

SAIL Home Oxygen Program

Tester's Newsletter



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This newsletter is produced by the Lung Association of Saskatchewan through a contract with Saskatchewan Health.

Any questions or comments may be directed to Marion Laroque at 667-3016
marion.laroque@sk.lung.ca



Spotlight on Lung Disease

Pneumonia

Pneumonia is a lung infection involving the alveoli. It can be caused by a variety of microbes including bacteria, viruses or fungi.

Pneumonia was the third leading cause of death before the discovery of antibiotics. It is still the 8th leading cause of death, accounting for about 5500 deaths in Canada.

The lungs are exposed to about 10,000 litres of air per day, bringing the possibility of contact with infectious or toxic agents. The upper airway also contains bacteria which may enter the lungs. Anyone can develop pneumonia, but people with deficient immune systems or underlying medical conditions are at greater risk. The very young and the elderly are also at greater risk of dying from pneumonia. In fact, pneumonia is the leading cause of death in children worldwide.

Pneumonia is usually categorized by the location of the person developing pneumonia: either community-acquired, or hospital-acquired.

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Home Oxygen Workshop Telehealth Conference

**Thursday, October 6, 2011
1:30 pm - 4 pm**

Interested? Sign on with your local Telehealth coordinator

Sign up deadline is October 4, 2011

Pneumonia

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Symptoms of pneumonia can include:

- High fever/chills/shakes
- Productive cough
- Shortness of breath
- Chest pain with breathing
- Sudden illness after a cold or the flu

Diagnosis is usually made by chest auscultation, chest x-ray and blood work. Treatment includes antibiotics, fluids and rest at home. Severe cases are hospitalized.

The World Health Organization recommendations for the prevention of pneumonia include: vaccinations, exclusive breastfeeding and hand washing. Reducing environmental risk factors such as: indoor air pollution caused by cooking with wood fire, living in crowded homes and smoking are also recommended.

SAIL Stats - July 2011	Lung Association Stats: Jan – July 2011
Continuous.....2033	Nocturnal tests completed.....180
Exertional459	Waiting list100
Nocturnal232	Waiting time.....>3 months
Infants28	% positive for sleep apnea.....49%
Total.....2752	

Fatal House Fire caused by Smoking with Oxygen

A 75 year old man succumbed to smoke inhalation in a house fire in north Regina on Monday, May 9, 2011. The gentleman's son was outside cutting the lawn and noticed smoke coming from the front entrance. Thick smoke and heat prevented him from entering to rescue his father. Fire crews were called and located the man's body inside the home. He was already deceased.

It was determined that the man was smoking while using oxygen at the time of the fire. After the fire, Albert Headrick, deputy chief of public safety, planning and prevention with the Regina Fire and Protective Services stressed that oxygen should never be used near a direct flame such as lighters, matches or candles. *Source: Regina Leader-Post.*

Don't Turn Up the O₂ – he'll quit breathing!

The Hypoxic Drive Theory

For years medical professionals have been warned not to administer high levels of oxygen to patients with chronic obstructive pulmonary disease (COPD). The warning was due to the hypoxic drive theory: a COPD patient's drive to breathe is the result of the need to maintain adequate oxygen levels - give too much oxygen and he will quit breathing.

What are the real facts?

1. **Hypoxic drive accounts for approximately 10% of the drive to breathe.** The oxygen drive to breathe is eliminated only when PaO₂ reaches above 170mmHg. *Dana F. Oakes*
<http://www.respiratorybooks.com/Downloads/Hypoxic%20Drive%20Theory.pdf> accessed July 6, 2011.
2. Haemoglobin that is saturated with oxygen is unable to carry as much carbon dioxide. This is called **the Haldane Effect**. Increasing the patient's SpO₂ will conversely decrease the amount of CO₂ bound to haemoglobin, driving it into the plasma. The extra CO₂ is then measured by an arterial blood gas sample.
http://en.wikipedia.org/wiki/Haldane_effect accessed July 6, 2011.
3. **The pulmonary vasculature constricts in low oxygen conditions.** This directs blood flow to areas of the lung that are healthy. When the level of oxygen is increased this vasoconstriction is released, causing more blood to flow to diseased lung. With poor matching of blood flow to healthy lung, gas exchange is compromised. This compromise causes an increase in dead space leading to an increase in CO₂. *Kim et al, Oxygen Therapy in Chronic Obstructive Pulmonary Disease: Proc Am Thorc Soc Vol 5. pp 513-518, 2008.*
4. **The increase of deadspace** caused by the administration of oxygen can increase the work of breathing beyond the capability of the COPD patient experiencing an acute exacerbation. This will result in a rise in CO₂, and possibly respiratory failure and cardiorespiratory arrest. Medical staff should be prepared for this possibility. *Hoyt J: Debunking myths of chronic obstructive lung disease, Critical Care Medicine, Vol 25(9), Sept. 1997, pp 1450-1451.*

