The
Pulmonary Paper

Dedicated to Respiratory Health Care
January/February 2018 Vol. 29, No. 1

The Pursuit of Happiness













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We are hiding The Pulmonary Paper logo on our front cover. Can you find it?

Features

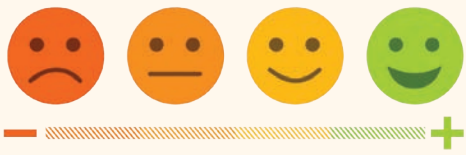
Your Health

For Fun

Share your happiness with someone.

Bob and Christine Davenport of Florida enjoy a port excursion during a recent Sea Puffer Cruise!

In your pursuit of happiness, people may put up roadblocks. Have you had a family member tell you that you can wean yourself off your oxygen therapy? We heard from a lady whose son told her the oxygen would "shrink" her lungs over time. Smile and continue to learn all you can about your respiratory condition! Look at the items on this list and see how you think about each one!



Know your worth. Always remember that no one will ever value you more than you value yourself.

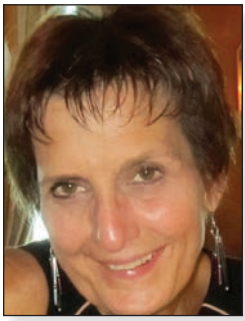
Do what you love. If you wake up every morning with the mindset that you are going to have a great day, you will!

Express gratitude for what you already have rather than focusing on what you don't.

Let go of anger. Dwelling on the past is only going to hold you back from having a better future.

Live in the moment because tomorrow is never promised.

Be yourself and try not to compare yourself with others.



Editor's Note

"A truly happy person is one who can enjoy the scenery while on a detour."
Author Unknown

The pursuit of happiness is defined as a fundamental right in the Declaration of Independence to freely pursue joy and live life in a way that makes you happy, as long as you don't do anything illegal or violate the rights of others.

Take a moment to think about what truly makes you happy and what is important to you. It often helps to actually write your thoughts down. Think about what you would like to accomplish in the coming year and you will be smiling when your goals are reached! Would you like to volunteer? Did you always want to learn a new language?

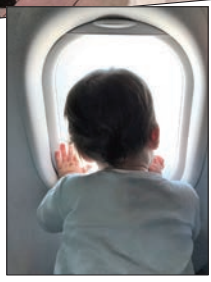
Random acts of kindness can make a big difference. A small gesture on your part may have a big impact in someone's life.

Recognize what has been done in the past cannot be changed – the way you live your life from today forward may determine your happiness. Check that your attitude is positive and let go of feelings that will only make you upset.

Below: Happiness is being with the Beautiful, Powerful and Happy Women of my Family!

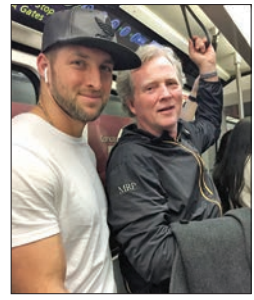
Aristotle believed that to be happy a person needed to live a life of virtue. By virtue he meant showing such attributes as courage, generosity and wisdom. People living with chronic lung problems along with their loved ones definitely show all three of these! Simply smile and have others wonder why!

Aristotle



Happiness is watching your grandchildren discover the world!

Happiness is having a new adventure – no matter how big or small!



Happiness is standing next to Tim Tebow in the Atlanta Airport!

Dr. Michael Bauer

Calling Dr. Bauer …

Dear Dr. Bauer,

I am a 65-year old woman with COPD. My pulmonologist told me about recent research that indicated, at least for the population in the study, that some people with COPD might not be benefiting from oxygen therapy and don't really need it. I am an active person, I exercise daily, eat well, and keep up with my medication and inhalers. Could you explain the research and what a practical approach to this new information might be?

N.C., Colorado

Two major scientific studies in the 1970s formed the basis of our current recommendations to prescribe long-term oxygen therapy for people with COPD who have resting oxygen saturations less than 89 percent. Oxygen therapy was shown to prolong life expectancy in people with severe COPD who had low blood oxygen levels. A study entitled "A Randomized Trial of Long-Term Oxygen for Those with COPD with Moderate Desaturation" in the October 27, 2016, *New England Journal of Medicine* (one of the most respected medical journals) looked at people with more modest oxygen levels: resting O_2 saturation between 89 percent to 93 percent or saturations that only went down with walking exercise to levels between 80 percent to 90 percent. Their findings were very interesting! After following these people for up to six years, oxygen therapy did not seem to prolong life, reduce hospitalization rates, improve exercise capacity or other measures of quality of life.

What should we make of this? We do not know if the people who participated in the study continued to smoke or not. This is certainly a very important issue since Medicare reimbursements for oxygen-related costs to COPD patients exceeds $2 billion dollars a year. Right now, you will qualify for oxygen therapy when your resting saturations go below 89 percent with exercise or if there is even modest reduction documented while sleeping. I think decisions need to be made on a very individual basis. Does oxygen help you exercise for longer distances; do you sleep better with oxygen; do you have another non-pulmonary disease, especially heart disease? These and many more considerations are important for making rational use of oxygen therapy. I suspect with upward spiraling of medical costs, more stringent restrictions in oxygen therapy are in store. Health professionals always need to advocate what is in the best interests of our patients.

Looking forward to a great 2018 for all of you!

Questions for Dr. Bauer? You may write to him at The Pulmonary Paper, PO Box 877, Ormond Beach, FL 32175 or by email at info@pulmonarypaper.org.

It is Still Not Too Late to Get a Flu Vaccination

The new year has started out with the flu blanketing the U.S., only Hawaii has been spared. In mid-January, one in 15 doctor visits were for symptoms of the flu, the highest level since the swine flu pandemic in 2009. On a good note, the Centers for Disease Control and Prevention said that hospital stays and deaths from the flu among the elderly so far haven't been as high as in some recent flu seasons. However, hospitalization rates for people 50 to 64 years of age has been unusually high.

Health officials say this year's vaccination correctly targets the strains that are making Americans sick, including one causing most of the illness, a Type A H3N2 flu virus. But exactly how well it is working won't be known until next month. The same virus was the dominant flu bug last winter, when the flu season wasn't so bad. It's not clear why this season is so much more intense, some experts said. As top CDC flu expert Daniel Jernigan said: "Of the viruses we hate, we hate H3N2 more than the other ones." This strain, which has been around for 50 years, is able to change more quickly to get around the human body's immune system than the other viruses targeted in this year's seasonal flu vaccine. Based on patterns from past seasons, it's likely flu season will start to decrease soon.

But it is still not too late to get the flu vaccination.

To stop germs spreading:

Avoid shaking hands. Maybe use a nod to acknowledge a friend.

Wash your hands frequently. Enough said, just do it.

Isolate toothbrushes. Once someone in your house has a cold, separate their toothbrush from the rest of the pack to avoid contamination. After the person gets well, replace the toothbrush or toothbrush head with a new one.

Launder bedding frequently. The best thing to do if someone is sick is to put them in a separate room to sleep. If this isn't possible, wash your sheets frequently in hot water or even just wash the pillowcases. Bath towels should be washed every day or two.

Keep the remotes wiped off. Keep a container of antibacterial wipes around so you can clean the remotes on a daily basis; clean your light switches and doorknobs with them too. Put a small wastebasket in the TV room with a plastic liner for all the wet tissues and used wipes and empty it once or twice a day.

