



Position Statement

Home Oxygen Burn and Injury Fire Safety

Submitted by the IAFC Fire & Life Safety Section

The International Association of Fire Chiefs (IAFC), through its Fire & Life Safety Section (FLSS), is adopting this position statement on home oxygen fire safety so fire chiefs and other fire safety professionals can better respond to and educate on the importance of preventing burn injuries and deaths in conjunction with the use of home medical oxygen.

PROBLEM STATEMENT: Due to the concerning prevalence of preventable injuries and their associated high morbidity and mortality rates, the IAFC FLSS seeks to educate communities and stakeholders about home oxygen therapy (HOT)-related burns.

RISK OF DEATH OR INJURY FROM FIRE STARTED BY SMOKING: A 14 percent per year increase in HOT-related burn injuries was seen in a decade-long national database review. Smoking was the primary ignition source in 83 percent of these injuries. During 2012–2016, medical oxygen was involved in 160 reported home smoking material fires and an average of 80 deaths per year. Between 2003 and 2006, 89 percent of patients with medical-oxygen-related thermal burns seen at hospital emergency departments suffered facial burns, and 73 percent occurred in individuals who were smoking.

PATIENTS WITH HOT-RELATED BURNS:

Patients using home oxygen are five times more likely to end up on a ventilator compared to patients with burns unrelated to HOT. One study of late outcomes following burn center admission for HOT-related burns noted that just over one-third of patients never return home, and that mortality at one year was over 50 percent. The medical and insurance costs for these burn injuries are in the billions of dollars.

HOME OXYGEN SAFETY:

HOT is a safe medical treatment when prescribed by a health care provider and used properly. Many patients requiring HOT are or have been smokers, and the combination of home oxygen with smoking is particularly dangerous; any material that is already burning will burn much faster, hotter, and longer in an oxygen-enriched environment.

TECHNOLOGIES THAT CAN ADDRESS THE HOT PROBLEM:

One approach to injury mitigation has been pioneered by the U.S. Department of Veterans Affairs (VA). A Patient Safety Alert and mandate were issued by the VA in 2018 in direct response to 746 reports from VA facilities describing fires or burns to veterans involving home oxygen delivery systems. The mandate requires suppliers to install thermal fuses in the home oxygen equipment delivered to veterans. While thermal fuses do not make it safe to smoke while using oxygen, they may decrease the severity of burns, the potential for injury to others, and property damage.

NEW POLICY PRIORITIES:

The IAFC, through its FLSS, is committed to leading the change required to reduce the fire injury and death rate from HOT incidents by promoting, enacting, and sustaining the push for legislation and policies that support a multi-faceted approach to burn injury and fire prevention for users of home oxygen, with emphasis on encouraging:

- Patient education (and education of their families and caregivers) by health care providers about the hazards of HOT in combination with smoking, including use of e-cigarettes and other electronic delivery systems.
- Enhanced equipment safety by medical suppliers, including home safety checks, written safety instructions, and bidirectional thermal fuses in the oxygen tubing.
- Support for clinician risk assessment regarding prescribing or continuing to prescribe home medical oxygen for patients, especially for those who smoke or who live with others who smoke.

CALL TO ACTION:

The IAFC is pursuing some of the recommendations included in the report to address this significant fire and life safety issue. Fire chiefs and IAFC members are urged to read the report, get staff involved in this issue, and be a force to help address this real fire and life safety problem that tragically affects citizens in our communities on an all-too-frequent basis.

The Board of Directors of the International Association of Fire Chiefs adopts this position paper as a commitment to developing and supporting efforts within the Fire & Life Safety Section; Safety, Health and Survival Section; Emergency Medical Services Section; Company Officers Section; Volunteer and Combination Officers Section, and its regional divisions to develop the resources and materials fire chiefs require to successfully lead community-risk-reduction efforts in their communities.

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Approved by IAFC Board of Directors: 05 JUL 2022