The bottom line: COPD patients may experience respiratory failure due to the administration of oxygen; however, we must keep in mind that the body's organs cannot function without adequate oxygen levels. Oxygen should be administered to keep saturations above 90%. To quote Dr. Busko: "Hypoxia kills, hypercarbia happens."

<http://www.learnmoresavelives.com/> accessed July 6, 2011.

Cruising with Oxygen

CareVacations, a company based out of Leduc, Alberta, has been planning cruise vacations for people with special medical equipment needs for the past 20 years. This company can deliver oxygen equipment, wheelchairs and other specialized medical equipment directly to the stateroom on the ship. They can also arrange for transportation to the ship. The company can be reached at 1-877-478-7827.



More information can be found on their web site at www.carevacations.com.

Tester Reminders

- ✓ Include your tester number on all test results. If SAIL has any questions regarding the results, this gives them a means to reach you.
- ✓ Always check the client's oxygen saturation at rest before performing exertional testing. If the oxygen saturation is at or below 87% at rest, exertional testing will not be required.
- ✓ Please return the nocturnal oximeter to the Lung Association promptly. You may use either Canada Post or a courier service.
- ✓ You should recertify on-line every 2 years. The site can be found at: www.sk.lung.ca.
- ✓ If the client meets the SAIL criteria during part one of the test, oxygen should be adjusted to maintain saturations of 90-92% during the second part of the test.
- ✓ Clients should be encouraged to use their oxygen for at least 18 hours per day if they have a continuous prescription.
- ✓ Oxygen is not recommended for the treatment of sleep apnea.
- ✓ Questions regarding testing procedures can be directed to Marion Laroque: 667-3016 or 343-9511.

Please update your contact information

You may update your contact information on-line at www.sk.lung.ca in the health professionals/oxygen testers' site. You will need to login to make changes. Forgot your login information? You can send an email from that same location to receive your username and password.

New Clinical Practise Guidelines

Managing dyspnea in patients with advanced chronic obstructive pulmonary disease.

During the last months of life, COPD patients almost always suffer from dyspnea. This affects their quality of life to the point where they often describe themselves as ‘existing’ rather than ‘living’. COPD patients at the end of life experience more dyspnea than lung cancer patients, but with much less medication and comprehensive care.

The Canadian Thoracic Society formed an expert working group to develop clinical practise guidelines to address this issue. Four questions were posed to this committee, and the questions and recommendations are listed below. These recommendations were developed with input from Saskatchewan experts: Darcy Marciniuk, MD, FRCPC, Donna Goodridge, RN PhD, and Vicki Kennedy, RN CRE.

To view the complete guideline document please go to www.respiratoryguidelines.ca

Question 1: Do anxiolytic and antidepressant medication reduce dyspnea?

Recommendation: The committee recommends that anxiolytic and antidepressant medication not be routinely used for the management of dyspnea in patients with advanced COPD.

Question 2: Do opioids reduce dyspnea in stable COPD patients with advanced disease when used as an adjunct to optimal conventional treatment?

Recommendation: The committee recommends that oral (but not nebulized) opioids be used for the treatment of refractory dyspnea. For a suggested protocol for opioid therapy, please see the full guideline document.

Question 3: Do nonpharmacological interventions (use of fan, relaxation therapy, etc.) reduce dyspnea?

Recommendation: Chest wall vibration, walking aids, and pursed lip breathing can be of benefit to COPD patients suffering from end of life dyspnea. Other therapies have not been studied, nor proven to be helpful.

Question 4: Does supplemental oxygen reduce dyspnea and improve quality of life in stable patients with advanced COPD?

Recommendation: Oxygen therapy for hypoxemic COPD patients reduces mortality and may reduce dyspnea. Oxygen therapy has long been recommended for hypoxic patients. There is no evidence that oxygen therapy will reduce dyspnea in patients with adequate oxygen levels.

2011 Saskatchewan Thoracic Society Professional Education Day

Saturday, November 19, 2011

Saskatoon Inn, Saskatoon

Presentations: 7:45 am to 1:35 pm

Theme:

Obesity and lung disease



To register please contact

The Lung Association of Saskatchewan: 343-9511 or info@sk.lung.ca

Did you know?