You can still get the flu vaccination. To stop the spread of germs avoid shaking hands; wash your hands frequently; isolate toothbrushes; launder bedding frequently; and keep the remotes wiped off.

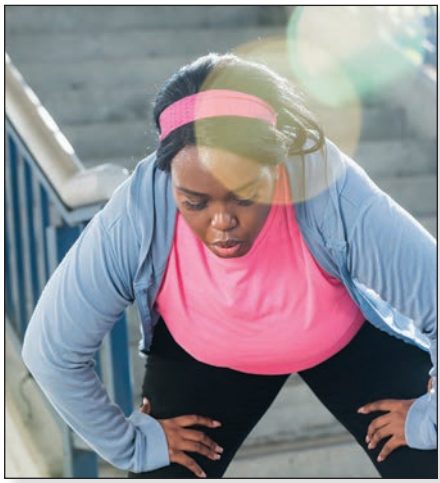
Mark Mangus, RRT
EFFORTS Board

Ask Mark …

Rose Ann B. from EFFORTS asks Mark if it is possible to have her oxygen set too high? Will it make her more short of breath?

Mark explains, The short answer is an emphatic *No!* If you are still short of breath while using a reasonable and adequate flow setting and are observing saturations in the mid-90s, then the shortness of breath (SOB) you are experiencing can be from a variety of causes.

First, oxygen does not completely relieve SOB. If you have SOB at rest and are saturating well, you could be experiencing an exacerbation or flare up, in which case, getting in touch with your doctor is in order. A common reason for SOB during exertion is a drop in oxygen saturation to below 90 percent – which often occurs as a result of dynamic hyperinflation (DH). DH happens when you breathe faster *and* breathe in more air than you can breathe out with each breath – resulting in trapping increasing amounts of air in your lungs. This increases the size of your lungs more and more. The process leaves too little room left in your lungs for fresh air to come in with each breath, raising carbon dioxide levels and stimulating your body to try to breathe more. You can no longer adequately clear carbon dioxide – even though your oxygen pressure may remain fairly high – and the outcome is SOB.



Keep in mind when measuring your oxygen saturation that any 'real' drop in oxygen saturation cannot be fully illuminated until you have been continuously active for at least 90 seconds or more – a mistake most folks make in trying to assess themselves for any significant drop in their saturation when they get up, move around or do chores. These are not the only causes of SOB. There are more factors that can contribute to SOB as well.

Mark Mangus RRT, BSRC, is a member of the Medical Board of EFFORTS (the online support group, Emphysema Foundation For Our Right To Survive, www.emphysema. net). He generously donates his time to answer members' questions.

Ron from Texas writes, he is having a difficult time maintaining his body weight and would appreciate thoughts on this subject.

Mark writes, Yours is a common problem among those with COPD of the severity you seem to have. The cause is burning up more calories thanks mostly to an increase in your work of breathing. It adds up to more energy

(calories) burned than total calories you are taking in, coupled with the effects of chronic low blood oxygen levels on your metabolism.

What we often recommend is to add a nutritional supplement to one's intake – a supplement that is high in calories, but with calories packed dense enough to reduce volume of intake. Years ago, I worked with a nutritionist/licensed dietitian who had a particular interest and study in nutritional requirements for COPD. A consortium of nutritional experts recently completed an extensive study of the literature to devise guidelines for nutrition for those with COPD.

Common among most dietary recommendations has been the addition of 'high-fat' food components to the diet, preferably in the form of recommended standard dietary components that are high in healthy fats (mono- and poly-unsaturated fats along with healthier saturated fats). Recommendations also include supplementing fats through higher fat-containing nutritional drinks. With regard to food components, things like peanut butter and avocados are highly recommended. I have had a nutritional supplemental drink published on EFFORTS *(www.emphysema.net)* and elsewhere for many years that consists of Instant Breakfast with added components of ice cream and based in whole milk for the higher-fat content of the milk. The drink contains upward of 700 calories in 12 to 14 ounces which is consumed a bit at a time throughout the day along with regular dietary components.

One other recommendation that accompanies some guidelines is the reduction in carbohydrate consumption. Carbs break down into carbon dioxide (CO_2) and water as waste components; the CO_2 adds to respiratory workload and actually fostering a higher rate of muscle wasting. The muscles actually 'eat themselves' (called catabolism) into a condition of lower mass. The objective is not so much to cut carbs, but rather to reduce their proportion within a food component, in this case the nutritional supplement. Raising the fat component to 40 or 45 percent along with increasing protein as a proportion is the objective, resultantly lowering carb proportion to or below 50 percent.

There are also commercial nutritional supplements that very nicely increase fat content/lower carb content that can be purchased, though they can be quite an expense if employed as a greater part of one's dietary intake. *(My opinion only.)* One is a supplement made by Nestle called Nutren® Pulmonary formula specifically for those with COPD and other lung diseases that are accompanied by body mass and weight loss. You can get a case of 24 Nutren Pulmonary packets online for as low as $57 (with free shipping, Blowout Medical). Each container holds 8.5 ounces and provides 375 calories. Unfortunately, Medicare does not tend to cover the cost of this supplement. There are yet others – some also specifically targeting those with pulmonary disease. So, you have several choices if you decide to try commercial supplements. The bottom line is to do what's necessary to stop weight loss and hopefully to affect weight-gain. I would strongly recommend collaborating with your doctor in your efforts.

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Jean had a recent six minute walk test and asks if it was appropriate for her to be allowed to stop and use her oxygen to finish.

Mark says, Over many years, I have lamented that most walk tests are simply *not* done correctly – or at least *not* according to the American Thoracic Society's protocol for the six minute walk test (6 MWT). According to the protocol, you are supposed to walk without aid, interference or intervention from or by the clinician conducting the test. If oximetry is done, you should carry the monitor and only show the clinician the measurement at intervals while walking. You should walk for the full 6 minutes without interruption. You should not be using oxygen during the test unless it is well-documented that you exhibit low oxygen levels at rest. When one has been diagnosed as exhibiting resting desaturation, they should do the test using their resting prescribed flow of oxygen and be allowed to desaturate from that point. You, not the clinician, should determine if, when and for how long you need to stop and recoup/rest along the way. While the test is not supposed to be a "maximum effort" test, you should walk at a reasonable and moderately brisk pace in order to produce data that has the best chance to produce potential drops in your saturation. If your oxygen saturation drops – even to and below 85 percent – during the walk, there is no recommendation to stop the walk. There is no recommended acceptable low saturation point *or* point at which the walk should arbitrarily be stopped. A decision to stop you when you are at say 85 percent is strictly the choice of the clinician conducting the test. It is not based on data or any kind of recommendation or safety concern. There is rarely, if ever, *any* concern for any imminent danger or harm from even desaturation down below 80 percent for the short period of the test. Uncomfortable? Yes! But, dangerous or injurious, not likely.

The major reason we do a 6 MWT is to determine how low your saturation drops with continuous, unhindered walking over the full six minutes duration. It includes both walking *and* any rest time. As well, when subjects determine that they must stop and rest/recoup, that too is counted in the results of the test.

We determine average walking distance based upon the full six minutes – including rest time. So, if subject walks 500 feet in 6 minutes but must use 2.5 of those minutes to rest and recoup, the average distance walked is 500/6, or about 83 ft/minute. Yet, I have seen reports saying that the subject walked about 143 ft/minute because the clinician divided the 500 by the 3.5 minutes the person actually walked.

