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Oxygen therapy

Bonnie Solmes BSW CSW

Social work consultant, Respiratory Unit, West Park Hospital, Toronto, Ontario; Chairman of the Ontario Lung Association/Ontario Thoracic Society/Ontario Respiratory Care Society Task Group on Home Oxygen Funding

The following comments are designed to help patients and their family members understand the reasons for long term oxygen therapy (LTOT) and some of the issues connected with it.

Who benefits from LTOT?

LTOT is prescribed for people with chronic lung disease in whom there is a decrease in the ability of the lungs to supply enough oxygen to the body. The heart is obliged to pump faster to meet the body's oxygen requirements. This may place undue stress on the heart, resulting in palpitations, dizziness and fatigue. A low oxygen level in arterial blood is also harmful to the heart, the brain and the pulmonary blood vessels. Oxygen therapy is used to break this cycle. A person with low blood oxygen will often be able to accomplish more with less fatigue with the help of supplemental oxygen therapy.

Shortness of breath is a mechanical problem resulting from the effects of chronic obstructive pulmonary disease. Oxygen therapy may or may not reduce shortness of breath, but it will help the lungs and heart to function with less stress.

How do I know if I need oxygen therapy?

You may not know that you need oxygen therapy by how you are feeling. The need for oxygen therapy can only be determined from measurements of oxygen tension (directly from arterial blood gas measurement) or oxygen saturation (indirectly by oximeter). Many health professionals are qualified to do these procedures (physicians, respiratory therapists, nurses, occupational therapists and physical therapists).

Oxygen is a medication. Unlike many other medications, it is administered in gas form rather than as a pill, but the dose is prescribed with the same care. A flow rate is prescribed, which may vary depending on whether you are resting or exercising, awake or asleep. You should follow your physician's prescription just as you would for any other medication. If you feel that your prescription needs to be adjusted, you should speak with your physician before making any adjustments by yourself. Using a flow rate other than the one that your doctor has prescribed could be detrimental to your health.

How do I obtain oxygen?

Your physician will evaluate your oxygen requirements and then prescribe the oxygen for you. An oxygen vendor will provide the medication and the delivery equipment (tank, cylinder, concentrator, etc). All provinces have programs for funding home oxygen. You may contact these programs or your Lung Association to obtain information regarding the available oxygen services in your area.

What are the costs of LTOT?

The costs of oxygen therapy vary according to the flow rate, type of equipment and whether you qualify for government funding. Some private insurance plans also cover oxygen.

If you are over 65 years of age and qualify for the Home Oxygen Program in your province, the cost is often completely covered through the program. If you are under 65 years of age, some of the cost may be covered, but these arrangements vary among the provinces. If you do not have insurance coverage and your income is limited, you may qualify for assistance through a Disability Support Program through your provincial government, or through your local or regional government. For more information, you can contact your Community Information Centre or speak with your oxygen vendor.

Will I always need oxygen?

Like any medication, oxygen is prescribed by your doctor, who will re-evaluate your need for it at regular (often annual) intervals. If you no longer need the additional oxygen, the doctor will discontinue it.

What do I do if my oxygen runs out and I am not at home?

There are two important suggestions to keep in mind:

- Plan ahead! – Remember to organize your time so that you do not run short of oxygen. Know how long your portable tank will last. Take a second one with you if it might be needed.
- Do not panic! – If you are with someone, guide them as to how to help you. For example, they can call your oxygen company to bring another unit to you, call someone at home to come with a unit or, if necessary, take you home. If you become unwell (which is unusual during a brief pause), you may need to go to the hospital, but if you do not become anxious, this is not likely to happen. Try to remember that oxygen is a long term therapy for you, not an emergency life support system.

Is it safe to have oxygen in my home?

Yes, it is safe. Oxygen, at room temperature, is a colourless, odourless, tasteless gas that supports combustion. It is non-flammable (does not burn on its own) and does not explode, but will speed the burning of some other materials so that they appear to explode. It is important to keep matches, lighters, cigarettes, candles, etc, away from your oxygen unit and the area in which it is stored. It should be stored in a cool, well-ventilated spot away from any electrical or gas appliances.

How is oxygen delivered?

There are three main types of oxygen systems:

- Liquid oxygen units are small and carry oxygen at a low temperature in liquid form. They provide individuals with lung disease with the most mobility. Planning ahead is important because the units usually run out of oxygen after 6 to 8 h.
- Oxygen concentrators are devices that use electricity to increase the oxygen concentration in the air by removing nitrogen. They are ideal for use in the home but are not portable.
- Cylinders of compressed gas, made of aluminum or steel, come in a variety of sizes. The smaller ones are portable and can be used outside the home, and the larger ones can be used at home.

Oxygen therapy is designed to enable individuals with chronic lung conditions to be more active and independent in their daily lives. Also, with long term use, it prevents deterioration of heart and brain function, and results in a bet-

ter quality of life. As with all changes in treatment, you may need time to adjust to and accommodate this addition to your treatment regimen.

Additional resources

If you have any questions regarding your supplemental oxygen, please speak with your physician (family doctor or respirologist), your health care provider (nurse, respiratory therapist) or your oxygen supplier. Also, your local Lung Association has a number of free publications specifically designed to help people with chronic obstructive pulmonary disease; if you have access to the Internet, you may wish to visit the Canadian Lung Association's web site (www.lung.ca).

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Other resources that were reviewed were: the Home Oxygen Program of the Ministry of Health information for patients and families sheet, and the *Questions and Answers about Oxygen Therapy* brochure provided to the patients of the William Osler Centre, Brampton, Ontario.

This information should not be used as a substitute for the medical care and advice of your physician. There may be variations in treatment that your physician may recommend based on individual facts and circumstances. This information may be reproduced without permission and shared with patients and their families.