Welcome to Pulmonary Rehab

patient education packet

LAKE REGIONAL® HEALTH SYSTEM

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What is Pulmonary Rehabilitation?

Pulmonary rehabilitation helps people with chronic lung disease breathe better and achieve a better quality of life. Our team of professionals includes registered nurses, exercise physiologists and a dietitian. All of them are specially trained to treat people with lung disease. With our team's help, you will learn about your condition and gain skills to help manage it. You also will have support from fellow patients in the program, who have the same concerns, fears and goals as you.

Pulmonary Rehab = Improved Quality of Life

- 4-6 weeks of rehab
- 3 times a week
- Exercise program (walking, biking, strength training, etc)
- Breathing retraining
- Nutritional guidance
- Stress management
- Positive lifestyle changes
- Encouragement
- Social Support

Does insurance cover pulmonary rehab?

Medicare and most insurance companies cover pulmonary rehab for patients with an approved diagnosis. Check with your insurance company to see if coverage is available for you. We can assist if needed.

After completing your prescribed pulmonary rehab, you can choose to participate in an optional, self-pay program that is not covered by insurance. We recommended this program to help you maintain the progress you have achieved.

What are the goals?

Pulmonary Rehab helps reduce symptoms and improve quality of life. It provides:

- Education about your lung disease and its treatment (to you and your family)
- Coaching to help you gain skills and make positive changes to manage chronic lung disease for optimal health
- A therapeutic exercise program to help you improve your fitness
- Psychological support to help you increase your confidence, emotional stability and psychological well-being
- A stimulating environment that motivates you to exercise as a part of your daily routine
- A consistent professional contact for any questions, concerns or communication needs
- Additional information concerning the effectiveness of your medical therapy to your physician

What is your role?

You will take ownership of improving your health while receiving enormous support. You will learn breathing techniques to help improve lung function and exercises to increase your strength and endurance. You also will learn ways to conserve energy so you can do more of the things you want without shortness of breath. These are just a few of the tools that pulmonary rehab will give you. Your job is to put these tools to use to stay as active and healthy as possible. This may mean making some changes to your lifestyle.

Tips for Making Changes that Work for You

To reach your goals, you'll probably need to make some changes to your lifestyle. These tips can make it easier.

- **Expect new emotions.** It's common to resist or feel angry or scared about having to make changes. You're not alone. Share your feelings with the pulmonary rehab team and people close to you.
- **Prepare yourself for slow, steady progress.** Change doesn't happen overnight. To feel your best, you need to commit yourself to practicing your new skills. Over time, you'll be stronger, have more control over shortness of breath, and be able to do more. But only if you continue to work at it.
- **Get support.** Allow family and friends to support your efforts. Tell the people in your life how they can help you reach your goals. Share your ideas and tips for success with other members of you pulmonary rehab group. Also, don't be embarassed to ask for help.

Breathing Retraining

Breathing retraining involves learning two techniques (pursed-lip breathing and diaphragmatic breathing) that will help reduce breathing difficulties and shortness of breath without using very much of your energy. With practice, you will apply these two techniques in all your activities of daily living.

Pursed-lip Breathing

Pursed-lip breathing not only helps you relax, but it also helps you get more oxygen into your lungs. It helps get trapped air out of the lungs by opening up your airways, and it prevents shortness of breath by slowing your breathing.

1. Relax your neck and shoulder muscles.
2. Inhale slowly through your nose for at least two counts.
3. Pucker your lips as you would if whistling.
4. Exhale slowly and gently through your pursed lips for at least twice as long as you inhaled.

Try This:

Neep help getting the hang of pursed lip breathing? Try blowing bubbles! Get a bottle of kids' bubbles that come with a wand. Then follow the steps above. What do your bubbles look like? If you have lots of little bubbles, you're breathing too fast. No bubble? You're not breathing hard enough. Aim for one slow, big bubble that hangs on the wand.