For the momentary drop in saturation into the 70s, the likelihood of that causing you any harm is remote. You should not perform the test if you feel unstable or ill. One point to consider is that unless you are allowed to desaturate to your lowest point during the six minute period, we never know how badly you can desaturate. Knowing that data goes a long way to help us determine what oxygen level you may require to maintain adequate saturation with supplemental oxygen during sustained activity. The 6 MWT should be separate from the titration test that determines what oxygen flow rates you need to use.

CPR Saves Lives

Valentine's Day coming up got us thinking about just how fragile a heart can be. Would you know what to do to perform CardioPulmonary Resuscitation – CPR – to save someone's life?

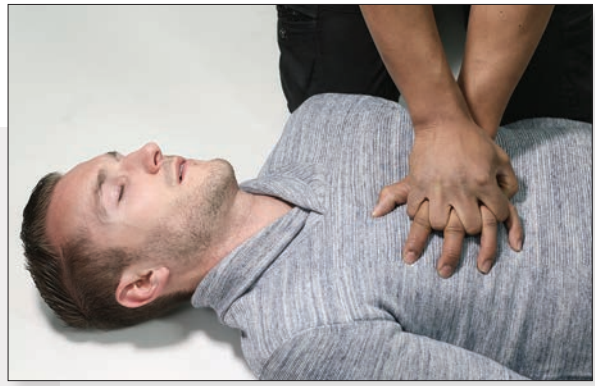
If you have determined a person is unconscious by shaking them and loudly asking "Are you OK?" and you have immediate access to a phone, call 911 before beginning CPR.

The American Heart Association recommends that if you are not trained in CPR, provide hands-only CPR to adults, children and infants. (Newborns have different protocols.) That means uninterrupted chest compressions of 100 to 120 per minute until paramedics arrive. You don't need to try rescue breathing.

1. Move the person on his or her back on a firm surface.
2. Kneel next to the person's neck and shoulders.
3. Place the heel of one hand over the center of the person's chest, between the nipples. Place your other hand on top of the first hand. Keep your elbows straight and position your shoulders directly above your hands.
4. Use your upper body weight (not just your arms) as you push straight down on (compressing) the chest at least 2 inches but not greater than 2.4 inches. Push hard at a rate of 100 to 120 compressions per minute.
5. If you haven't been trained in CPR, continue chest compressions until there are signs of movement or until emergency medical personnel take over.

If you're well-trained and confident in your ability, check to see if there is a pulse and breathing. If there is no breathing or a pulse within 10 seconds, begin chest compressions. Start CPR with 30 chest compressions before giving two rescue breaths.

The compressions can keep oxygenated blood flowing to the brain and other vital organs until medical treatment can restore a normal heart rhythm.



Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes, or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness or pain in one or both arms, the back, neck, jaw or stomach. Shortness of breath may be present. Other symptoms may include breaking out in a cold sweat, nausea or lightheadedness.

Consider taking an accredited first-aid training course by the American Heart Association or American Red Cross that includes CPR and how to use an automated external defibrillator. There are also online courses. You could change someone's life!

Fibrosis File

Top Pulmonary Fibrosis News of 2017

North Carolina researchers made significant progress toward a stem cell treatment for lung diseases like pulmonary fibrosis, cystic fibrosis and COPD. Their work was published in two articles, one showing that it is possible to isolate lung stem cells with a relatively non-invasive procedure, and a second showing that stem cells reduce fibrosis in mouse models of PF.

The journal *Therapeutics and Clinical Risk Management* reported that Esbriet does prolong survival in IPF patients and is safe. Esbriet slowed the decline in forced vital capacity over time and lengthened the time it took for the disease to progress.

The National Institutes of Health's National Heart, Lung and Blood Institute awarded $6.9 million to researchers studying lung cell regeneration processes at the University of Southern California's Keck School of Medicine.

Studies showed that people with severe IPF can benefit from Esbriet (pirfenidone), not just those with moderate lung function impairment.

Diagnosis Delay

More than half of people with Interstitial Lung Disease (ILD) are misdiagnosed at least once, finds a Pulmonary Fibrosis Foundation survey of 600 people. Nearly half the 600 people surveyed had Idiopathic Pulmonary Fibrosis (IPF), the next largest group had ILD, followed by non-specific interstitial pneumonia, hypersensitivity pneumonitis and sarcoidosis. Unfortunately, they have often gone through invasive and costly diagnostic procedures often without the correct diagnosis. The findings point out the need for more physician education as well as clinical practice recommendations and better diagnostic tools. The study, "Barriers to Timely Diagnosis of Interstitial Lung Disease in the Real World: The INTENSITY Survey", appeared in the journal *BMC Pulmonary Medicine*.

A delay in diagnosing ILD, of which IPF is the most common and severe form, worsens outcomes for people, said researchers. Current treatment for IPF, Genentech's Esbriet (pirfenidone) and Boehringer Ingelheim's Ofev (nintedanib) can only slow lung

function decline without reversing present damage. Their use provides most benefits in early disease stages.

Most people experienced a gradual symptom development, with shortness of breath, cough and fatigue the most common signs that something was wrong. It took people a median of three months to visit a doctor, and 72 percent believed their symptoms were only caused by aging. The most common misdiagnoses were asthma, pneumonia and bronchitis. For half of the misdiagnosed, it took at least an additional 11 months to receive a correct diagnosis. For 34 percent, it took more than two years.

The road to a diagnosis involved numerous tests. On average, people had six lung function tests, five chest x-rays, and two bronchoscopies before ending up with a correct diagnosis. In addition, 61 percent also reported undergoing an invasive diagnostic test, including a lung tissue biopsy, while 68 percent said consulting an ILD specialist was the most important contributing factor to obtaining a correct diagnosis.

Monitoring Liver Damage with Ofev

Health Canada has issued a safety warning on Boehringer Ingelheim's IPF medication Ofev (nintedanib) after people in a number of countries developed liver injuries and one person died. You should stop taking Ofev and seek medical assistance if you develop signs of liver damage including yellowing of the skin or eyes, dark urine, abdominal pain, nausea, vomiting or loss of appetite. Health officials had recorded 32 cases of Ofev-induced liver injury worldwide through October 2017, including one in Canada. Reducing the dose of Ofev or stopping it completely resolved the liver damage in 17 cases. Health Canada has advised healthcare professionals to closely monitor those being treated with Ofev for markers of liver damage, including liver transaminases and bilirubin levels.

Monitoring should start just before you begin treatment, followed by monthly measurements during the first three months, and then periodically – at each doctor's visit, for example. Most of the liver damage cases occurred within three months of starting treatment, so doctors should be especially diligent in their monitoring during this period.

Esbriet Dosing Options: Your Doctor May Suggest Fewer Pills per Day

Treatment with Esbriet starts with three pills (yellow tablets or white capsules) of 267 mg of Esbriet (for a total of 801 mg), taken three times per day. Once the full daily dose of three pills/three times a day is well tolerated, there may be an option to move to one brown Esbriet tablet (801 mg), taken three times a day with food.

Talk to your doctor if you are interested in learning more about the three tablet per day option. The brown tablet is priced the same as the 267 mg formulation.

Visit *Genentech-Access.com/Esbriet/patients* or call 1-844-372-7438 if you have questions, or to see if you qualify for assistance.

