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## **Leaflet 16 – 2014**

# **THE SAFE USE OF ELECTRONIC CIGARETTES AND OTHER ELECTRONIC DEVICES USED NEAR MEDICAL OXYGEN**

The purpose of this leaflet is to highlight key safety information for patients who are users of medical oxygen and who also use a variety of electronic devices, including electronic cigarettes. It is also applicable to those people using electronic devices and/or cigarettes who may be in the immediate area where medical oxygen is being used and/or transported.

### **Oxygen**

Thousands of patients suffering from respiratory diseases receive oxygen therapy in order to maintain their quality of life, to allow them to have mobility and to be able to spend time with their family and friends at home. As a consequence, the presence of medical oxygen is relatively common. Oxygen is safe provided it is handled and used correctly. Its significant hazard is that it is an oxidiser. Oxygen is necessary for anything to burn. If the amount of oxygen in the air is increased objects burn more readily and more fiercely. In confined spaces, such as a poorly ventilated room or a vehicle, if your clothing, the seats or the carpets become enriched with oxygen, they will catch fire more easily. It only needs an ignition source in an area enriched with oxygen, such as someone smoking or an electrical fault, to start a fire.

### **Electronic devices**

There are many electronic devices available which can help enhance patients lives, but their use in close proximity to oxygen should be carefully controlled and the risks of an ignition understood. There have been many media reports about the potential fire hazard of charging and using products, such as phones, tablets, laptops, games consoles etc. These dangers can be exacerbated when using oxygen. Patients are advised not to charge electronic devices in rooms where oxygen is being used or stored. If in any doubt consult your medical oxygen supplier.

### **Electronic cigarettes**

Electronic cigarettes are battery powered devices which simulate traditional tobacco smoking by producing a vapour. They incorporate a heating element, called an atomizer, that uses heat to vaporise a liquid-based solution into an aerosol mist. The batteries are rechargeable, via an external charger, from either a USB power port or through domestic electrical sockets. NOTE: To “vape” or “vaping” is the act of inhaling vapour through an electronic cigarette.

### **Electronic cigarettes and medical oxygen**

Many patients who have been prescribed medical oxygen are, or have been, smokers of traditional cigarettes. Smoking is often the cause of their medical condition. When a patient is prescribed medical oxygen their needs are assessed and they are provided with training on the safe handling and use of oxygen. This includes a warning not to smoke or to allow other ignition sources in the vicinity of oxygen.

Electronic cigarettes are used as an alternative to traditional cigarettes, however whilst the effects of inhaling the vapour may be different, they are still a potential ignition source and, in the context of oxygen-rich environments, have the same fire risk as traditional cigarettes.

This ignition source can be either from the heating element and/or the battery within the cigarette, or the charging device (patients often have charging devices close to the place where they “vape”). In addition, the liquid based solution may burn fiercely in the presence of oxygen and contribute towards the fire hazard.

Do not use electronic cigarettes or smoke tobacco cigarettes where medical oxygen is in use.

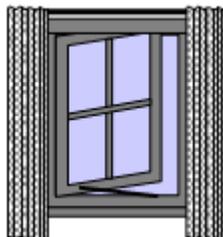
For further information on managing the use of domiciliary medical oxygen, refer to BCGA GN 29.

### Safety first



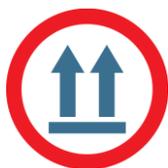
#### Smoking

Do not smoke, or use electronic cigarettes, when using oxygen. This also includes anyone in the vicinity.



#### Ventilation

Make sure you have good ventilation to avoid creating an oxygen enriched environment. Often the easiest way to improve ventilation is to open a window.



#### Liquid oxygen

Take extra care with liquid oxygen containers. They continually vent cold oxygen gas (even when not in use) and could leak liquid if not kept upright. Secure the container in the upright position and open windows to stop the oxygen building up.



#### Turn it off when not in use

Keep the valves closed on any cylinder not in use.

### Electronic Cigarettes Industry Trade Association (ECITA)

ECITA are unable to think of any other situation where it would be appropriate to describe electronic cigarette use as similarly hazardous to smoking. However, in the context of the oxygen-rich environments created when medical oxygen is in use, this is the case. ECITA trust that “vapers” and smokers alike will heed the warnings and take all necessary precautions to protect themselves, and those around them.

Those undergoing oxygen treatment who wish to use their electronic cigarette should ensure that they do not do so in a high oxygen environment, as the otherwise low and safe heat of an electronic cigarette does present a serious risk when oxygen levels are elevated. If it is not possible to remove the patient from a high oxygen environment, it may be best to consider non-heated nicotine sources such as nicotine replacement therapy (NRT).

### References

BCGA GN 29, *Safety precautions and risk management when dealing with domiciliary oxygen.*

EIGA Safety Information 32, *Use of electronic cigarettes with homecare oxygen.*

Department of Health, Estate & Facilities Alert, EFA/2014/002, *E-cigarettes, batteries and chargers.*

### For further information

British Compressed Gases Association (BCGA)

[www.bcga.co.uk](http://www.bcga.co.uk)

European Industrial Gases Association (EIGA)

[www.eiga.eu](http://www.eiga.eu)

Electronic Cigarettes Industry Trade Association (ECITA)

[www.ecita.org.uk](http://www.ecita.org.uk)

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