Why Preppers Need To Know About Oxygen Concentrators

If you are in good health, or don't go to doctors very often, you may not think much about prepping for extreme medical emergencies. In fact, most people thinking about the medical part of their stockpile tend to limit themselves to supplies related to wound care, basic medications, and a few herbs to manage some of the more commonly discussed illnesses.

There are good reasons for adding an oxygen concentrator to your stockpile and keeping basic information about them in mind.

Why You Need an Oxygen Concentrator

At its simplest, an oxygen concentrator is a device that takes regular air in and then releases oxygen in a higher concentration that what is found in room air. This has an immense benefit to people who have lung problems that make it difficult for enough oxygen to enter the body. When there is more oxygen going in, then more gets into the blood, and then to organs and tissue.

Even though oxygen is not a cure for lung disease, it enables these people to live better lives, and also extends life as long as the lungs do not get worse or other problems elsewhere in the body do not develop.

If you are able to get enough oxygen from regular air, there is very little reason to need a concentrator. But a crisis situation can easily change your paradigm. Before using oxygen, make sure you understand how to measure appropriate levels for your needs, and remember that oxygen, like any other medication, can be dangerous if you don't know what you are doing.

- Everything from earthquakes to major fires will cause enormous amounts of dust, light debris and toxins to enter the air, and cause damage to the lungs. Not having a viable respirator system may lead you to needing extra oxygen in order to survive and maintain a basic standard of living. Keep a portable oximeter device on hand so that you can find out how much oxygen is in your blood: as long as your numbers are over 93 – 96%, you should not need to use oxygen.
- Today, very few people talk about the hazards of biowarfare, despite the fact that more and more terrorists make their way into the United States, and use bioweapons into the air. If you are facing a major epidemic without getting help from trained medical professionals, access to oxygen remains one of the most important keys to surviving the situation.
- Throughout time, there are always people that believe the human world is going to end in a major crisis. In some cases, these people wind up being partially right because the nations they live in collapse or some disaster occurs that wipes out large numbers of people. On the other hand, the ancient equivalent of modern preppers may also wind up watching political and other events for decades before their plans actually need to be put into action. During the passage of time, you may easily go from a healthy, powerful young person to a fragile elderly person that may require more help than you may have ever dreamed possible. Failure to consider oxygen generation in your plans may be a serious problem that will be harder to correct later on, especially if you have not fully developed your energy generation plans.
- Given the way people are getting sicker at earlier stages in life these days, do not assume that you can get by without oxygen in a major crisis, or that you can wait a few years before working on this aspect of your plans. At the very least, if you start thinking about

this now, you can keep some basic field information on hand to use to your advantage.

What to Choose?

There are basically two kinds of oxygen concentrators available to consumers today. While both utilize the same basic mechanism, they have different values in terms of survival and medical needs

- Home Oxygen Concentrator – basically, a home based oxygen concentrator comes in the form of a big box that makes a good bit of noise. While they are meant to be plugged into an AC wall outlet, they can also be powered by a DC battery in an emergency situation. If you decide to purchase a home concentrator, you will find they are relatively cheap compared to other kinds. Just be sure to buy several suitable batteries so that you can power the system up in time of need. In many cases, even if you cannot power the concentrator directly, you may still be able to charge up the batteries and then run the concentrator off that.
- Portable Oxygen Concentrator – not so long ago, when people needed oxygen at home, they could not go out unless they had a tank to dispense oxygen. These tanks would usually last for 3 – 4 hours depending on how much oxygen needed to be dispensed at a time. While tanks are still used as a backup system, there is no way to refill them at home. A portable oxygen concentrator is basically a much smaller version of a home oxygen concentrator. They are usually very quiet when operating and can fit into a pocketbook or shoulder harness. As may be expected, these devices primarily run on batteries, although some can also be plugged in. From a prepping point of view, these devices may seem more useful than larger home oxygen concentrators. It should be noted, however, that portable concentrators cost almost twice as much, and there is very little

indication that they are as durable as larger units. That being said, if you are looking to build a mid-weight bug out bag, or want something to include in a vehicle based bug out system, a portable oxygen concentrator will definitely have advantages that cannot be obtained by purchasing larger units.

How Do Oxygen Concentrators Work?