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Ryan Diesem

The Ryan Report

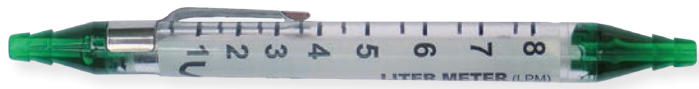
Home Oxygen Guru – The HO_2G Pen

Used Oxygen Equipment: Be Aware of Common Issues

New oxygen equipment can be expensive. As we've seen these last several years, equipment providers and insurance companies are becoming more selective on the oxygen devices they provide and pay for. This puts an onus on the user to acquire equipment on their own if they want a specific device or if they want to supplement their current equipment (like buying extra tanks). If you or someone you know is an oxygen user, chances are you've considered the possibility of purchasing your own equipment from a second-hand source. The aim of this month's article is to provide some guidance in this endeavor.

I personally feel it is in the buyer's best interest, when going into the purchase of a used device, to assume that no matter what the seller says, the device does not currently operate to specifications. The buyer should not assume that the seller is fully aware of what the device is supposed to do and/or that the device can still do what it's supposed to do. For concentrators, especially, when a seller says something along the lines of, 'It's barely been used and has just been sitting in the closet for the last year,' red flags should immediately go up – a concentrator is more susceptible to performance degradation when it *isn't* used on at least a semi-regular basis. Some retailers do specialize in refurbishing and reselling equipment, and in those cases the comfort level in buying a device from these organizations can be higher, but potential buyers still should place the burden of proof of operation on the seller before purchasing the equipment.

There are some tools you can equip yourself with if you want to do some spot checking of device performance on your own, although some products may not always be feasible to purchase for limited use. One device every oxygen user should think about owning is an **oxygen liter meter.** These small, pen shaped devices allow the user to connect straight oxygen tubing (i.e., not a cannula) to the liter meter to check the oxygen



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Ryan Diesem is Research Manager at Valley Inspired Products, Apple Valley, MN. Contact Ryan at rdiesem@inspiredrc.com with questions or comments.

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flow rate coming from the device and make sure it matches the flow setting. These are relatively inexpensive – around $20 to $25 – and come in configurations measuring various flow ranges, up to 15 LPM. For most users, a meter with a range of 0 LPM to 8 LPM will suffice. *One important limitation:* Liter meters should only be used to measure flow from oxygen devices providing continuous flow. For those with pulse oxygen devices, the pulsemeter is designed to measure pulse output from a device. (Full disclosure: Valley Inspired Products initially manufactured and sold this product. We no longer do.) Pulsemeters are more expensive, around $125 to $150, and can only be used with single lumen pulse oxygen systems (i.e., systems with only one tubing connection), but can measure pulse output within +/- 2 mL. Be aware that not all manufacturers publish their pulse specifications, so depending on the device you may have to research what volume to expect. Lastly, for oxygen concentrators there is a **handheld oxygen analyzer**, manufactured by

Salter Labs, that many home oxygen providers utilize in the field that can measure oxygen purity. When measuring oxygen purity, if the device is not delivering 87 percent or above, it is out of specification. However, this is a very expensive product, $450 to $600 depending on the model! If you are interested in finding out the purity of a device but do not want to buy an analyzer, chances are a local oxygen equipment provider will have an oxygen analyzer on hand, so it could be worth inquiring about bringing the device in for measurements before agreeing to a purchase.

For the various types of oxygen equipment

that are out there, here are some things you will want to keep in mind and/or ask about before purchasing:

Portable Concentrators: As mentioned, any POC that has been sitting around unused for a long period of time should raise a red flag. When concentrators remain unused, their ability to generate high purity oxygen may become compromised. Smaller POCs may be more susceptible to this than larger POCs due to lesser sieve material available to separate oxygen. Ask to operate the device at its highest setting for a significant amount of time – at least an hour – to make sure low purity alarms do not sound. Even then, it is possible the device has suffered some performance loss, but is not quite out of alarm specification. Tread carefully in these cases. Ask where the device was stored when not in use – cold or especially humid areas would also be a red flag. Ask about how much battery life the owner was getting when operating the device. Ask if the device was ever serviced, such as having sieve beds and filters replaced. Make sure all of the accessories you would need are included, like AC and DC power supplies, carrying bags and straps.

Stationary Concentrators: Because of the amount of sieve material in stationary

concentrators, they aren't as susceptible to loss in purity as POCs are, but the same questions will still apply. If you have access to a handheld oxygen analyzer, checking purity here is also advised. Ask to see how many hours are on the device – some concentrators will have rolling numbers easily visible. The more hours there are, the chances that output pressure – and thus flow – are impacted, so using a liter meter to measure the oxygen flow rate with extended tubing (25 to 50 feet) at the concentrator's full range of settings is highly advised. Listen to the device running to see if you can hear any odd sounds from the compressor or exhaust that you don't normally hear with a concentrator. Uneven sounds could mean pressure regulation or leak issues within the unit.

Regulators/Conserving Regulators: Thankfully, regulators tend to be pretty solidly constructed devices with minimal moving parts to be of concern. You will want to check on the inside of the connection yoke (where you place the cylinder stem in) to be sure that the **brass/rubber washer** is intact. If possible, have a full cylinder available to place the regulator on and operate the regulator as normal, listening for leak (hissing), making sure flow is coming out at all settings (use a liter meter to check flow rate, if available), and note that the pressure gauge is displaying tank pressure. Check that the flow setting dial moves naturally. Ask if the device has ever been dropped and check for an unnatural shape of the yoke.

Oxygen Cylinders (including home filling cylinders): Make sure the **cylinder** is green (in the U.S. at least; oxygen tanks are white internationally) with the correct pin index – bring a regulator to verify it will connect. Check the valve stem for any

deformities and *if the tank is empty,* open/close the valve to be sure the valve does not stick. If you are buying tanks to fill at home, make sure the tank is the exact type for your home fill system – each manufacturer has its own cylinders that you cannot use with other systems. If the tanks have regulators/conserving regulators preattached, check for flow and operating leak at all settings if possible.

A list of websites provides a source where the measuring equipment mentioned can be found, just search for the name listed or contact the company directly.

Oxygen Liter Meter: www.thecpapshop.com
www.tri-anim.com

Pulsemeter: www.wairproducts.com
www.mountainairemedical.com

Salter Labs Handheld Oxygen Analyzer:
www.mainclinicsupply.com

I hope everyone had a great holiday season and that 2018 is off to a great start!

Sharing the Health!

I found a company called Captive Technologies *(captivetechnologies.com)* who make a product called Station Master. It is designed as a convenience and safety product for oxygen users. It consists of a central box that is connected to your concentrator or tank of liquid oxygen. There are four outlets to send oxygen from the central box out into other rooms. Each room will have another box into which you plug your cannula. The site has a video you can view to see how it works. It is available directly from the company or for $432 including shipping at *amazon.com*.

During the recent holidays, my doctor told me to be careful drinking alcohol. He said there are tiny hairs called cilia that line the airways and move back and forth to keep passages free of mucus.

