

Supplemental Oxygen Safety: Oxygen and Open Flame

*DISCLAIMER: Please note **I am not a medical professional**. I spent 8 years as caregiver for my mom (2 years pre- and 6 years post diagnosis of IPF), until her passing in 2009. I have since been a PF Advocate for Patients & Families, as well as Founder and Support Group Leader of the Breathe Support Network of Groups. Information provided is from personal experience, combined with years of learning through interaction with patients, other caregivers, & healthcare professionals in the field of PF/IPF.*

Is it safe to use supplemental oxygen when cooking over a gas stove?

This is a topic of discussion quite often in the pulmonary fibrosis (PF) community. It's also one that many tend to take lightly yet is one of the most important issues for those using supplemental oxygen.

Let me pose this question: ***Would you drink alcohol or use drugs and drive?***

Most of us would answer **no** to that question. Why? Because we know that drinking alcohol or using drugs and driving can increase the odds that we bring harm to ourselves or to another, possibly even death.

The use of supplemental oxygen while cooking over a gas stove or oven is the **2nd leading cause of home fires when using supplemental oxygen (2nd behind smoking)**. For more information on that and other statistics, see the attached article linked below.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4487390/>

So the question: **Is it safe to use supplemental oxygen when cooking over a gas stove?**

The answer is **NO**.

The INCORRECT answers I have seen posted in the support group forums are many. They include but are not limited to:

"I do it all the time and have never had a problem."

"If you put your canula tubing behind your head where it's out of the way, it's fine."

"Hook your canula tubing to your apron to keep it out of the way."

"Push your canula as far up your nose as you can."

"Don't lean over the flame."

"My friend used a gas stove and was fine."

“My oxygen tank is in another room and not in my kitchen so it’s fine.”

And the ever popular *“Oxygen isn’t flammable, it’s an accelerant.”*

Let’s examine the problems with these statements.

Location of oxygen delivery system (tanks, concentrator, etc.):

Regardless of where your oxygen delivery system is located, that is NOT where the oxygen is actually flowing. It’s flowing from the canula that’s in your nose.

When oxygen flows through the tubing, up into your nose, some of it also escapes the nose and is flowing back into the air around you. This extra oxygen in the air can become an accelerant for a flame just looking to become larger.

Tubing in front of or behind you:

Again, the location of your tubing isn’t the issue. The oxygen is flowing out the canula and into your nose, with some of the oxygen escaping your nose.

The canula will ALWAYS be on the front of your face. This means the canula – and the oxygen flowing from it – will always be facing the flame.

While putting the tubing behind you or clipping it to your apron or clothing does keep it from landing in the flame itself, which is a good thing, it doesn’t keep the oxygen from reaching the flame.

Pushing the canula further up your nose:

This won’t stop oxygen from escaping your nose. Oxygen will still escape your nose, especially when using higher liter flows of oxygen.

You know that wind tunnel feeling you get when you’re using 4, 6 or more liters per minute (LPM) of oxygen? The higher the liter flow, the more oxygen is going to escape your nose. (And the more that goes into your airway as well. High liter flows become necessary for those with PF.)

Not leaning over a flame:

Leaning or not, the oxygen is going to leave the canula and leave your nose and can still end up in proximity of the flame.

Someone else (or I) do it all the time and have never had a problem:

Sadly, famous last words.

I know many who also drink and drive and have never had a problem. I also know those who have wrecked their cars, harmed themselves, and harmed (even killed) others (and themselves). Just as I know those who have caught themselves on fire using supplemental oxygen while near a flame.

Just because someone else did it without a problem (or you have done it without a problem) doesn't make it safe. It also doesn't mean a problem will never happen.

Oxygen as an accelerant:

Oxygen by itself is NOT flammable. i.e. Oxygen can NOT cause a fire simply on it's own. However, oxygen CAN (and is necessary to and will) make an existing fire burn larger and hotter. An oxygen rich environment is what fire is looking for.

When oxygen is close to a flame, the flame can take that oxygen and become larger. This means if you're standing near the flame coming off the gas burner on your stove and you have oxygen flowing out of your nasal canula and thus your nose, if there's enough oxygen, the flames from your burner can get larger – if even for a second or two – and reach up and catch you, your clothing, the hot pad you have on your hand, etc. on fire.

The concept is the same if you smoke and are lighting a cigarette or using a bar-b-q, sitting by a campfire or a fireplace, sitting near a burning candle, etc. Extra oxygen in proximity to the flame can make that flame larger.

These are the reasons why using supplemental oxygen near a flame is not safe.

How do we manage this?

What do I do when I have a gas stove and am prescribed supplemental oxygen?

Many fall into this category. Let's face it, if we're in need of supplemental oxygen to live, we don't simply get to say "*I have a gas stove that I use for cooking so I can't use oxygen.*" It's also highly dangerous to remove supplemental oxygen while cooking a meal, since that means one would most likely desaturate and eventually lose consciousness. This would be even more hazardous to one's health when using a gas stove.

So what do you do? If you're renting, you contact your landlord and explain to them that you need an electric stove. You tell them you have a lung disease and now need to use

supplemental oxygen so being that close to a flame is dangerous to your personal safety as well as to their property. In many places, including the United States, under the law they are required, due to your medical condition, to make this change in cooking equipment.

If you own your home, you would be responsible to pay out of your own pocket to replace your gas stove with an electric stove.

Many prefer to cook on a gas stove and yes, cooking on electric is different, but you will get used to it. Especially if you have good culinary skills. Gas is not required for cooking or for “good” cooking. It is a learned preference.

How far from a flame should I keep my oxygen?

5 to 6 feet – imperial measurements

1.524 to 1.8288 meters – metric measurements

Since it’s impossible to cook while standing 5 to 6 feet from the stove, then one should opt for an electric stove.

There are other “flames” to keep in mind when thinking about this subject: Candles, bar-b-q’s, matches and lighters, etc. It’s important to ensure that all flames are kept an appropriate distance from flowing oxygen.

Attached are links to some other articles about oxygen safety that would be good to read.

National Fire Protection Association

https://nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Fact-sheets/oxygenfactsheet.ashx?fbclid=IwAR0F8mSfr364_bI-rlyruAYqEny4KclovAGbhrTSKSKQCCjR-0QcjnyeLuE

<https://www.nfpa.org/-/media/Files/Public-Education/Resources/Safety-tip-sheets/OxygenSafety.ashx>

MedlinePlus

https://medlineplus.gov/ency/patientinstructions/000049.htm?fbclid=IwAR0cjYZep51xdErQChM_3JroqznN0xwy0THH1DOfiG43CHcrseWFTpgXoDc

Our goal at the Breathe Support Network is, as always, to keep our support group members safe. While some have said things like “*I love to cook. This disease has taken enough from me.*” I

do hope that each and every person who has to use supplemental oxygen would follow that up with *“I would love to continue to cook – and eat – so I will choose to be safe. I don’t want to add catching myself or my home on fire to having to live with pulmonary fibrosis. I certainly don’t want to shorten my life expectancy simply because I want to cook over a gas stove.”*

Please remember too that if others live in the home with you, it’s not just YOUR safety you are thinking about here. It’s also the safety of those around you.

Prepared by:

Taleena Koch
Pulmonary Fibrosis Advocate for Patients & Families
Breathe Support Network
breathewithpf@gmail.com
www.BreatheSupport.org

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