Oxygen Therapy

Skinny Little Reference Guide™

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OXYGEN THERAPY INTRODUCTION

Supplemental oxygen administration may become necessary as an element of the treatment plan in Alpha-1 COPD. As lung destruction progresses, the ability of the lungs to exchange oxygen becomes impaired, resulting in a condition known as hypoxemia, where the levels of oxygen in the blood are lowered. The long-term effects of hypoxemia can be detrimental and life-threatening.

KEY LEARNING: Under normal circumstances, the body's drive to breathe is in response to the carbon dioxide levels in the blood. The brain cannot detect low oxygen levels.

EFFECTS OF LOW OXYGEN

Inadequate levels of oxygen have an effect on a number of systems in the body. In the lungs themselves, a lowered concentration of oxygen in the blood causes the vessels of the lungs to constrict. This results in increased blood pressure in the arteries feeding the lungs known as pulmonary hypertension and also causes the heart to pump harder and strain to get blood through the lungs. Over time, this strain can cause the heart to dilate and weaken, and eventually fail. Known as Cor Pulmonale, this right-sided heart failure can be directly caused by lung disease.

Inadequate oxygen levels can lead to an increase in the number of circulating red blood cells in the body. It is the red blood cells, specifically the hemoglobin, that transport oxygen throughout the body. This proliferation (large number of the red blood cells, known as polycythemia), is the body's way of attempting to deliver more oxygen to the tissues and cells. In some individuals, the increased volume of circulating red blood cells can cause blood clots, headaches, and elevated blood pressure.

CROSS REFERENCE: For definitions of many of the medical terms used in this brochure, you can refer to the "Glossary of Terms" in the **Big Fat Reference Guide** at www.alphanet.org.

Hypoxemia also can adversely affect brain function and physical capabilities. Attention span and the ability to concentrate may be diminished, along with memory and mood. The ability to utilize abstract reasoning and problem-solving skills can be impaired. Speech may become affected, and simple sensory and motor skills may become problematic. Being able to perform more complex tasks that require gross and fine motor skills can be adversely affected; for instance, driving a car, performing specific tasks of a job, and operating equipment. Poor tolerance to exercise, muscle weakness, and impaired coordination also can be seen. Severe hypoxemia is life-threatening, and can ultimately lead to delirium, coma, and death.

BURNING ISSUE: Severe hypoxemia is life-threatening, and can ultimately lead to delirium, coma, and death.

BENEFITS OF OXYGEN ADMINISTRATION

It is well-documented that the administration of oxygen therapy can reverse the negative effects of hypoxemia and significantly improve survival. Furthermore, clinical studies among individuals with severe COPD have shown a direct correlation between these beneficial effects and the number of hours per day that oxygen therapy is administered. For example, one study compared the health outcomes for patients who received 12 hours of oxygen therapy per day with those who received 19 hours of oxygen therapy per day. This study showed that the negative effects of hypoxemia on the pulmonary vasculature were reversed and survival rates were increased for both groups of patients. However, these beneficial results were even more dramatic for the patients who received longer daily oxygen administrations.

GOOD NEWS: In COPD studies, patients with hypoexemia and Cor Pulmonale, have shown treatment with long-term oxygen therapy increased the life span of these individuals by as much as six to seven years.

Perhaps of greatest importance to the daily life of individuals needing supplemental oxygen, correcting hypoxemia allows increased activity and exercise levels with less shortness of breath. The improvement in shortness of breath with activity is not directly due to the higher oxygen levels in blood but rather to the ability of muscle to continue to use oxygen as fuel without changing to the anaerobic metabolism that it uses when oxygen levels drop too low. Anaerobic metabolism generates much more carbon dioxide in the blood than muscle activity that uses oxygen, called aerobic metabolism. It is the blood's carbon dioxide level that controls the amount of shortness of breath that someone notices. Using supplemental oxygen allows people to exercise longer and harder, leading to better overall fitness and muscle efficiency.