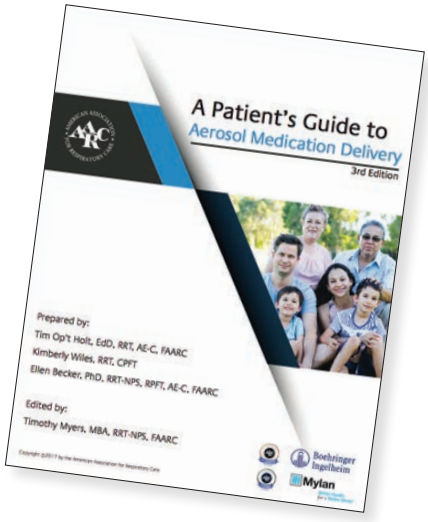
When you drink alcohol (or smoke), the cilia stop working. This will leave you more vulnerable to lung infections. Thought I would share this fact that I never knew!

Lynne F., Conklin, NY

Lonhala™ Magnair™ (glycopyrrolate) Inhalation Solution is a brand new medication from Sunovion Pharmaceuticals used in a portable nebulizer system for people with COPD. It is known as a LAMA or Long-Acting Muscarinic Antagonist to reduce exacerbations of COPD. The drug is used twice a day for maintenance and not for use in acute situations. For more information visit *www.lonhalamagnair.com*

Nina Fabri would like to ask our *Pulmonary Paper* members if anyone could share their experience using oxymizers – either the mustache or pendant type. She is considering using the cannula but would like to rely on the opinions of other oxygen users. Thanks in advance!

Feeling blue? Try this. Start a little herb garden. Head to a nursery and buy seeds or sprouted plants and small pots for your own little kitchen herb garden. Even if you don't cook with them, fresh herbs smell great and make good gifts once they get big.



The American Association for Respiratory Care (AARC) has an updated third edition of *A Patient's Guide to Aerosol Medication Delivery*. Since there is not one device that will deliver all your inhalers and medications, respiratory therapists of the AARC feel it is important for you to understand the differences between these devices and, more importantly, how to use them correctly. You can then get the best results of the medications.

Never hesitate to ask your physician or respiratory therapist questions. You may download the guide at *www.aarc.org/wp-content/uploads/2018/01/aerosol-guides-for-patients-3rd.pdf*

I recently read an article about how to avoid anxiety when you are dealing with chronic lung disease. Obviously, being short of breath is enough to cause panic. If you know what to do to prevent your anxiety from happening, it will help eliminate these feelings!

Differentiate your feelings. Know what emotions and physical symptoms cause your anxiety and panic and which ones are a direct result of COPD. Rather than let thoughts and emotions build up, be aware they are happening and take steps to reverse them. Be sure to have your Action Plan completed. *(See page 19.)*

You may avoid activities that cause you shortness of breath. Feelings of shortness of breath are uncomfortable but for the most part, not fatal! The anxiety you feel is most often from feelings that something bad is going to happen.

Know you need to pace yourself or stop and do pursed-lip breathing to regain control. You may need to use a rescue inhaler but you are the one who will be in charge!

Tim T., Atlanta, GA

Teena Culhane is the Pulmonary Rehab Program Coordinator at Beaumont Health in Royal Oak, MI, and very proud of her Harmonicas for Health group called the *Half Notes*. The group recently performed at a holiday party – you may enjoy their music at this link: *www.youtube.com/watch?v=hFGR9fVmw3g&feature=youtu.be*

AMERICAN LUNG ASSOCIATION.

MY COPD **MANAGEMENT PLAN**

It is recommended that patients and physicians/healthcare providers complete this management plan together. This plan should be discussed at each physician visit and updated as needed.

General Information

Name: _____ Date: _____

Emergency Contact: _____ Phone Number: _____

Physician/Health Care Provider Name: _____ Phone Number: _____

Lung Function Measurements

Weight: _____ lbs	FEV 1: ____ L____% predicted ____	Oxygen Saturation: _____ %
Date: _____	Date: _____	Date: _____

General Lung Care

Flu vaccine _____	Date Received: _____	Next Flu vaccine due: _____
Pneumococcal conjugate vaccine (PCV13) ❑ Yes ❑ No	Date Received: _____	Next PCV13 vaccine due: _____
Pneumococcal polysaccharide vaccine (PPSV23) ❑ Yes ❑ No	Date Received: _____	Next PPSV23 vaccine due: _____

Smoking status	❑ Never ❑ Past ❑ Current	Quit Smoking Plan ❑ Yes ❑ No
Exercise plan ❑ Yes ❑ No	❑ Walking ❑ Other _____ min/day _____ days/week	Pulmonary Rehabilitation: ❑ Yes ❑ No
Diet plan ❑ Yes ❑ No	Goal Weight: _____	

Medications for COPD

Type or Descriptions of Medicines	Name of Medicine	How Much to Take	When to Take

My Quit Smoking Plan

❑ **Advise:** Firmly recommend quitting smoking	❑ Discuss use of medications, if appropriate: _____
❑ **Assess:** Readiness to quit	❑ Freedom from Smoking® Lung.org/ffs ❑ Lung HelpLine 1-800-LUNG USA
❑ **Encourage:** To pick a quit date	

❑ **Assist:** With a specific cessation plan that can include materials, resources, referrals and aids

Oxygen

Resting _____ Increased Activity: _____ Sleeping: _____

Advanced Care and Planning Options

Advanced Directives (incl. Healthcare Power of Attorney): _____

Other Health Conditions

❑ Anemia ❑ Anxiety/Panic ❑ Arthritis ❑ Blood Clots ❑ Cancer ❑ Depression
❑ Diabetes ❑ GERD/Acid Reflux ❑ Heart Disease ❑ High Blood Pressure ❑ Insomnia ❑ Kidney/Prostate
❑ Osteoporosis ❑ Other _____

1-800-LUNG-USA | Lung.org/copd

AMERICAN LUNG ASSOCIATION.

MY COPD **ACTION PLAN**

It is recommended that patients and physicians/healthcare providers complete this action plan together. This plan should be discussed at each physician visit and updated as needed.
The green, yellow and red zones show symptoms of COPD. The list of symptoms is not comprehensive, and you may experience other symptoms. In the "Actions" column, your healthcare provider will recommend actions for you to take based on your symptoms by checking the appropriate boxes. Your healthcare provider may write down other actions in addition to those listed here.

Green Zone: I am doing well today	**Actions**
• Usual activity and exercise level • Usual amounts of cough and phlegm/mucus • Sleep well at night • Appetite is good	❑ Take daily medicines ❑ Use oxygen as prescribed ❑ Continue regular exercise/diet plan ❑ At all times avoid cigarette smoke, inhaled irritants* ❑ _____

Yellow Zone: I am having a bad day or a COPD flare	**Actions**
• More breathless than usual • I have less energy for my daily activities • Increased or thicker phlegm/mucus • Using quick relief inhaler/nebulizer more often • Swelling of ankles more than usual • More coughing than usual • I feel like I have a "chest cold" • Poor sleep and my symptoms woke me up • My appetite is not good • My medicine is not helping	❑ Continue daily medication ❑ Use quick relief inhaler every _____ hours ❑ Start an oral corticosteroid (specify name, dose, and duration) ❑ Start an antibiotic (specify name, dose, and duration) ❑ Use oxygen as prescribed ❑ Get plenty of rest ❑ Use pursed lip breathing ❑ At all times avoid cigarette smoke, inhaled irritants* Call provider immediately if symptoms don't improve* ❑ _____

Red Zone: I need urgent medical care	**Actions**
• Severe shortness of breath even at rest • Not able to do any activity because of breathing • Not able to sleep because of breathing • Fever or shaking chills • Feeling confused or very drowsy • Chest pains • Coughing up blood	❑ Call 911 or seek medical care immediately* ❑ While getting help, immediately do the following: ❑ _____

***The American Lung Association recommends that the providers select this action for all patients.**

1-800-LUNG-USA | Lung.org/copd

"State of Tobacco Control" Facts Show Historically Low Smoking Levels

Adult and youth cigarette smoking rates are near historically low levels in the U.S. The current American Lung Association's "State of Tobacco Control" may be seen at *www.lung.org/our-initiatives/tobacco/reports-resources/sotc*

The report shares the parts of the country and populations that are still very much impacted by tobacco use or exposure to secondhand smoke.