Diaphragmatic Breathing

With chronic lung disease, trapped air in the damaged air sacs often causes the lungs to over-expand. This prevents your diaphragm from moving as much as it should. Your body will adjust and begin to use accessory muscles located in the chest, shoulders and neck to compensate. This will use more effort and energy, making shortness of breath worse. By using your diaphragm, you are using only one muscle instead of many, thus you will use less energy.

- Get into a comfortable position by relaxing your neck and shoulder muscles.
- Put one hand on your abdomen and one on your chest.
- Inhale slowly through your nose while gently pushing out your abdomen for the count of two. You should feel the hand on your abdomen moving outward.
- Feel your abdominal muscles relax, keeping your chest still.
- Tighten you abdominal muscles, keeping your chest still. Using pursed lips, gently push inward and upward with your hand and exhale for at least twice as long as you inhaled.

The Dyspnea Cycle

As you start to feel short of breath, you worry about not getting enough air. This causes you to get anxious. Anxiety makes you breathe harder and faster, which makes the dyspnea or difficulty breathing worse. This is when panic sets in. The dyspnea cycle can be frightening. If these feelings become overwhelming, they can start to interfere with your emotional health and eventually your quality of life. But do not worry! You have the power to break the dyspnea cycle.

- **Take control** of your breathing by using pursed-lip or diaphragmatic breathing.
- **Pace yourself** in your activities of daily living to conserve your energy. This will allow you to do more before the shortness of breath gets out of hand.

Once you learn how to manage your emotions and shortness of breath, your overall health will improve and you can start to enjoy life again.

Conserving Energy

- Plan ahead, and prioritize your efforts.
- Plan activities shortly after medications or breathing treatments.
- Don't take on more than you can handle comfortably.
- Be aware of your limitations.
- Keep a slow, steady pace.
- Set up your workspace so you can do more with less energy.
- Trust your feelings, and go with them
- When you feel tired, QUIT. Remember, energy is like money in the bank — spend it wisely.
- Plan rest periods.
- Wait an hour or more after eating. Avoid large meals.

- Remember to breathe. If you feel breathless, use pursed-lip breathing.

Moving More Efficiently

- Get a small utility cart, the kind with three shelves. As you move about doing chores, use your cart to carry everything from one place to another.
- Plan movements: Travel in a circle instead of repeating steps going back and forth.
- One of the handiest of gadgets is a pair of pickup tongs used for retrieving things from hard-to reach places. You can find these tongs at medical supply stores.
- If you enjoy cooking, make double or triple amounts of your specialties. Freeze the excess in meal-size containers for future meals.
- When grocery shopping, use a shopping cart. This will allow you to lean on the cart while you shop. You also can put your oxygen in the cart so you do not have to carry it.

Your Exercise Program

Your pulmonary rehab team will help develop an exercise regimen individualized to your ability. The goal of your exercise program is to have you exercise at a comfortable level that is beneficial for you. Your team will gently encourage you to show progression with time and intensity. If you put into your program what you would like to get out of it, you will be amazed with your results.

Preparing for Exercise

- Choose the time of day when you normally feel the best or have the most energy.
- Dress for comfort. Wear clothing that will allow you to move freely. Wear shoes that fit well and support your feet.
- Carry your "rescue," "fast-acting" or "quick-relief" inhaler.
- Clear your lungs of mucus.
- Use your oxygen (if prescribed) during the activity.
- Check the weather. You may need to reduce your workout if your environment is hot, humid or cold. You may need to rest more often, drink more fluids, exercise earlier in the day or exercise indoors.

It is OK to stop if:

- You experience pain, discomfort, burning, tightness, heaviness, or pressure in your chest, neck, jaw, shoulders, arms or back
- Severe shortness of breath
- Lightheadedness, dizziness or nausea
- Headache

Notify the pulmonary rehab team or your doctor if any of these symptoms worsen or do not subside with rest.

Getting the most out of your work-out

- **Start every workout with a warm-up**
  It is very important that you get your muscles ready for exercise. The warm-up consists of lower intensity exercise such as walking laps. You are transitioning your heart rate from a resting heart rate to an exercising heart rate.

