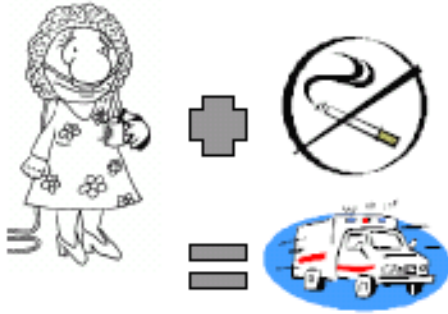




## Stay Safe When Using Oxygen



It is estimated between 700,000 and 1,000,000 people in America use oxygen therapy in the home. When used properly, oxygen is very safe. It has many benefits including extending life expectancy, improving activity levels, reducing symptoms such as shortness of breath, and reducing damage to the heart and other body organs. However, when used inappropriately, it can present a hazard. Here are some guidelines to follow for safe and effective use.

### Fire Risk

Three things are necessary for a fire. First, a combustible material (i.e. something that will burn); secondly, an ignition source (i.e. a spark, flame, or high temperature to get the fire going); and thirdly, oxygen. While oxygen itself is not flammable, oxygen must be present for a fire to occur. When higher concentrations of oxygen are present (such as when using oxygen therapy), the result is:

- Easier ignition of combustible material
- Much higher flame temperatures
- Extremely fast flame spread

Thus, when a patient is using oxygen, combustibles that are in close contact with the oxygen (e.g. clothing, oxygen tubing, hair, pillow, blanket, a cigarette) are more prone to catching on fire, and if they ignite, they will burn hotter and the flame will spread faster.

To use oxygen safely, maintain a safe distance (at least 8 feet) between all oxygen equipment (including tubing) and any flame or other potential source of ignition. Other potential ignition sources include cook stoves, heating stoves, fireplaces, gas hot water heaters, and candles. You should also avoid any products that contain petroleum-based ingredients on your face, as these ingredients are flammable. Examples include petroleum jelly, mentholated rubs (e.g. Vicks), some lip balms, and oily lotions.

If you need to use these types of products, check the label and use ones that are water-based instead of petroleum based (e.g. K-Y Jelly instead of Vaseline).

### Smoking and Oxygen

The need for home oxygen is generally as a result of a smoking-related condition (e.g., COPD, emphysema, chronic bronchitis, lung cancer). While most patients that are using oxygen have quit smoking, some are so addicted that they have been unable to stop. If you are one that has been unable to quit, you must never smoke while using oxygen.

## Smoking while using oxygen is extremely dangerous!

Every year, many people are seriously injured or even killed due to burns suffered from smoking while on oxygen.

A review of the medical journals revealed the incidence of this problem. One study from a hospital in Pittsburg revealed 23 cases and the average burn size was 3.9% of the body surface. Another article revealed 21 patients at one hospital in Baltimore. They noted that, "All patients had been informed about the associated risks but did not shut off their supplemental oxygen system while smoking." Burns from smoking during oxygen use generally affect the face, ears, and neck and some are serious enough to require skin grafts. Along with personal injury, there is also great damage to personal property and even risk to other family members.



If you are an oxygen user who smokes, keep trying to stop smoking. If you have tried before and failed, try again. Talk to your physician about help. New treatments are available to help you stop. Studies have shown that quit rates are up to 8 times higher when a smoker utilizes smoking cessation products (e.g. bupropion, patches, gum) along with a formal smoking cessation program (e.g. group counseling) compared to quitting on your own.

If you are unable to stop smoking, do not smoke while wearing oxygen. Notify your doctor that you continue to smoke and will have to take the oxygen off for short periods while smoking. Keep the flame and lit cigarette a safe distance away from the oxygen equipment and tubing.

### Other Possible Hazards

While discussing safety and home oxygen, a few other safety items are worth noting. If using oxygen cylinders for a portable system or for a large tank for backup:

1. Always keep tanks secured so they cannot fall over or roll. If a tank falls, the weight of it could cause injury, especially a larger tank.
2. Oxygen contents are under high pressure and should a tank fall over or become damaged, the valve could open suddenly or even break free. A sudden pressure release could propel the tank injuring someone.
3. Do not store tanks under extreme temperatures such as inside a hot car. High temperatures will increase the pressure inside the tank.
4. If there is ever a fire where the tanks are stored, be sure to notify the emergency workers who are responding as the tanks will rupture under extremely high temperatures and can be propelled for a long distance.

Liquid oxygen systems store oxygen in a liquid form at a very low temperature (-273 degrees F). As the liquid evaporates (i.e. turns to a gas), it is delivered to the patient.

Due to the extremely cold temperature of the liquid oxygen, which can cause a thermal burn if contacted, follow these precautions:

1. Never touch frosted components on the system.
2. If the unit falls over, cautiously set it back upright.
3. If liquid oxygen ever leaks from the unit, do not touch it. Open windows and doors for ventilation and contact your oxygen provider.

With any oxygen system, remember to post “No Smoking” signs on your entry doors and wherever oxygen is being used or stored. Your family, caregivers, and visitors must also be aware of the necessary safety precautions.

Finally, never adjust your oxygen flow without your doctor’s permission when using any oxygen system. Increasing or decreasing flow can both be harmful to your health. If you feel the prescribed flow is not appropriate for you, tell your doctor.

Oxygen has many benefits and is safe when used appropriately. Make sure you fully understand the operation of your system and all safety considerations to ensure your safety and well-being.