Facts include:

1. More than 1 in 5 high school students and 7.2 percent of middle school students use at least one tobacco product, including e-cigarettes.
2. Since 1964, 8 million lives have been saved through tobacco control efforts, including 800,000 lung cancer deaths between 1975 and 2000.
3. Smoking is the number one preventable cause of death in the U.S., killing over 480,000 people per year. Secondhand smoke kills more than 41,000 people in the U.S. each year.
4. Washington D.C. and 28 states have passed laws making virtually all public places and workplaces, including restaurants and bars, smokefree.
5. Connecticut and New York have the highest cigarette taxes in the country at $4.35 per pack.
6. Missouri has the lowest cigarette tax in the country at 17 cents per pack.
7. Alaska is the only state that is funding their tobacco control programs at or above the CDC-recommended level (in Fiscal Year 2018).
8. Nine states – California, Connecticut, Indiana, Kentucky, Maine, Massachusetts, Missouri, Ohio and South Carolina offer a comprehensive cessation benefit to tobacco users on Medicaid.
9. Each of the 50 states and the District of Columbia provide tobacco quitlines, a phone number for quit smoking phone counseling. The median amount states invest in quitlines is $2.10 per smoker in the state.
10. Nationwide, the Medicaid program spends more than $22 billion in healthcare costs for smoking-related diseases each year – more than 11 percent of total Medicaid spending.
11. States spend less than three cents of every dollar they get from tobacco settlement payments and tobacco taxes to fight tobacco use.
12. Each day, more than 2,300 kids under 18 try their first cigarette and close to 400 kids become new, regular smokers.
13. Smoking costs the U.S. economy over $332 billion in direct health care costs and lost productivity every year.
14. The five largest cigarette companies spent over $22 million dollars per day marketing their products in 2015.
15. Smoking rates are over twice as high for Medicaid recipients compared to those with private insurance.
16. A 2013 study of California's tobacco prevention program shows that the state saved $55 in healthcare costs for every $1 invested from 1989 to 2008.
17. One study found persons with behavioral health and substance abuse disorders consume about 40 percent of the cigarettes sold in the U.S.
18. Native Americans and Alaska Natives have the highest smoking rates among any racial/ethnic group.

How Well Do You Know Your Heart?

1. There are two systems in which blood travels in the cardiovascular system. Which of the following are they?
a) Vascular, systemic
b) Gastrointestinal, cranial
c) Pulmonary, somatic
d) Pulmonary, systemic

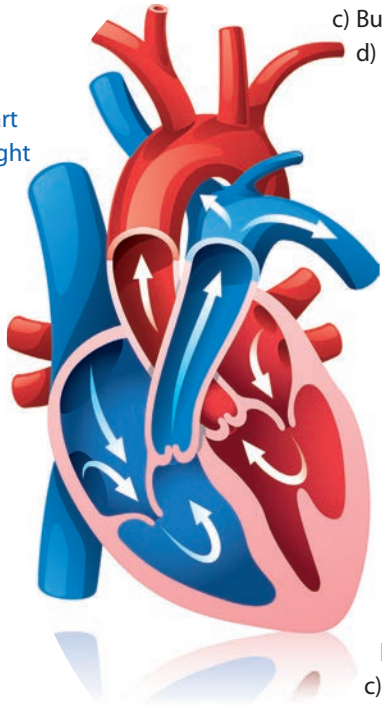
2. Blood flows through the heart in this order: Right atrium, right ventricle, pulmonary circuit, left atrium, left ventricle and into what vessel is the blood pumped from the left ventricle?
a) Aorta
b) Carotid arteries
c) Superior vena cava
d) Inferior vena cava

3. In a blood pressure measurement reading of 120/80, the number on the bottom is which reading?
a) Systolic pressure
b) Diastolic pressure
c) Coronary pressure
d) Hemoglobin pressure

4. Which chamber receives the deoxygenated blood from the systemic system first?
a) Left ventricle
b) Left atrium
c) Right atrium
d) Right ventricle

5. What is the medical term for a severe constricting pain in the chest due to an insufficient blood supply to the heart?
a) Angina pectoris
b) Hypertension
c) Myocarditis
d) Stroke

6. What drug would you use for relief of constricting chest pain?
a) Nitroglycerine
b) Morphine
c) Beta blocker
d) Furosemide



7. A small mass of specialized muscle on the back wall of the right atrium, also known as the pacemaker, is medically called what?
a) Atrioventricular node
b) Sinoatrial node
c) Bundle of His
d) Cardiopulmonary node

8. When you check the pulse of someone by placing two fingers on the side of their neck, you are feeling blood being pumped through which vessel(s)?
a) Superior vena cava
b) Internal jugular
c) Carotid artery
d) Aorta

9. The system of arteries that supply the heart with its own, separate supply of blood is called?
a) Endocarterial arteries
b) Ventricular arteries
c) Hepatic arteries
d) Coronary arteries

10. What is meant by the term hypertension?
a) Increased activity
b) High metabolism
c) Decreased ability to focus
d) High blood pressure

11. Which of these is not a result of hypertension?
a) Aneurysm
b) Renal failure
c) Diabetes mellitus
d) Headache

12. What is the correct medical terminology for a heart attack?
a) Ischemia
b) Angina pectoris
c) Myocardial infarction
d) Arrhythmia

Sharpen Your Pencils, Tax Time is around the Corner

Every year in our January issue, we print an article about deducting medical expenses on your income tax return. You might have noticed there were lots of changes in our government last year, so we hopefully have figured out what happened when the dust cleared last month.

The 7.5% threshold for medical expenses is back in place for two years beginning January 1, 2017. That means that it applies to the 2017 and 2018 tax years that you file in 2018 and 2019. You can deduct medical expenses over 7.5% of your adjusted gross income (AGI). Say your AGI is $40,000 then $40,000 x 7.5% equals $3,000. Your medical expenses add up to $5,000. You can claim $2,000 on your tax return for medical expenses which is the amount over 7.5% of your AGI. The threshold would return to 10% for 2019 and beyond.

When you prepare your tax return, you choose between claiming the itemized deductions you qualify for, or taking a "standard" deduction that represents the typical deduction for a taxpayer with your filing status (single, married filing jointly, etc.). Since this is an either/or decision, it only makes sense to itemize your deductions if the total of those itemized deductions is greater than what you'd get from the standard deduction. It is much simpler to take the standard deduction, so if there is

Only about 30% of taxpayers have chosen to itemize deductions in recent years.

only a slight difference between the two totals, the standard deduction may still be the way to go. Only about 30% of taxpayers have chosen to itemize deductions in recent years.

Starting with the 2018 tax year, the standard deduction will go up to $12,000 for single filers and $24,000 for married filing jointly taxpayers. That's almost twice the 2017 standard deduction amounts ($6,350 for single filers and $12,700 for joint filers). In other words, you'll need almost twice as many itemized deductions as last year to make itemizing a better deal than claiming the standard deduction.