Oxygen therapy also helps to restore impaired cognitive capabilities (the ability to think and remember), mental alertness, physical stamina, mood, and the ability to achieve restful sleep. Truly, the benefits of oxygen therapy are numerous and profound.

EVALUATING HYPOXEMIA

The most accurate method for determining the presence of hypoxemia is a test of "arterial blood gases," also called ABGs. In addition to measuring the oxygen level found in the blood, this test also provides levels for carbon dioxide and other elements, such as blood pH and bicarbonate. The level of carbon dioxide found in the blood is an important factor a physician will consider when recommending the use of supplemental oxygen. Bicarbonate and blood pH levels show how the body may have compensated for any imbalances between oxygen and carbon dioxide levels, and provides further evidence regarding the severity of these imbalances. An ABG test, which involves taking a small sample of blood from the artery in your wrist or from the inner curve of the elbow, is generally used to establish your "baseline" condition.

Pulse oximetry is another method for evaluating oxygen saturation of the blood, and is generally used for ongoing evaluations after a "baseline" has been determined. The pulse oximeter is a device that clips onto a fingertip or ear lobe, which is able to "read" the oxygen level directly through the skin. This device is easy to use by anyone, and does not require the assistance of medical personnel. The difference between the results from oximetry and ABG analysis is that oximetry is only able to measure the percentage of the blood that is satu-

rated with oxygen (percent oxygen saturation). It does not provide the levels for carbon dioxide or for any of the other blood components. Pulse oximetry also differs from an ABG test in that it does not require puncture of the skin.

Sometimes determination of the need for supplemental oxygen is made during a hospital stay, when hypoxemia is present due to an acute infection or a pulmonary exacerbation. In these instances, reassessment of the need for supplemental oxygen is recommended after one to three months, since ongoing oxygen therapy may no longer be needed. Once the need for long-term oxygen therapy is established, pulse oximetry may be used routinely to reassess the individual's oxygen needs whenever there is a change in the clinical status or a change in the oxygen prescription.

Pulse oximetry can be easily performed and the results are immediately available. It does not require lab analysis, and it can be performed in various settings. For example, if symptoms of hypoxemia develop during exercise or are suspected of occurring during sleep, your physician may want to monitor you under theses conditions. Pulse oximetry can be conducted while you exercise on a treadmill or stationary bicycle, and oxygen saturation can be evaluated during sleep with the use of a portable oximeter and recording device.

CRITERIA FOR SUPPLEMENTAL OXYGEN THERAPY

Specific blood test criteria have been established for prescribing oxygen therapy and for determining the reimbursement of its costs from Medicare and other third-party payers. The criteria, developed by medical experts, establishes oxygen blood levels that warrant the use of supplemental oxygen.

These guidelines describe three specific conditions that necessitate the use of oxygen therapy. When looking at your test results the following information might be helpful:

1. PaO_2 is less than or equal to 55 mmHg or hemoglobin oxygen saturation (SaO_2) is less than or equal to 88 percent when breathing room air while at rest.
2. PaO_2 of 56-59 mmHg or if SaO_2 is equal to or less than 89 percent when associated with specific clinical situations (such as cor pulmonale, congestive heart failure, or polycythemia with a hematocrit of greater than 56 percent).
3. Some individuals do not qualify for oxygen therapy while at rest, but may require supplemental oxygen while walking, exercising, or during sleep.

Oxygen therapy is indicated in these situations when the SaO_2 falls to less than or equal to 88 percent. Also, in order for the costs of supplemental oxygen to be covered by insurance, third-party payers require evidence that the oxygen therapy utilized during exercise or sleep actually improves the individual's hypoxemia.

CROSS REFERENCE: To learn more about how to interpret these test results, see the section "Understanding Diagnostic Test Results" in the **Big Fat Reference Guide** at www.alphanet.org.

