

FIRES AND BURNS INVOLVING HOME MEDICAL OXYGEN

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Abstract

According to 2003-2006 data from the Consumer Product Safety Commission's National Electronic Injury Surveillance System, home medical oxygen was involved in an average of 1,190 thermal burns seen annually at U.S. emergency rooms. Data from Version 5.0 of the U.S. Fire Administration's National Fire Incident Reporting System indicate that, in 2002-2005, U.S. fire departments responded to an estimated average of 209 home fires per year in which oxygen administration equipment was involved in ignition. Forty-six people per year died in these fires. Smoking is by far the leading factor in these incidents. Several studies suggest that the number of burn injuries associated with home use of medical oxygen has been increasing over time. Fires burn hotter and faster in oxygen-enriched atmospheres. Things also ignite at lower temperatures. Strict requirements regulate the use and storage of medical oxygen in health care facilities, yet few regulations apply in the home environment. Finding the balance between preserving the patient's privacy and protecting safety is a multi-disciplinary challenge.

Keywords: fire statistics, medical oxygen, home fires, home care

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Lastly, I would like to thank the many individuals, too numerous to name, who shared their time, expertise, experiences, and resources with me as I researched this subject. I have a tremendous respect for those who are struggling with this difficult issue on a daily basis.

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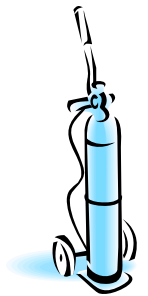
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Fires and Burns Involving Home Medical Oxygen

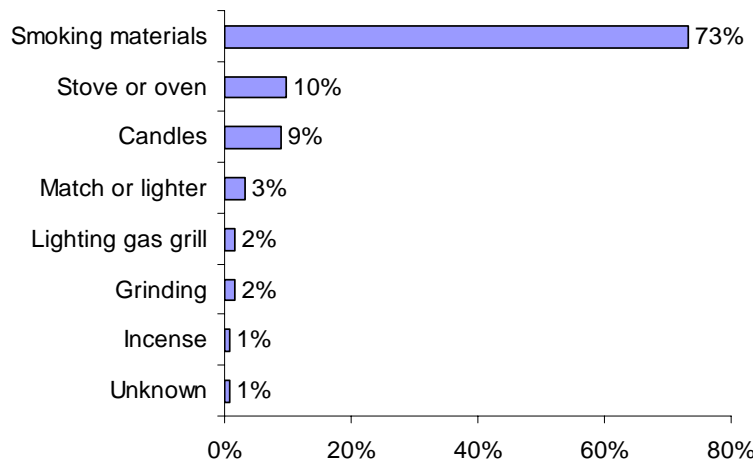
The air is normally 21% oxygen. Oxygen is not flammable, but fire needs it to burn.

- When more oxygen is present, any fire that starts will burn hotter and faster than usual.
- More oxygen in the air means that things such as hair, plastic, skin oils, clothing, and furniture can catch fire at lower temperatures.

In 2003-2006, hospital emergency rooms saw an estimated average of 1,190 thermal burns per year caused by ignitions associated with home medical oxygen.

- Eighty-nine percent of the victims suffered facial burns.
- In most cases, the fire department was not involved.

Heat Source in 2003-2006 Medical Oxygen-Related Burns Seen at Hospital Emergency Rooms



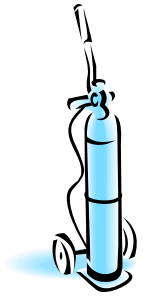
Source: CPSC's National Electronic Injury Surveillance System

During 2002-2005, oxygen administration equipment was involved in an estimated average of 209 home fires reported to local fire departments per year.

- These fires caused an average of 46 civilian deaths and 62 civilian injuries per year.
- One of every five such fires resulted in death.

Smoking is by far the leading cause of burns, reported fires, deaths, and injuries involving home medical oxygen.

- Cooking and candles were other common factors.



Fire Safety Tips for Home Medical Oxygen Users

The use of home oxygen systems has increased over the past decade. It's important for people to practice fire safe behaviors when oxygen is in use. Oxygen itself does not burn but a fire needs oxygen to start and to keep burning. When more oxygen is in the air, the fire will burn hotter and faster. Smoking should not be allowed in a home where oxygen is used. Even if oxygen is not being used, it may have saturated the home including clothing, curtains, furniture, bedding, hair, and anything in the area.

Safety Tips

- Never smoke in a home where oxygen is used.
- Post “no smoking” signs in and outside of the home to remind residents and guests not to smoke.
- If oxygen is used in the home, the amount of oxygen in the air, furniture, clothing, hair, and bedding goes up, making it easier for a fire to start and spread. This means that there is a higher risk of both fires and burns.
- Never use an open flame, such as candles, matches, wood stoves, and sparking toys, when oxygen is in use.
- People who may have difficulty escaping a fire should have a phone near their bed or chair.
- Make sure that the home has smoke alarms. Test them at least monthly.
- Have a home fire escape plan with two ways out of every room and an outside meeting place.
- Practice the plan at least twice a year.