- **Endurance or aerobic exercises**
  These exercises help improve the function of your lungs and heart. The word "aerobic" means they help your body use oxygen better. They build your stamina, which helps you do more in daily life. Over time, they will help you have more energy and less shortness of breath. Examples are NuStep, stationary bike and treadmill.

- **Strengthening or resistance exercises**
  These exercises help improve strength and maintain bone health. Lifting weights and working with resistance bands are good ways to increase strength. When you are stronger, common activities such as lifting a grocery bag or opening a heavy door will take less effort and cause less shortness of breath.

- **Cooldown**
  Always end with a cooldown. Toward the end of your workout, purposefully decrease your intensity. You are gradually transitioning from an exercising heart rate to a resting heart rate.

- **Stretching**
  Stretching is important to improve range of motion, posture and breathing. Stretching also may reduce muscle soreness caused by endurance or strengthening exercises.

- **Breathing during exercise**
  Expect to be short of breath. That is proof that you are pushing yourself. Remember to use pursed-lip breathing to get you through your exercises. Exhale during the exertion part of the exercise. This is when you are using the most effort. Never hold your breath.

Dealing with Depression

If your day-to-day life is affected by your disease process, it is not uncommon to get down. You might feel frustrated that you are unable to do things that you enjoy doing. Be sure to get help if you think you are depressed.

Recognize the Signs and Symptoms of Depression

Changes in feelings
- Feeling empty
- Inability to enjoy anything
- Hopelessness
- Loss of sexual desire
- Loss of warm feeling for family or friends
- Feelings of self-blame or guilt
- Loss of self-esteem
- Unexplainable crying spells, sadness or irritability

Changes in behavior and attitude
- General slowing down
- Losing interest in hobbies or activities you once enjoyed
- Neglect of responsibilities and appearance
- Poor memory
- Inability to concentrate
- Suicidal thoughts
- Difficulty making decisions
- Withdrawing from friends and family

Physical effects
- Sleep disturbances
- Lack of energy
- Loss of appetite
- Weight loss or gain
- Unexplained headaches or backaches
- Stomachaches, indigestion or changes in bowel habits

What can you do?
- Reduce/eliminate the use of alcohol or drugs.
- Get dressed every day.
- Eat a well-balanced diet.
- Exercise — walk daily.
- Reduce stress.
- Avoid big changes.
- Get adequate sleep.
- Share your feelings.
- Focus on the positive aspects of life.
- Resume hobbies and social activities.
- Join a support group.
- Maintain tidy quarters.
- Talk to your doctor.

Medications

Understanding your medications and how to take them regularly and effectively is a very important step in living better with your chronic lung condition. Your medications can greatly improve your breathing and other symptoms if taken correctly. The examples below are the most common medications for chronic lung disease; however, yours may differ.

Bronchodilators relax and open airways, lessen shortness of breath and help stop attacks.

Anticholinergics	**Short-Acting Beta2 Agonists**	**Long-Acting Beta2 Agonists**	**Methylxanthines**
Atrovent	Albuterol	Serevent	Theophylline
Combivent	Proventil	Advair Discus	Slo-Bid
Ipratropium	Combivent	Foradil	Theo-Dur
Spiriva	Maxair	Volmax	Theo-24
Duoneb	Duoneb	Albuterol	Uni-Dur
	Xopenex		

Expectorants are sometimes used to treat the increased or thicker mucus that can occur. The most commonly used medication is Guaifenesin.

Oral Corticosteroids reduce inflammation and swelling of the airways; reduce mucus production; and decrease the sensitivity of airways to irritants and allergens.

Prednisone Methylprednisolone Prednisolone

Inhaled Corticosteroids reduce inflammation and swelling of the airways, helps reduce mucus production, decreases the sensitivity of airways to irritants and allergens (Rinse your mouth, gargle and spit after use.)

Flovent	Severent	Pulmicort	Qvar
Aerobid	Advair	Azmacort	

Nasal Corticosteroids are used to help relieve the stuffy nose, irritation, and discomfort of allergies or other nasal problems.