OXYGEN PRESCRIPTION

Your oxygen prescription is written by your physician and should address the use of oxygen at rest, during exercise, and during sleep. Make note that your prescription may include different flow rates for rest, exercise, and sleep. The prescription should indicate the type of oxygen system, the flow rate expressed in liters per minute, and the duration in terms of number of hours per day. The prescription also should include the diagnosis of the disease requiring the use of oxygen therapy, such as Alpha-1 COPD.

ACCEPTANCE OF THERAPY

For many individuals, the confirmation of the need for oxygen therapy can precipitate feelings of uncertainty, loss, frustration, and fear. Despite the recommendations from their physician, some choose not to comply with the recommendations for therapy. Generally, objections have to do with the individual's perception of how others will react to them. Feelings of appearing to be unacceptable, or of being viewed as "handicapped" are not unusual.

CROSS REFERENCE: We talk more about your feelings concerning oxygen therapy in "Coping with Alpha-1 Lung Disease." in the **Big Fat Reference Guide** at www.alphanet.org.

Further objections to the use of supplemental oxygen relate to the inconvenience of having to be tethered to an oxygen tank, and the impositions made on lifestyles and plans. Denial and fear of facing the seriousness of the illness, as well as being pressured to come to terms with living with a chronic and progressive condition, also may have an impact on compliance with therapy.

Some individuals rationalize they do not want to use supplemental oxygen because they are afraid they will become "addicted" to it. Ironically, by refusing to comply with the prescribed therapy, these individuals may bring about the events they are trying to avoid. If you have been prescribed oxygen therapy, you will want to become well-informed about its benefits, as the benefits are well-documented and have measurable and appreciable positive effects. When these positive effects are compared with the limitations imposed by feeling fatigued, out-of-breath, and in general, just not feeling well, you may feel that the benefits far exceed your concerns and fears about oxygen therapy.

BURNING ISSUE: By refusing to comply with prescribed supplemental oxygen therapy, individuals may bring about the events they are trying to avoid.

For those individuals who may be contemplating lung transplantation, acceptance of oxygen therapy as a pre-transplant regimen will be vital for counteracting the effects of ongoing hypoxemia and will help to preserve cardiac function.

CHOOSING A HOME THERAPY PROVIDER

Before choosing an oxygen delivery system that will meet your needs, you must first choose a company to provide that service. Many companies specialize in providing home care and durable medical equipment. Begin by checking with your health insurance provider, as they may have contracts with specific companies in your area. If you have freedom of choice, the key is to shop for service. Generally, each company provides similar products and systems, but it is their ability to provide exceptional service that can make all the difference.

Getting information and feedback from others you may know who are presently receiving oxygen therapy can be helpful. Then, call various companies and compare their services and prices before you make your final decision. Some common questions you might have for these companies are:

- Are you a national company, and how many branches do you have?
- Where are your branches located?
- What systems can you provide? What influences the decision to provide one system over another? (Sometimes they may only offer those systems that are more profitable for them.)
- How often are deliveries made?
- Will you help make arrangements for oxygen delivery if I should decide to travel?
- What is the response time in case of an emergency?
- What is the turn-around time to replace defective equipment?
- How often will the respiratory therapist come to my home?
- How often will equipment be checked and/or serviced?
- What about reimbursement? How much will this cost me?
- What if I choose to purchase the system? Will you still provide service?
- Do you have any customer testimonials?
- Are you licensed and accredited? By which organizations? For example, are you licensed by the individual state, and have you been accredited by Medicare/Medicaid and/or by the Joint Commission on Accreditation of Health Organizations (JCAHO) (Medicare/Medicaid and JCAHO provide standards that must be adhered to in order to achieve and maintain accreditation.)