For the complete list of medical expenses that you may deduct, see IRS Publication 502 at *www.IRS.gov/forms*. In addition to the items you would expect to see on the list (such as physician, hospital, dental, laboratory and x-ray costs), deductible medical expenses may include but aren't limited to the following:

- Payments of fees to doctors, dentists, surgeons, chiropractors, psychiatrists, psychologists, and nontraditional medical practitioners.
- Payments for inpatient hospital care or residential nursing home care, if the availability of medical care is the principal reason for being in the nursing home, including the cost of meals and lodging charged by the hospital or nursing home. If the availability of medical care isn't the principal reason for residence in the nursing home, the deduction is limited to that part of the cost that is for medical care.
- Payments for acupuncture treatments or inpatient treatment at a center for alcohol or drug addiction, for participation in a smoking-cessation program and for drugs to alleviate nicotine withdrawal that require a prescription.
- Payments to participate in a weight-loss program for a specific disease or diseases diagnosed by a physician, including obesity, but not payments for diet food items or the payment of health club dues
- Payments for insulin and payments for drugs that require a prescription.
- Payments made for admission and transportation to a medical conference relating to a chronic disease that you, your spouse, or your dependents have (if the costs are primarily for and essential to necessary medical care). However, you may not deduct the costs for meals and lodging while attending the medical conference.
- Payments for false teeth, reading or prescription eyeglasses or contact lenses, hearing aids, crutches, wheelchairs, and for a guide dog or other service animal to assist a visually impaired or hearing disabled person, or a person with other physical disabilities.
- Payments for transportation primarily for and essential to medical care that qualify as medical expenses, such as payments of the actual fare for a taxi, bus, train, ambulance, or for transportation by personal car, the amount of your actual out-of-pocket expenses such as for gas and oil, or the amount of the standard mileage rate for medical expenses, plus the cost of tolls and parking. For 2017 you may deduct 17 cents per mile for medical expenses.

Continued on page 24

Continued from page 23

- Payments for insurance premiums you paid for policies that cover medical care or for a qualified long-term care insurance policy covering qualified long-term care services. However, if you're an employee, don't include in medical expenses the portion of your premiums treated as paid by your employer under its sponsored group accident, health policy, or qualified long-term care insurance policy. Also, don't include the premiums that you paid under your employer-sponsored policy under a premium conversion policy (pre-tax), paid by an employer-sponsored health insurance plan (cafeteria plan) or any other medical and dental expenses unless the premiums are included in box 1 of your Form W-2 (PDF), Wage and Tax Statement. For example, if you're a federal employee participating in the premium conversion program of the Federal Employee Health Benefits (FEHB) program, you may not include the premiums paid for the policy as a medical expense.
- Electricity costs for running your home oxygen concentrator may also be deducted. *(See sidebar for formula to compute the cost of electricity used.)*

Helpful Government Links

www.irs.gov/help/ita/can-i-deduct-my-medical-and-dental-expenses

www.irs.gov/publications/p502

Computing the cost of electricity used:

1. Look at the label on your concentrator or other medical device that you are using. It states the number of volts and amps the concentrator uses. If not found on the concentrator, look for it in the manual or ask your oxygen provider.
2. As an example, we will use 115 volts at 4 amps. To convert to watts (W), multiply volts and amps: 115 volts x 4 amps = 460W.
3. Next, calculate the number of kilowatt (KW) hours you use per year. Multiply the watts your concentrator uses by .001 KW/W to convert watts to kilowatts. In our example, 460W x .001 KW/W = 0.46KW.
4. Multiply this answer by 24 hours/day x 365 days/year if you are a continuous user. If you do not always have your oxygen on, multiply by the average number of hours used per day and then by 365 days/year.
5. To continue the example, 0.46KW x 24 hours/day x 365 days/year = 4,029.6 KWH/Y. This is the kilowatt hours you have used to run your concentrator the past year.
6. Now, multiply the above result by the cost per kilowatt hour your electric company charges you. It may be listed on your bill or you could call their office. Let's say they charge you 8 cents per kilowatt hour (prices will vary widely depending on the region in which you live). To finish our example: 4,029.6 KWH/Y x $0.08 = $322.37. This is the amount you paid for electricity to run your concentrator and can deduct as a medical expense.

Edna Fiore of the Colorado Health Connection wants you to get involved to protect your right to have the best care and equipment that is available! The deeply flawed Competitive Bidding program has come with steep costs to patient care, especially in rural areas. More than half of Medicare beneficiaries now suffer from a lack of access to the equipment they need. There is hope though. New legislation in the Protecting HOME Access Act (H.R. 4229) seeks to address the crippling reimbursement cuts, helping to preserve access to durable medical equipment and provide much needed relief to those in need of care. You can make a difference. People for Quality Care is urging you to take a stand with us by contacting your legislator and ask that they

protect their constituents who rely on home medical equipment by co-sponsoring H.R. 4229. Access to home medical equipment is an issue that will impact every person at some point in their life, whether they are a patient, caregiver or family member. Please go to this Internet site:

http://people-for-quality-care.rallycongress.net/email/178 and click on "Take Action Today!"

Answers to Last Issue's Holiday Quiz

1. What is the name of Rudolph's dad? a) Vixon
2. Who wrote "The Nightmare before Christmas"? d) Tim Burton
3. What is the secret message Ralphie gets with his decoder pin in "A Christmas Story"? a) Drink Your Ovaltine
4. What is the guardian angel of George Bailey named in "It's a Wonderful Life"? b) Clarence
5. What did Ralphie want for Christmas in "A Christmas Story"? b) A BB gun
6. Why was the Grinch so nasty? Because he had a: c) Small heart
8. In what city did "Miracle on 34th Street" take place? c) New York
9. What did Clarence get for accomplishing his mission in "It's a Wonderful Life"? b) Wings
10. Two men broke into a house and had a lot of trouble in which movie? c) "Home Alone"
11. In what year was "A Christmas Carol" by Charles Dickens published? b) 1843
12. Christmas was once outlawed in England by: c) Oliver Cromwell, to stop drunken revelry and Papist overtones.
13. Fruitcake is a traditional fare at Christmas because: a) British law once limited eating it to certain holidays.
14. The song "Have Yourself a Merry Little Christmas" debuted in what movie? b) "Meet Me in St. Louis"
15. Which of the following Christmas movies does not feature a law enforcement officer in a speaking role? d) "Holiday Inn"
16. Since 1962, when the U.S. Postal Service issued its first Christmas stamp, it has had a new Christmas stamp every year except: c) 2000, when it was changing the postal rate and had too many stamps left over from 1999.
17. Many modern Christmas songs date way back, but the words are changed. The song "Adeste Fidelis" is better known now as: d) "O Come All Ye Faithful"
18. Franklin Pierce is credited with having the first Christmas tree in the White House. Who had the first Christmas tree with electric lights? a) Grover Cleveland

Exercise and COPD

Bruce King of Sommerville, MA, writes that he was recently diagnosed with asthma and emphysema. He found that exercising helps him more than the inhalers he takes. The treadmill and hand cycling especially have made a significant positive change on his breathing.

If you have made up your mind that you are going to exercise more, it doesn't have to be a New Year's resolution. It can be an any-day-of-the-week resolution – just take that first step to make exercise and increased activity a habit!