Flonase	Nasocort	Rhinocort	Qnasl
Nasonex	Beconase	Veramyst	

Antibiotics are used for acute exacerbations. They work by killing germs (bacteria) that cause infection. (Not useful for viral infections such as colds or flu.) Medications vary based on type of infection.

Remember:

- Always carry a current list of medications with you (including medication allergies)
- Obtain your prescriptions from one pharmacy. This ensures the pharmacist knows your full medication and allergy history and is able to advise both you and your doctor about medication or food interactions.
- All medications can have side effects, but the benefits should outweigh the side effects.
- Buy more before you run out.
- Always carry your inhaler with you wherever you go for quick relief of sudden shortness of breath.

Keeping Yourself Healthy

There is no way of preventing infection completely. Unfortunately, for someone with chronic lung disease, a cold or respiratory infection can be more serious than for someone without impaired lungs. Prevention is the key, and the best way to prevent infection is washing your hands often and keeping your hands away from your mouth and face.

No matter how hard you try to prevent getting sick, it will happen at some point. Watch for changes in your health. This way you can identify a problem early to notify your physician.

Watch for these warning signs.

- Increased shortness of breath, wheezing or coughing
- Increased mucus production, or mucus changes in color, is bloody or has an odor
- Feeling more tired than normal
- Chest tightness that does not go away with your normal medications
- Fever, chills or night sweats
- Sore throat
- Muscle aches and pains or headaches
- A change in peak flow numbers (if part of your treatment plan)

Maximizing Nutrition for Lung Health

- **Food is Fuel:** Food provides the energy you need to perform all of your daily functions, including breathing. Eating a healthy diet will help you feel better.
- **Energy Use:** The muscles used in breathing may require up to 10 times more energy (calories) in people with COPD than those without COPD.
- **Fight Infection:** Good nutrition helps your body fight infection, which can be common in COPD.
- **What You Eat Matters:** The types and amounts of foods you eat affect your metabolism, including how much carbon dioxide is produced by digestion. Too much carbon dioxide can make you feel weak and fatigued.
- **Maintain a Healthy Weight:** Maintaining a healthy weight is especially important for people with COPD. Being overweight can make breathing more difficult and may demand more oxygen. Being underweight can make you feel weak and tired, and may make you more susceptible to infections, including pneumonia. People with COPD who maintain a healthy weight live longer and enjoy improved quality of life compared to those who do not.

What to Eat and Drink

- **Fruits and Vegetables:** Aim for 2-3 servings of fruit and 3-5 servings of vegetables every day.
- **Dairy:** Limit dairy only if it seems to cause problems for you. Otherwise, the goal should be 2-3 servings of low-fat dairy daily.
- **Fiber:** Aim for 25-35 grams of fiber daily. Good fiber sources are whole grains, beans, fruits and vegetables. Increase your dietary fiber gradually to avoid excessive gas and bloating.
- **Lean Proteins:** Your protein needs are increased, so include a lean protein like eggs, fish, poultry, loin cuts of beef or pork, beans or nuts at every meal
- **Water:** Drink at least six to eight glasses of water or other beverages daily, unless your doctor has advised you to limit your fluids. Fluids help keep the airways moist, prevents dehydration and can help thin mucous.

What to Limit or Avoid in Your Diet

- **Sodium:** Consuming too much salt can cause the body to retain water and make breathing more difficult. Choose no-added-salt or low-sodium foods. Avoid foods containing more than 300 mg of sodium per serving.
- **Sugar:** Limit consumption of foods and beverages with added sugars, especially those with little nutritional value, like cakes, cookies, pies, soda and candy. Sugars cause production of excess carbon monoxide in the bloodstream, which can increase fatigue.
- **Caffeine:** Caffeine can interfere with some medications and cause restlessness that expends energy.
- **Carbonated Beverages:** Carbonated beverages, chewing gum and use of straws can cause bloating and gassiness from swallowed air.
- **Gassy Foods:** Avoid foods that cause you to experience gas or bloating. A full abdomen can make breathing uncomfortable. Try products like Beano or Lactaid to help with this.
- **Alcohol:** Limit alcohol, and ask about any interactions alcohol may have with prescription and over-the-counter medications.