CHOOSING A SYSTEM

Individuals with Alpha-1 COPD are encouraged to remain as active as possible, despite the need for and use of supplemental oxygen. Advances in technology have provided for a variety of systems that can help those requiring oxygen meet their specific need for maintaining an active and healthy lifestyle. Your goal for choosing a system will be to find one that will meet your specific needs for mobility and portability, as well as be efficient and cost-effective. It is important to discuss with your physician and home therapy provider your needs and individual situation. View your choice for home oxygen as you would for selecting any major home appliance. Ask lots of questions. You may have more options to choose from than you realize. Consider all the choices, think about what your specific needs are, and then select the system or systems that will be the best fit for you.

Equipment associated with home oxygen therapy has two essential components:

- The container or storage system which holds the oxygen whether compressed gas, liquid, or from a concentrator
- The delivery system that transports the oxygen from the container into your lungs

We discuss a number of the available options for each of these types of components below.

Storage Systems

There are two types of storage systems: stationary and portable. As new technology has been developed, combined systems offering more flexibility and portability have been made available. As you will see, some of the storage systems also may be used to fill portable systems — combining both types. We will highlight the most common systems currently available.

Stationary systems

Stationary systems provide a large source of oxygen, but restrict movement. The most common and most economical in-home stationary system used is an oxygen concentrator. Concentrators use an electric motor and work by removing nitrogen from room air to make 94-98 percent oxygen. An oxygen concentrator requires an electrical source, and operates by passing room air through a powder or a membrane to separate oxygen from nitrogen. The oxygen is concentrated and delivered while the nitrogen is periodically released back into the air. Stationary concentrators can be fairly small, weighing anywhere from 22-70 pounds, and can achieve a liter flow rate of up to five to six liters per minute. A long supply tubing of approximately 50 feet in length is needed to allow for maneuvering around the house and preventing tangles with furniture. Since these systems require a source of electricity, you also will want to have a back-up oxygen supply in case a power failure occurs.

These units must be placed in a well-ventilated area and kept away from heat and flames. Concentrators need routine maintenance for inspections, filter changes, and oxygen analysis. Some of the newer models provide an oxygen concentration indicator which measures the oxygen level administered by the concentrator and sounds an alarm if the reading falls below a certain level.

Another stationary system is a reservoir for liquid oxygen. Liquid oxygen is gas condensed into a liquid state by extreme cold. Liquid systems have a large reservoir tank which is filled by the oxygen supplier once or twice a month.

These systems require no electricity, have very few moving parts, and require little maintenance or repair. When dealing with liquid oxygen, caution must be exercised to prevent spills, because liquid oxygen is extremely cold and can injure the skin immediately upon contact.

A typical liquid oxygen reservoir weighs 124 pounds when filled and contains 31 liters, or 73 pounds, of liquid. This amount of liquid oxygen is equivalent to 24,950 liters of oxygen in the gas form. At a flow rate of two liters per minute, this amount of oxygen would last 208 hours, or eight days. Because liquid systems continually lose oxygen through evaporation, even when not in use, they are appropriate for regular use at home, or for filling up portable units. They are not suitable as an emergency back-up system. Newer units are now available that reduce the amount of oxygen that is lost into the air, along with improvements in size and stability. Many of these systems also have built-in pulsed delivery or conserving devices.

Compressed gas oxygen in large tanks or cylinders is another example of a stationary system. Large steel or aluminum tanks (H, S, and M60 styles), are heavy, cannot be moved easily, and must be safely secured to prevent them from falling over. They are not appropriate for someone who requires continuous-flow oxygen, due to the volume that would be required to meet a continuous need and the prohibitive cost. This system is better suited as a back-up system for a concentrator.

Portable systems

Oxygen concentrators were once thought of only for individuals who were homebound and relatively inactive. Newer and lighter-weight models have been developed for portable use with electrical capabilities for automobiles and are also outfitted with battery packs. There are even newer concentrators presently available that fill portable cylinders at home, providing accessibility and convenience. This type of concentrator not only compresses oxygen to fill the cylinders, but also provides continuous-flow oxygen for breathing.