Basically, an oxygen concentrator takes air in, and then runs the air through a canister of zeolite crystals before sending it to the recipient. At the start of the cycle, air is taken in and fed into a compressor. From there, the air is fed into a canister of zeolite crystals until the pressure inside the cylinder is almost 1 ½ times greater than room air. As the pressure increases, the zeolites absorb nitrogen, but not oxygen.

Since regular air is made up of almost 80% nitrogen and about 20% oxygen, removing this one gas element leaves a much higher amount of oxygen in the canister. The gas is released into a reservoir where pressure returns back to normal before being released to the recipient. As oxygen is released into the reservoir, pressure also drops in the first canister. It is then fed into a second canister and released back out into the environment.

Even though concentrators are very good at removing nitrogen from the air, they cannot remove carbon dioxide and other gases. As such, it is impossible for most concentrators to supply 100% pure oxygen. While modern concentrators are much more efficient, older ones that may be available at a lower price may not work as well or be as useful for other purposes. This includes using concentrators as a source of oxygen for oxyacetylene torches and other welding equipment.

If you are interested in using concentrators for alternative applications, do your research carefully and take the time to

find someone that actually knows what they are doing before experimenting. Oxygen is a key catalyst for fire, and as such, you should always be extremely careful in its presence.

What Are the Alternatives on the Market?

Before modern concentrators became available, there were other ways to provide higher levels of oxygen in both home and other settings. Basically, there are two other ways to obtain oxygen:

- Pre-filled oxygen tanks – Welders, and even hospitals and other medical facilities still rely on huge tanks of oxygen as opposed to using concentrators. Typically, these tanks are also refilled from a larger tank that is filled up using some other method. Today, there are home based systems that can also be used to fill up tanks at home. Unfortunately, these devices are more expensive than home oxygen concentrators. It should also be noted that a concentrator is much safer to have around than a bunch of oxygen tanks. Among other things, if you are in a crash, a fire, or some other disaster, crushing or damaging an full oxygen tank can be very dangerous. That being said, if you need absolutely quiet oxygen delivery, it may still be of some use to make sure you have a few tanks on hand.
- Liquid oxygen systems – Basically, a liquid oxygen system compacts oxygen into its liquid form at an extremely cold temperature. When oxygen is needed, some of the liquid is passed through a tube and allowed to warm up. Since gaseous oxygen takes up much more space, the reservoir for breathable oxygen is much larger than the bottom reservoir. Usually, when people have a home based liquid oxygen system, then can also fill up smaller portable units that weigh a little over 10 pounds. Unlike concentrators, a liquid oxygen system cannot simply take oxygen from room air and compress it. Instead, the lower tank must be refilled by a service

company on a regular basis. With regard to prepping, there is very little in the way of advantage to these systems. You cannot refill them, nor can the tanks simply lay around for weeks or months without maintenance. In fact, if you do not use a liquid oxygen system on a regular basis, it will simply vent oxygen into the air until all of the liquid form is gone.

Are Oxygen Concentrators Compatible With Social Collapse Survival Goals?

If you do not have a choice in terms of how your body gets oxygen, then there is no question that you will need to have a functional concentrator at all times. On the other hand, even if you can generate power for them, there are some distinct disadvantages.

- House oxygen concentrators tend to be noisy. There is no mistaking the boom whoosh sound of a concentrator, let alone the sound of the motor as it runs around the clock. If you live in an apartment building, or any other area where sound carry long distances, this can be a problem in a crisis situation. Without a question, anyone looking for a place to rob will hear the sound of the concentrator running and realize that you have electricity, and that you may also have other things of value. This problem can be overcome when you choose the quietest concentrators on the market. Typically, these are portable versions that will also take less energy to operate.
- In today's economy, it is very hard to find 1500 to 3000 in extra money to pay for a concentrator and enough batteries to ensure the unit can run around the clock. As important as a concentrator may be, you are likely to put this as something in your advanced plan and acquisition category as opposed to something that you want to purchase while you are still looking for ways to meet basic food, water, and shelter needs.

- You will need to learn a number of diverse skills in order to get the most from a home concentrator. This includes knowing when you should use oxygen and how much. It is also very important that you know how the lungs work and how to manage oxygen generating equipment. Even though a good bit of this information is available in medical courses and some online locations, you have to put in at least some effort to make sure that you know what you are doing.

How Can I Best Prepare for an Oxygen Emergency?