Foods and Flavorings High in Sodium

- ✗ canned soups
- ✗ canned broths
- ✗ cheeses
- ✗ lunchmeats
- ✗ canned vegetables
- ✗ canned meats
- ✗ cured meats
- ✗ catsup
- ✗ processed foods
- ✗ Worcestershire sauce
- ✗ soy sauce
- ✗ bouillon
- ✗ MSG
- ✗ meat tenderizers
- ✗ fast foods
- ✗ frozen meals
- ✗ seasoning mixes
- ✗ salty snacks
- ✗ popcorn
- ✗ tomato sauce
- ✗ instant pudding
- ✗ pickled foods
- ✗ instant hot cereals
- ✗ hot dogs

Tips to Cut Back on Sodium

- Prepare foods at home instead of eating out so you can control the amount of sodium.
- Use as little salt in cooking as possible. You can cut at least half of the salt from most recipes.
- Do not salt food at the table.
- Avoid mixes or instant products, such as Hamburger Helper or instant rice pilaf. These often contain a lot of sodium.
- Select no-added-salt or low-sodium canned vegetables and soups.
- Season foods with herbs, spices, onions, garlic, peppers or lemon juice to add flavor without salt.

NOTE: Sea salt has the same sodium content as regular salt.

Seasoning Suggestions

- **Vegetables:** lemon juice, nutmeg, basil, dill, oregano, vinegar, mint, pepper
- **Meats:** cayenne, dry mustard, tarragon, thyme, curry powder, rosemary, garlic
- **Eggs:** chili powder, cumin, fennel, marjoram, turmeric, paprika, pepper hot sauce

Helpful Tips

- **Eat Small Meals:** Try to eat five or six small meals and snacks each day, rather than fewer, larger meals. This will help keep your metabolism burning calories efficiently. Avoiding large meals helps minimize abdominal and lung pressure and may lessen shortness of breath during meals. Drink liquids at the end of the meal to avoid feeling full while eating.
- **Oxygen:** Eating and digesting foods requires more oxygen. Wear your nasal cannula while eating and after meals.
- **Rest:** Rest before you eat so you have more energy to enjoy your mealtimes. Eat your biggest meal at the time of day when you generally feel the best and have the most energy.
- **Make it Easy to Eat:** Chop food into small pieces to make chewing less of a chore. Cook foods well so that they are softer to chew to avoid expending excess energy. Avoid aspiration by breathing and swallowing carefully, chewing slowly and sitting up properly to ease lung pressure.
- **Easy Meal Preparation:** Prepare foods ahead of time or when you have more energy, and freeze extra portions. Consider community programs to help with meals, like Meals on Wheels or meals from the Senior Center.
- **Temperature:** Try to avoid very hot or very cold foods and beverages. These foods may stimulate a cough reflex.

Suggested Supplements

- Consider a vitamin C supplement; research shows a positive relationship between an increase in dietary vitamin C and pulmonary function.
- Consider taking 1,200 mg calcium and 800-1,000 IU vitamin D supplements. Some medications used to treat COPD can cause bone loss and vitamin D helps improve lung strength and function. Ask your doctor to check your vitamin D level.
- Eat foods with high-nutrient value and healthy fats, like olive oil, nuts, nut butters and avocados. If you have a poor appetite or need to gain weight, consider a nutritional supplement like Boost or Ensure.
- Walk or participate in light activity to help stimulate your appetite. Talk to your doctor if poor appetite is a chronic problem.