Small portable liquid oxygen units can be easily filled from the large liquid reservoirs using a direct connection between the two. A small portable unit that has been equipped with a conserving device can allow you to spend longer intervals away from the home and promote a more active lifestyle. This combination of a portable unit/conserving device also can serve as a base reservoir that can be filled at less frequent intervals. A discussion of conserving devices is presented later in this chapter.

Compressed gas in smaller cylinders can provide portability as well. The following listing outlines the amount of time a given cylinder size would last at a rate of two liters per minute without a conserving device. If a conserving device is used, these time frames would be extended:
E-cylinder: up to five hours
D-cylinder: up to three hours
M9: up to two hours
M6: up to one hour

E-cylinders are the most common size used as back-up for individuals using concentrators. These cylinders can be easily wheeled on a cart or a stroller, and they weigh about 20 pounds. Smaller tanks can be carried in backpacks, fanny packs, or shoulder bags. Each cylinder is fitted with a regulator that is used for adjusting the flow rate. At a rate of two liters per minute, they only last a few hours. E-cylinders are not appropriate as a sole source of oxygen for continuous, long-term therapy.

IT'S A FACT: You should be aware that Medicare covers the cost of portable systems only if they are needed for mobility within the home, not for away-from-home activities.

Most people use a combination of storage systems as a means for achieving the most economical supply of oxygen, and for promoting an active and full lifestyle.

OXYGEN DELIVERY SYSTEMS

Oxygen delivery system options include:
- Nasal cannulas
- Transtracheal catheters
- Pulsed delivery systems
- Face masks
- Oxygen-conserving devices

Nasal cannula

Low-flow, dual-pronged nasal cannulas are the standard delivery device most people use at home. The nasal cannula is a piece of plastic tubing connected to the oxygen source that ends in two small prongs that rest in the nostrils. The tubing leading to the nostrils rests on the ears. Oxygen is delivered via continuous-flow from the container, which is diluted with room air before it enters the lungs during inspiration. The nasal cannula can provide 24-40 percent inspired oxygen concentration (FIO_2), depending on the oxygen flow rate and the person's respiratory demand.

This device is simple, inexpensive, and can be used with flow rates of up to six liters per minute. Keep in mind that humidification is recommended for flow rates greater than four liters per minute as continuous oxygen flow can be drying to the nasal mucous membranes. Humidification also may be necessary at lower flow rates when the climate is dry. The disadvantage of this device is that oxygen is delivered throughout the respiratory cycle, during both inspiration and expiration, which is neither efficient nor cost-effective.

Face mask

For some individuals, a face mask may be required to deliver a higher concentration of oxygen if ordered by the physician. The mask is made of plastic and fits snugly over the mouth and nose. This device is not always practical for long-term and in-home use, as it is somewhat uncomfortable and can make speaking difficult. The mask also must be removed for eating and drinking.

Transtracheal oxygen

Transtracheal oxygen (TTO) catheters can provide effective continuous oxygen therapy, even to patients who require extremely high-flow oxygen. This delivery device involves the insertion of a catheter through the skin of the neck into the windpipe (trachea) just below the Adam's apple (vocal cords and larynx). Oxygen enters the trachea via this catheter. Individuals who choose this method of oxygen delivery generally have a strong desire to remain active and are willing to follow specific self-care instructions. This method can be more cosmetically appealing for some people and can help reduce dyspnea during eating.

Since the oxygen is being delivered directly into the trachea, and is not diluted by room air, TTO can deliver the required amount of oxygen therapy using a reduced oxygen flow rate. For example, an individual on a flow rate of two liters per minute via nasal cannula might require a flow rate with TTO of one liter per

minute. That represents a 50 percent reduction in cost, and a significant increase in the length of time a tank of oxygen would last before needing to be refilled. With the addition of a conserving device, even greater efficiency and savings could be realized.

KEY LEARNING: Transtracheal oxygen is not recommended for individuals who require chronic high-dose steroids, since these medications can mask infections and delay the healing process.