Overall, the best thing you can do is start off by realizing that any crisis can generate a health emergency that requires oxygen either to help you get better or to simply keep you alive. This includes making sure that you know the symptoms of oxygen shortage as well as how best to treat them until you can gain access to more oxygen. Here are some common myths that you should do away with or be aware of in your survival plans:

- Healthy lungs mean you will not need to worry about oxygen. No matter how fit you may be and how efficient your lungs may be, bioweapons, dust, smoke, and all kinds of lung irritants can still make supplemental oxygen absolutely necessary. While good health is very important, this is one place where a excellent health won’t help you pull completely through the situation.
- Just because you require oxygen, that does not mean you are doomed in a crisis. No matter whether you have COPD, emphysema, lung cancer, or any number of other conditions, it is truly possible for you to survive a major crisis even if commercial power becomes unavailable. If you already have a concentrator, try to get the extra batteries that you need and focus on power generating systems that will enable you to survive the crisis.

Your next step will invariably involve purchasing at least one concentrator that works correctly plus enough rechargeable batteries to power it in time of need. Needless to say, you will also have to figure this device into any power generating plans that you may have been working on.

If you have a choice between reserving electricity for something like cooking or heating up water, you may want to reconfigure your plans so that you can run the concentrator if needed. Along with purchasing a functional concentrator, it never hurts to buy one that does not works so that you can experiment with making repairs as well as replacing newer parts with older, or vintage items that may last longer and have fewer problems.

You should also know how to generate oxygen without using a concentrator. In this step, you should know how to get all of the raw materials for electrolysis methods from natural settings. This will include scavenging for wire, different metal types for Earth batteries, and making sure that you can feed the oxygen into a suitable container.

Oxygen Concentrators and Respirators

It is very important to note that an oxygen concentrator cannot filter out other gases such as carbon dioxide or any number of other toxins. While there are special filters that can be used to filter out these impurities, they must either be placed over the concentrator inlet, your will need to feed the oxygen through a respirator mask.

There are a number of ways that you can achieve this goal. Just make sure that the inlet does not allow contaminated air to get inside the mask. When you are not wearing the respirator, you will still need some way to continue taking in air from the concentrator. If you can use a cannula, this may be better, since there will be less gear on your face. This, in turn, will allow the skin on your face to breathe and also

help you remain more comfortable.

Depending on your budget, you may also be able to buy a respirator that includes a pumping system and a built in concentrator. As may be expected, these devices are very expensive, and may be hard to obtain for the general consumer. That being said, you can still do some research on these devices and see if they will be of more value to you than trying to assemble different pieces of gear into a workable whole.

Things You Should Build and Test Now

Overall, it can be said that when it comes to managing oxygen in a crisis your first job will be to provide electricity. No matter whether you choose to work with electrolysis to generate oxygen from water or you choose to power a generator, making sure that you can provide enough electricity is very important.

You can always get started with wind and solar systems, or better yet, water wheels. There is also considerable room to explore gravity motors and other "archaic" engines that can be used in conjunction with magnets and coils.

Since you may be in a very weakened state in a crisis, it may not be a good idea to think you can rely on body powered devices to keep your concentrator going. Do not forget that if you come down with a very bad cold, or your lungs get damaged because of inhaling various toxins, it may not be feasible to pedal a stationary bike or any number of other devices that might otherwise be very useful.

Once you know that you can generate enough electricity on a reliable basis, your next step will be to make sure that you can keep any concentrator up and running. This includes making sure you have good troubleshooting and repair skills.

It may also be of some help to keep some items on hand that

can be bartered for repair services. Make it your business today to find out if any of your friends or neighbors is a hobby electrician or even capable of fixing small appliances. Also try to find someone that enjoys bringing old technologies from ancient cultures back to life in the modern world. You truly never know who or what skills you will find in people around you until you start asking.

As you can see, oxygen concentrators are very useful devices to have on hand. If you encounter an unexpected medical emergency, they can make a difference during a crisis period in which routine medical care may not be available.

No matter whether you are facing the aftermath of a fire, earthquake, or even nuclear fallout, rest assured that air quality will be a major problem to deal with. In situations where air quality is likely to cause damage or decreased lung function, it makes perfect sense to have an oxygen concentrator on hand. Needless to say, even if you do not need the concentrator for this purpose, you may still need the oxygen for other purposes such as welding or other industrial applications.

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