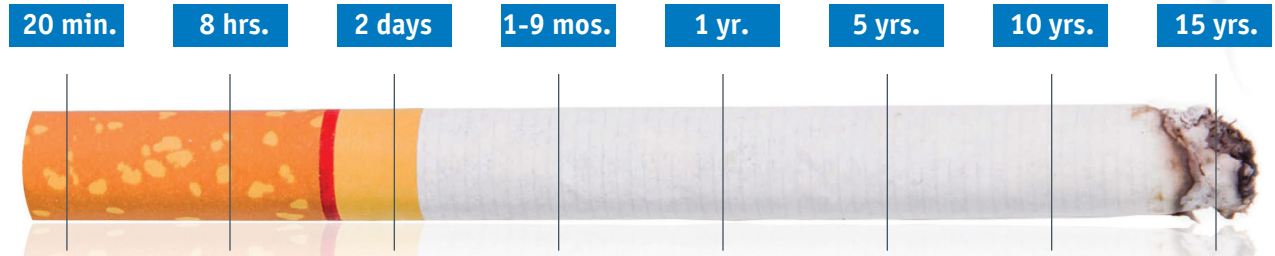
Smoking Cessation

Smoking is the No. 1 cause of preventable death and disease. There is no safe amount of smoking.

The Effects of Smoking

- Raises triglycerides (a type of fat in your blood)
- Lowers "good" cholesterol (HDL)
- Makes blood sticky and more likely to clot, which can block blood flow to the heart and brain
- Damages cells that line the blood vessels
- Increases the buildup of plaque in blood vessels
- Causes thickening and narrowing of blood vessels

How long it takes your body to recover after your last puff



20 min.	8 hrs.	2 days	1-9 mos.	1 yr.	5 yrs.	10 yrs.	15 yrs.
Your blood pressure decreases.	The amount of carbon monoxide in your blood drops back to normal while oxygen increases to normal.	Your nerve endings start to regenerate, and you can smell and taste things better.	Coughing, sinus congestion, fatigue and shortness of breath decrease.	The added risk of heart disease declines to half of that of a smoker.	Your stroke risk may be reduced to that of someone who never smoked.	Your risk of all smoking-related cancers such as lung, mouth and throat decreases by up to 50 percent.	Your risk of heart disease and smoking-related death is now similar to that of someone who never smoked.

Other Benefits of Quitting

- People with diabetes who quit smoking have better control of blood sugar.
- Quitting allows for higher quality air exchange in the lungs, permitting easier movements when active.
- By not smoking, you help protect family, friends and coworkers from health risks associated with secondhand smoke.
- Cigarettes are expensive, and quitting can save you money now, as well as saving on future health costs. If you need an added incentive to quit, think about this: One pack of 25 cigarettes costs around $27, and the price keeps rising. What could you do for yourself and your family with that extra money? At today's prices, if you smoke one pack of cigarettes daily for 10 years, you'll spend almost $99,000.

Five Steps to Quit

1. **Designate a quit day.**
   Choose a date within the next seven days for when you will quit smoking.

2. **Choose a method.**
   - **Cold Turkey.** Stop smoking all at once on Quit Day.
   - **Cut Down.** Reduce the number of cigarettes consumed each day.
   - **Smoke less of each cigarette.** Reduce the amount until you stop smoking completely.

3. **Ask about Medications**
   Speak with a health care provider to discuss options.

4. **Plan for the quit day.**
   - Healthy food choices
   - For each day you don't smoke, give yourself a reward, such as movies or other activities.