This method of oxygen delivery is for individuals who have infrequent exacerbations, and who have a caregiver who is willing to participate in their care and problem-solving. Complications of transtracheal oxygen are infrequent and generally mild if the patient is compliant with the care instructions. Complications include: catheter displacement, bacterial cellulitis, and coughing-up blood (hemopytsis). In addition, mucous balls can develop due to the dryness of oxygen, increased sputum production, and from poor adherence to cleaning procedures.

OXYGEN CONSERVING DEVICES

The primary goal of oxygen-conserving devices is to improve portability and comfort by reducing the size and weight of the oxygen system that you carry around. Furthermore, the reduced frequency of replacing or refilling tanks and cylinders also reduces the overall cost of therapy.

Reservoir cannulas

Reservoir cannulas operate by storing oxygen in a small chamber during exhalation, which is then delivered during inhalation. They are driven by the person's own inspiratory and expiratory effort, and are generally used for individuals who require higher flow rates to achieve adequate oxygenation. These devices are available in several different configurations. The Oxymizer and the Pendant are two examples of these devices. Overall oxygen consumption is decreased through reduced-flow settings, generally by 25 to 50 percent of traditional continuous-flow nasal cannulas. Although these cannulas are simple to use, reliable, and economical, their particular disadvantage is that they tend to be large and more noticeable.

Pulsed delivery devices

Pulsed delivery devices function by delivering a small amount of 100 percent oxygen at the onset of early inhalation. The device is interposed between the user and the oxygen source, and can be a separate unit or built right into the oxygen reservoir. Because oxygen delivered during early inspiration reaches the alveoli, this device is very effective in promoting oxygenation. An additional advantage is that when individuals exercise and increase their respiratory rate, the amount of oxygen delivered increases as well, since the pulsed delivery follows each inspiration. (This does not apply, however, to a fixed-pulse device or fixed-setting.) These devices sense the start of inhalation either by electronic means or by pressure changes that can be pre-set for specific demands.

- A fixed-pulse device can be set to deliver oxygen at a set rate along with each breath, or it can be programmed to skip one or more breaths.
- A demand-pulse device can deliver oxygen throughout inspiration or only during a part of the phase. This device is capable of adjusting to changes in demand.
- A variable-demand device can deliver oxygen that is adjusted to the rate and length of each inspiration.

A physician's prescription is required for the use of these devices, and they must be evaluated under various conditions (i.e., rest, exercise, and sleep) to assure the device is able to meet your specific needs and maintain adequate oxygenation. In general, pulsed devices are not recommended for use during sleep because they may have trouble detecting shallow nighttime breaths. You should be trained on how to operate the system and trouble-shoot if problems arise. Each system should be equipped with a fail-safe mode, where it can be set to full and continuous oxygen flow in the event the device malfunctions or fails.

INSURANCE COVERAGE AND COST OF THERAPY

The American Lung Association estimates more than one million Americans use home oxygen on a long-term basis. Home oxygen therapy represents a significant national health expenditure, totaling more than one billion dollars annually. It is the most expensive non-surgical treatment reimbursed by Medicare. Home oxygen therapy and related equipment is covered under the durable medical equipment (DME) benefit of the Medicare program.

GOOD NEWS: Home oxygen therapy is the most expensive non-surgical treatment reimbursed by Medicare.

Medicare's payment rules for home oxygen provide for a monthly payment that covers the oxygen equipment and all necessary supplies. Currently, the typical monthly cost is $300. Medicare and most private insurers pay 80 percent of this cost (approximately $240), and the individual or secondary insurers would pay the remaining 20 percent (approximately $60 per month). Although private insurance coverage varies, many companies follow Medicare's guidelines for reimbursement. You should check with your individual insurance company for its rules for coverage and reimbursement practices.

