Exercise

FOR INDIVIDUALS WITH LUNG DISEASE

INTRODUCTION

Some Alphas with lung disease feel that they can't do any form of exercise because it makes them feel too short of breath. Others worry that exercising may not be safe; they're afraid they might injure themselves or make their lung condition worse. The benefit of exercise in chronic lung disease is not controversial. Although there are limited improvements in measured lung function, all research studies have demonstrated that consistent exercise and pulmonary rehabilitation does improve the overall quality of life and tolerance to exercise and activity. In fact, many believe that once the appropriate studies are finished, it is likely that such interventions as pulmonary rehabilitation will significantly improve survival in people with Alpha-1 lung disease.

This brochure offers activity and fitness guidelines for individuals with moderate to severe Alpha-1 lung disease. Keep in mind, these instructions are not meant to be a substitute for obtaining an accurate medical assessment and exercise recommendations from your healthcare provider. Your healthcare providers are the best individuals to advise you about how much and how often you should exercise, and they can give you specific instructions about how to safely monitor your progress.

Throughout this brochure you'll find exercise illustrations. After consulting with your healthcare practitioner, you can design a program using these illustrations as a guide. Or, you can ask your healthcare provider or exercise professional to assist you by "filling in the blanks." In this way, your program will be sure to meet your specific fitness needs.

CROSS REFERENCE: For detailed explanations of the various types of lung diseases, check out the brochure ***Understanding Lung Disease***.

EXERCISE FOR ALPHAS WITH LUNG DISEASE

To avoid feeling short of breath (dyspnea), Alphas with lung disease often limit their physical activity. This can cause a downward spiral. You don't exercise because it makes you feel bad. So, your fitness level drops. And, the next time you exercise, you feel even worse.

Use it or lose it!

The less you do, the less you feel able to do, and the less fit you become. This is called progressive deconditioning. The following factors affect how fast you lose fitness:

- How fit you were to start with
- How long you've been exercising
- When you stopped exercising regularly

If you've been hesitant about exercising, we have some good news for you: It's never too late to exercise. You may have to start slowly and carefully, but physical activity can be part of your overall treatment plan.

GOOD NEWS: The good news is that it's never too late to exercise. While you may need to proceed with caution, there are many reasons to include physical fitness as part of your overall treatment plan.

Getting the green light from your doctor

Before you start any fitness program, you'll need a medical exam. Your doctor should check out your cardiac risk and exercise capacity. With Alpha-1 lung disease, you want to make sure you don't put too much stress on your heart and lungs.

Your doctor may ask you to do a supervised Exercise Tolerance Test on a treadmill, a stationary bike, or with a walking test in their office. During the test, you'll wear a cardiac monitor and a pulse oximeter. Your doctor will look at your heart function and blood oxygen levels while you exercise. This helps them assess how much exercise will be safe and effective for you.

A prescription for better health

After your test, your doctor may give you an "exercise prescription." This details how often, how long, and how hard you should exercise. They may also refer you to a pulmonary rehabilitation program, if one is available in your area.

Pulmonary rehab programs provide many benefits to people with lung disease. However, they aren't covered by most insurance companies. If you've been denied coverage, consider these options:

- **Appeal the decision:** Ask your doctor to write a note that says the program is essential to your health. Some insurers will pay for an initial assessment and treatment plan, plus a specific number of follow-up visits.
- **Follow your prescription:** You can create a "do-it-yourself" program at home or at a local gym.
- **Try cardiac rehab:** Ask your doctor to refer you to a cardiac rehab program. Many insurers will cover expenses for this type of program. You can ask the trainers to give you a modified treatment plan that works for your lung condition.

How does exercise help you?

You may not notice benefits after just one day. But if you exercise on a regular basis, your health will improve over time. You may even feel like you can breathe more easily.

Exercise improves your heart's ability to pump blood and deliver oxygen to your body. Better circulation and oxygen delivery means you won't feel short of breath as often. As muscles get stronger, they do not produce as much carbon dioxide that must be removed by the body by breathing. This means that you can do more with the lung function that you have.

How else can exercise help? It can give you more:

- Energy for daily activities
- Strength and endurance
- Body awareness and confidence
- Insight into what makes your symptoms flare-up
- Restful sleep

Plus, exercise boosts your mood, decreases anxiety, and helps your posture.

What can you do about shortness of breath?

Most people with lung disease have shortness of breath. That doesn't mean you can't take care of daily tasks like shopping or cleaning. You can learn to adjust your breathing during activities to conserve energy and limit shortness of breath.