- ✓ The term COPD was first used by Dr. William Briscoe in 1965.
- ✓ Ambulatory oxygen for COPD patients was first presented as a treatment option in 1965.
- ✓ Charles Fletcher (1976) was the first to recognize that stopping smoking could slow the rate of decline of lung function in COPD patients.
- ✓ COPD is now the third leading cause of death in the United States (still fourth in Canada). It is the only leading cause of death that is increasing in prevalence.
- ✓ One of the top news stories of 1964 was the Surgeon General's report linking tobacco smoke to lung cancer and chronic bronchitis.
- ✓ Health warnings have been on cigarette packages in the United States since 1965.
- ✓ Health warnings were first legislated on tobacco packaging in Canada in 1989.
- ✓ Approximately 1 billion people smoke worldwide: 40% of all men and 10% of all women.
- ✓ Pneumonia kills more children under the age of five than any other disease, claiming a young life every 20 seconds.
- ✓ For every child that dies from pneumonia in the industrialized world, 2,000 more die in developing countries.

Why don't COPD clients use their oxygen tanks?



It is known that COPD patients on long term oxygen therapy often do not use their ambulatory system (oxygen tanks) as prescribed. A British study published in February, 2011 looked at the reasons why COPD patients do not use their ambulatory oxygen system. Each participant in the study (27 in total) was interviewed in their own home. The main themes from the interviews were identified as follows:

1. **Lack of information:** the majority of participants could not remember receiving any information about the use of their tanks. (This would probably not be the case in Saskatchewan, home oxygen supply companies teach clients and family members about the use of tanks).
2. **Lack of benefit:** participants were frustrated that using the ambulatory system did not relieve their breathlessness. This is an important reminder to anyone dealing with COPD clients on long term oxygen therapy – do not promise a benefit that may not be there for that person.
3. **Fear** that the tank may run out.
4. **Lack of caregivers to help:** only one participant was able to carry and use the system by themselves. All the others needed help from family members. If the participant lived alone, they usually waited to go out until family members came to help. Another concern was the physical condition of the main caregiver; they sometimes had their own medical issues.
5. **Embarrassment:** not wishing to be seen with oxygen.
6. **Weight:** ambulatory oxygen system too heavy. In Britain, ambulatory oxygen is supplied in a tank with a shoulder pack, the total weight is 3.4kg. Portable systems used in Saskatchewan come with a cart which may be easier to use.

Reference: Arnold et al: **Ambulatory oxygen: why do COPD patients not use their portable systems as prescribed? A qualitative study.** BMC Pulmonary Medicine 2011 11:9.

Cardiovascular Events Associated with Champix

The drug varenicline, marketed in Canada under the name of Champix by Pfizer, has been approved for use in smoking cessation since 2007. Champix doubles a smoker's chance of quitting when compared to the 'cold turkey' method. It works in the brain to decrease cravings and withdrawal symptoms. It makes smoking less desirable.

A study published in the July issue of the Canadian Medical Association Journal raises the real possibility that Champix may increase the risk of serious adverse cardiovascular events. The risk for patients with cardiovascular disease taking Champix was found to be 2% compared to 1% for those taking no drug.

Health Canada is studying these findings. No warning has been issued; however, people are encouraged to discuss the potential risk with their physician.

Phone Numbers

Saskatchewan Aids to Independent Living (SAIL)

3475 Albert Street

Regina, SK S4S 6X6

Phone: 787-7121 Fax: 787-8679

Oxygen Supply Companies

Airgas Puritan Medical

Prince Albert: 922-9040 or 1-800-677-0220

Regina: 522-0220 or 1-888-469-9436

Saskatoon: 933-0202 or 1-800-677-0220

Medigas A Praxair Company

Regina: 721-2380 or 1-866-446-6302

Saskatoon: 242-3325 or 1-866-446-6302

Swift Current: 773-8064 or 1-866-446-6302

Prairie Oxygen Ltd.

Regina: 545-8883 or 1-877-738-8702

Saskatoon: 384-5255 or 1-877-738-8702

Provincial Home Oxygen Inc.

Regina: 790-8491 or 1-877-352-5025

Saskatoon: 651-1243 or 1-877-352-5025

VitalAire Healthcare

Lloydminster: 1-780-875-9777

Regina: 721-0071 or 1-800-567-0071

Saskatoon: 931-3334 or 1-800-461-0096

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