
- Do not use products with petroleum jelly, oil or alcohol on the face or upper chest when using oxygen, as these can be ignited easily.

Best practices

- Display clear "No Smoking / Oxygen in Use" signs in prominent places around your home.
- Store oxygen cylinders securely, away from heat sources, direct sunlight or open flames.
- Keep oxygen tubing at least 3 metres (10 feet) away from any heat or ignition source.
- Inform visitors, carers and all household members about the risks and the strict no-smoking policy.
- Install smoke detectors and keep fire extinguishers accessible, ensuring all household members know how to respond to a fire.
- If you do smoke or vape, do so outside the home, and never near an oxygen source or where oxygen is being used or stored.

General rule: always follow safe charging rules for any battery-powered device, including unplugging at night.

What to do in case of fire

1. **Immediately turn off the oxygen supply if safe to do so.**
2. **Evacuate the home quickly and call emergency services.**
3. **Do not attempt to put out the fire yourself if it is spreading rapidly.**

Educating family, friends and carers

All members of the household and any regular visitors or carers must be made aware of the dangers of smoking or vaping near home oxygen systems. Education helps prevent accidental fires and ensures everyone acts responsibly.

Conclusion

The use of cigarettes or nicotine vapes in homes where oxygen is present is not just unsafe - it is potentially deadly. Because oxygen dramatically increases the risk and severity of fire, the only safe option is a strict no-smoking and no-vaping policy in any room where home oxygen is used or stored. By following these guidelines, you protect not only yourself but also everyone in your household and your community.

When it comes to oxygen and ignition sources, choose safety: never smoke or vape near home oxygen.