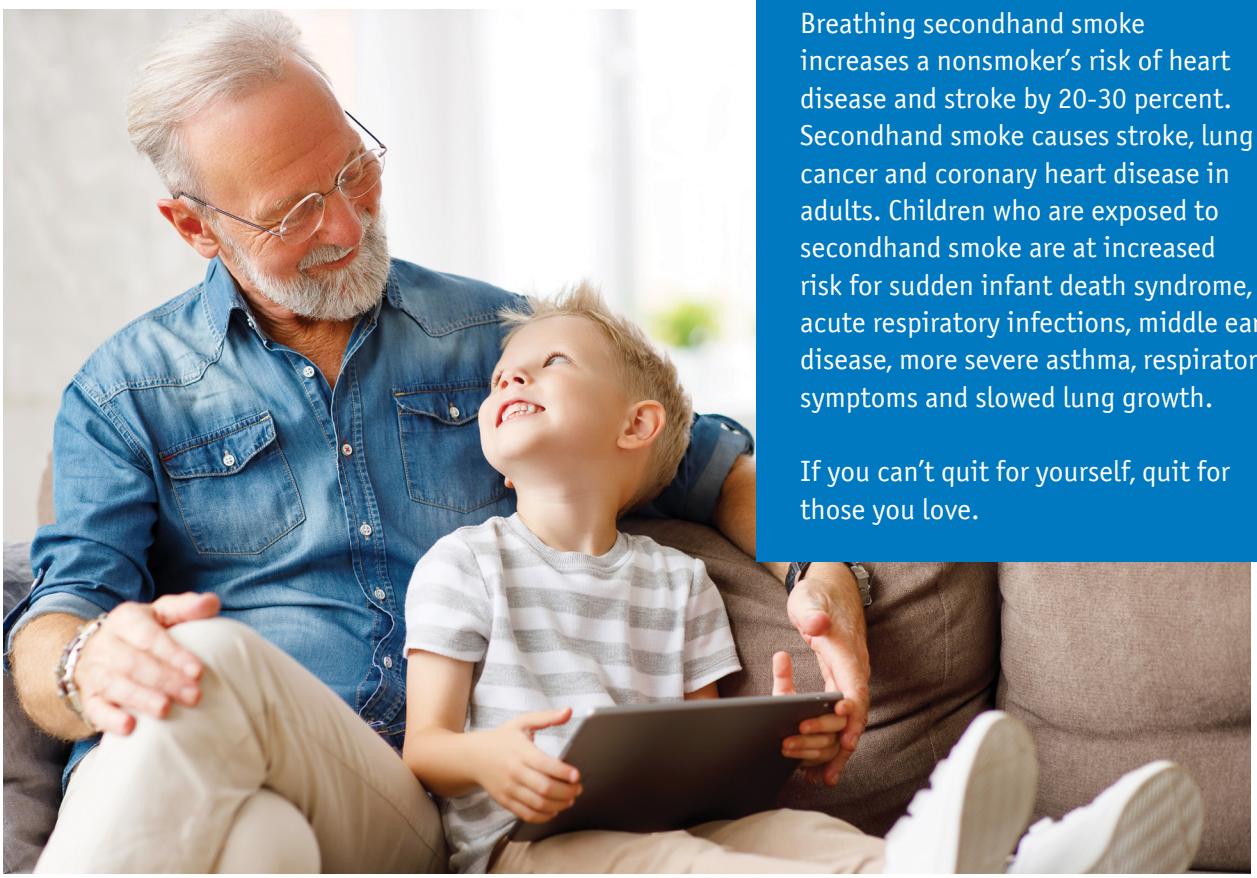
5. **Stop smoking on quit day.**

Are e-cigarettes less harmful than regular cigarettes?

People who are currently addicted to cigarettes may think that e-cigarettes are a safer alternative. The Food and Drug Administration has not found any e-cigarette to be safe and effective in helping smokers quit. Even in small doses, inhaling the two primary ingredients found in e-cigarettes — propylene glycol and vegetable glycerin — is likely to expose users to a high level of toxins, and the more ingredients a user is inhaling, the greater the toxicity. The inhalation of harmful chemicals can cause irreversible lung damage and lung diseases.

People who do not already smoke should avoid e-cigarettes. E-liquids contain nicotine, which increases the risk of high blood pressure and diabetes, as well as flavoring agents that may cause a chronic lung disease. High-wattage vaporizers may also generate significant amounts of formaldehyde and other toxins.

E-cigarette use is soaring in young people. This is of particular concern, as nicotine exposure on the developing brain may impair brain development and predispose teenagers to addiction to other drugs.



Secondhand Smoke

Breathing secondhand smoke increases a nonsmoker's risk of heart disease and stroke by 20-30 percent. Secondhand smoke causes stroke, lung cancer and coronary heart disease in adults. Children who are exposed to secondhand smoke are at increased risk for sudden infant death syndrome, acute respiratory infections, middle ear disease, more severe asthma, respiratory symptoms and slowed lung growth.

If you can't quit for yourself, quit for those you love.

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