It is important to understand that even though your physician may prescribe a specific system for you, your supply company may be challenged to provide that particular system if they receive inadequate reimbursement. Many supply companies may want to supply you with a system that is less costly for them, and one for which they obtain adequate reimbursement from third-party payers. Negotiations between you and the supply company, as well as your physician, may be necessary to resolve these kinds of issues. In general, liquid oxygen systems tend to be more expensive to provide and maintain for service providers, expenses for which they may not be completely reimbursed.

Since 1997, cuts to Medicare reimbursement for oxygen therapy have totaled 30 percent, and further reductions in reimbursement rates are likely to occur at some point in the future. These cuts threaten the health and safety of many affected individuals by jeopardizing their ability to pay for and to access services. You may want to familiarize yourself with the issues and become involved in seeking legislative remedies for this problem. By petitioning legislators through letters, phone calls, faxes, or e-mails, further reductions may be stopped or rolled-back so that this life-sustaining therapy can be made more readily available.

DIG IN: You may want to familiarize yourself with these Medicare legislative issues and become involved in seeking remedies.

OXYGEN SAFETY

Our discussion of oxygen therapy would not be complete without mention of specific recommendations for the safe use of oxygen. The potential for fire hazard in the presence of oxygen is well-known, although sometimes forgotten or overlooked. In addition, there are some seemingly benign hazards in the home, which can be eliminated by instituting a few simple precautions to create a safe home environment in the presence of oxygen use.

- Oxygen canisters should be kept at least 5-10 feet away from gas stoves, lighted fireplaces, woodstoves, candles, or other sources of open flames.
- Do not use electric razors (a possible source of sparks) while using oxygen.
- Do not use any oil, grease, or petroleum-based products on the equipment, or near you while you use supplemental oxygen, as these materials are highly flammable and will burn readily with the presence of oxygen. Avoid petroleum-based lotions or creams, like Vaseline, on your face or upper chest. Check the ingredients of such products before purchase. If a skin moisturizer is needed, consider using cocoa butter, aloe vera, or other similar products. If lubrication or rehydration is needed for dry nasal passages, there are water-based products available which your pharmacist or care provider can recommend.
- Post signs in every room where oxygen is in use, and make sure that absolutely NO SMOKING occurs in the home or in the car when oxygen is in use.
- Secure an oxygen cylinder to a solidly fixed object to avoid creating a missile out of the tank if it were accidentally knocked over and gas were allowed to escape.
- Use caution with oxygen tubing so you do not trip over it or become entangled in furniture.
- Be familiar with the equipment and the safety checks established by the home medical equipment provider. Keep their contact telephone numbers, and the numbers for other emergency services, posted near a phone. Do not attempt to repair broken equipment on your own. Request this service from the oxygen equipment provider.
- Make sure smoke detectors in the home are working and have fresh batteries installed; perform monthly checks. Have a fire extinguisher, (type ABC) available in the home as well. Develop and practice an escape and rescue plan in the event of a fire.
- Notify the local fire department, gas and electric companies, and telephone company when home oxygen therapy is instituted. Request a "priority service listing" in the event of a power or telephone failure, or if repairs are necessary on any utility.

BREATHE EASIER AND LIVE LONGER

Supplemental oxygen therapy may become necessary to provide adequate oxygenation when lung function has declined and hypoxemia results. The benefits of oxygen therapy are well documented, and are known to reverse the ill effects of hypoxemia and prolong lifespan. Although there are challenges with therapy, today's oxygen systems are efficient and portable. Your understanding of the need for oxygen and your compliance with therapy is one of the most important ways in which you can manage your lung disease and continue to promote a healthy lifestyle.

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This brochure is produced by AlphaNet as part of its
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AlphaNet is a not-for-profit organization providing disease management services and support to individuals affected by Alpha-1 through a staff of medical professionals and specially trained AlphaNet Coordinators, available 24 hours a day, 7 days a week. To learn more about ADMAP or to find the AlphaNet Coordinator nearest you, visit our website (www.alphanet.org).


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