You don't have to leave the house if you don't want to – start slowly with stretching.

- Raise your arms as you breathe in and lower them slowly as you breathe out.
- Sit in a straight-backed chair with your arms outstretched. Breathe in, and then slowly breathe out as you turn your torso and arms to the left. Rest and then repeat on the other side.
- While seated, lift one leg up as you breathe in, then lower it, breathing out. Repeat with the other leg.

Walking with a friend is beneficial in so many ways too! This will be the cardiovascular portion of your exercise program.

Regular exercise that increases the strength and function of muscles is important. When your muscles are strong, they use less oxygen.

- **Arm curls:** old weights (or soup cans) at your sides, palms forward. Breathe in and lift weights toward your chest, keeping elbows down and exhaling slowly. Slowly lower your arms back down as you breathe in.
- **Forward arm raises**: Hold the weights down at your sides, palms facing in. Inhale, then exhale slowly as you raise both arms straight out front, to shoulder height. Inhale as you slowly lower your arms.
- **Calf raises:** Stand 6 to 12 inches behind a sturdy chair with your feet hip-width apart. Hold the back of the chair for balance. Inhale and lift up high on your toes and exhale slowly. Hold the raised position briefly. Lower your heels back to the ground, inhaling slowly.
- **Leg Extensions:** Sit in a chair that supports your back. Inhale. Exhale slowly as you stretch one leg as straight as you can, without locking your knee. Breathe in as you slowly lower your foot back to the floor. Do one set with your right leg, then one set with your left.

As you continue in your exercise activities, work toward increasing the time and effort. Consider joining a pulmonary rehab program so you can be monitored as you push yourself to be the best you can be! Plus there are the social benefits you will reap. Talk to your doctor before starting an exercise routine.

Device Quality Matters.

Improved Quality of Life By Design

The AEROBIKA® device has been clinically proven to reduce breathlessness, worsening of your COPD and deliver significant improvements in your quality of life.[1] The AEROBIKA® device is easy to use and offers a natural, reliable way to help raise secretions by air movement and positive pressure in your airways. The device has undergone rigorous testing to ensure consistent performance every time. Use the AEROBIKA® device daily in your respiratory treatment plan!

Learn more at **monaghanmed.com/Aerobika-OPEP**

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monaghan means it matters®

Reference:
1. Svenningsen S, *et al.* COPD 2016;13(1):66–74.

Discovery Awaits

Are you ready for an adventure?

THE BRITISH ISLES: A BUCKET LIST TRIP!

April 30–May 12, 2018
(on the Royal Princess)
We sail roundtrip from Le Havre, France, to visit the British Isles for a 12-day adventure.

Join us for a very special tour **before our cruise to the British Isles!** It includes the roundtrip flight from Atlanta, GA, to Paris on April 26, all transfers and three nights at 4-star hotels. We will **tour the city of Paris** including its top sights and enjoy **a Seine River Cruise.** A private coach will take us to **Normandy** to visit Arromanches 360 with a **WWII D-Day tour** and visits to Omaha Beach, Pointe du Hoc and the American Cemetery. On our way to the port of Le Havre, we will **tour the Calvados Estate** and a **tour of Honfleur** before we board the Royal Princess.

Ports of Call:
Le Havre, **France**
Southampton **(London)**
Guernsey (St. Peter Port)
Cork, **Ireland**
Dublin, Ireland
(overnight stay)
Belfast, **Northern Ireland**
Glasgow (Greenock), **Scotland**
Invergordon, Scotland
Edinburgh (South Queensferry), Scotland

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We will always get the best possible pricing for your trip – even if it is lower after you make your reservation! There are never any additional charges for arranging your oxygen and medical needs for your vacation when you book your individual or Sea Puffer trip with us!

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FST–ST39068

BERMUDA CRUISE

September 30-October 7, 2018 (on the Norwegian Escape)

Join us in New York City before we sail to Bermuda!
We will provide transportation from the airport on September 27 for a three-night stay at the **Marriott Marquis** in the heart of **Times Square**. We have (2) four hour **tours of the city** over the next two days; excellent seats to a **Broadway** show; dinner at **Sardis**; and transportation to the ship on September 30. Exploring on your own is included with admissions to several attractions **(Empire State Building, Harbor Cruise)**!
Board the Norwegian Escape and enjoy two relaxing days as we

cruise to Bermuda. We dock at **King's Wharf** for three days to explore the island, then sail back to New York City.

If you cannot make the cruise, you are more than welcome to join us for the three nights in New York!

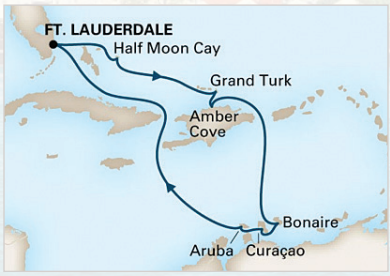
Experience more!

SOUTHERN CARIBBEAN CRUISE

February 24-March 6, 2019 (on Holland America's Koningsdam)

Leave from Fort Lauderdale and enjoy the **beauty of the southern Caribbean**! This exciting 10-day trip will let you experience relaxed cruising and these **Caribbean highlights**.

Ports of Call:
Fort Lauderdale, **Florida**
Half Moon Cay,
Grand Turk, Amber Cove,
Bonaire, Curaçao,
Oranjestad



Respiratory News

A study in the journal *Vaccine* tells us Cornell University researchers are working on a long-lasting flu vaccine where you might only need a booster vaccination every ten years. We can only hope!

A molecule called Frizzled-4 sits on the surface of lung cells and regulates healing and self-repair. German researchers have found, when exposed to smoke, these molecules no longer work. If the Frizzled-4 molecules can be reactivated, it can lead to new therapies for COPD. The study was found in a recent issue of the *American Journal of Respiratory and Critical Care Medicine*.

Researchers at Johns Hopkins Bloomberg School of Public Health found that adults who on average ate more than two tomatoes or more than three portions of fresh fruit a day had a slower decline in lung function compared to those who ate less than one tomato or less than one portion of fruit a day, respectively. The researchers investigated other dietary sources such as dishes and processed foods containing fruits and vegetables, such as tomato sauce, but the protective effect was only observed in fresh fruit and vegetables, suggesting certain components in these foods might help restore lung damage caused by smoking.

A study in the *New England Journal of Medicine* reports a new biomarker for chronic bronchitis that will allow doctors to diagnose the disease earlier and open doors to new therapies to control mucus production.

The influenza vaccine used today is grown in chicken eggs. Scripps Research Institute found this may cause a response that renders the vaccine less effective when used in humans. A better way to produce the vaccine is now being investigated. Another study in *Science Advances* tells of the promise of a new pneumonia vaccine that could protect you against up to 72 forms of pneumonia.

The *American Journal of Respiratory and Critical Care Medicine* reported e-cigarettes act like traditional cigarettes in causing the body to develop lung disease. It was also noted that e-cigarettes cause unique reactions of their own. The findings suggest that e-cigarettes should not be considered a better alternative to traditional cigarettes.

According to a five year study, using noninvasive ventilation (NIV) at home reduced readmission rates and improved survival rates. NIV, such as CPAP (continuous positive airway pressure) or BiPAP (bilevel positive airway pressure), was used for those with COPD who had high carbon dioxide levels. It was also found that those who have social support are more likely to be active participants in their own care. Always talk to your physician about new possibilities that may be of benefit for you.

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