Can exercise reverse Alpha-1 related lung disease?

Exercise can't reverse lung disease, but it can change the way you feel and function. If you have moderate to severe lung disease, exercise can help you stay fit and strong, which improves your quality of life. In summary, exercise is good for everybody — especially those with lung disease!

IT'S A FACT: Exercise cannot reverse Alpha-1 lung disease, but it can change the way you feel and function.

MANAGE YOUR ENERGY WITH THESE STRATEGIES

When you're living with Alpha-1 lung disease, you put a lot of energy into the work of breathing. You need some strategies to help you manage your energy, so you use less of it when dealing with work, family, and other responsibilities.

Here are some tips to help you manage your energy:

- **Pace yourself:** Give yourself enough time to complete a task without rushing. And don't wait until you feel tired to rest. Take frequent, short breaks.
- **Work smarter:** Use tools, equipment, or postures that require less energy. It's not lazy, it's smart.
- **Space your activities:** Break big jobs into smaller steps. And plan rest breaks between tasks that take a lot of energy.
- **Plan your day:** If you need to attend a meeting in the evening, avoid strenuous activities earlier in the day.

- **Reduce your workload:** If you have stairs in your home, plan ahead so you don't have to make multiple trips to get things you need. Or use paper or plastic dishes so you don't have to wash and dry.
- **Sit to work:** Use a stool or chair to minimize fatigue if you're doing something that takes time.
- **Move your body mindfully:** Rapid, jerky arm movements can make you feel tired and out of breath. Keep your motions small, smooth, and flowing. If you can, avoid working with your arms above your head.
- **Adjust your work height:** When working, the counter or table should be two inches below the bend in your elbow. If it's any lower, you may have to stoop or bend. And if it's higher, you'll have to reach and lift. That affects your breathing and can cause back strain and fatigue.
- **Organize storage and work areas:** Put the things you use most within easy reach. Store items where you're most likely to use them.
- **Keep cool:** If you're hot, your body uses energy to try to cool down. If your work area is too warm, get a fan or air conditioner. Limit high-energy activities to the coolest part of the day.
- **Learn to relax:** Emotions and tension can drain your energy. There are many ways to reduce your stress, like yoga, meditation, or taking a walk in nature.

HOW TO CONSERVE ENERGY DURING DAILY LIFE

Most of us take breathing for granted. We don't have to think about it. It just happens. But people with chronic lung disease have to use coordinated breathing to conserve their energy. Coordinated breathing helps them stay active and handle day-to-day tasks without getting too short of breath.

If you have lung disease, you may often feel like you can't get enough air into your lungs. So, you breathe faster. But that means you're not emptying your lungs before your next breath. This is called "breath stacking," and it makes you feel even more out of breath.

Let's explore some techniques to help you avoid "breath stacking" and breathe more freely.

What parts of breathing can you control?

1. **Depth of the breath**: Breathing with your diaphragm helps get air into the lower part of your lungs. That allows the lower part of your lungs to also exchange oxygen for carbon dioxide and other gases.
2. **Pace of breath:** You can control how fast you breathe. If you pant or take short, shallow breaths, air never makes it to the lower part of your lungs.
3. **Muscle tension:** It's hard to breathe when your shoulders and belly are tight. You can learn to relax these muscles by breathing deeply, evenly, and slowly.

Coordinated breathing

Coordinated breathing reduces shortness of breath by helping deliver oxygen to your working muscles and remove carbon dioxide. It takes time, effort, and practice to do it right.

Let's start with something simple: pursed-lip breathing.

Pursed-lip breathing is a breathing technique that forces your airways to stay open the whole time you exhale. That allows you to completely empty your lungs if you have asthma, or any form of COPD. This does not work for lung diseases in which the airways are not obstructed.

Pursed-lip breathing:

- Slows your breathing
- Keeps your airways open longer when you exhale
- Increases the amount of air you move in and out of your lungs
- Improves gas exchange
- Makes it easier to breathe
- Helps you exercise for longer periods of time

How do you do pursed-lip breathing?

1. Inhale through your nostrils if you can.
2. Exhale slowly — don't force the air out.
3. Purse your lips, like you were going to whistle or blow out a candle.
4. Exhale two to three times longer than you inhaled.

When should you do pursed-lip breathing?

Use pursed-lipped breathing during and after exercise, and any time you feel short of breath.

Conserve energy with coordinated breathing

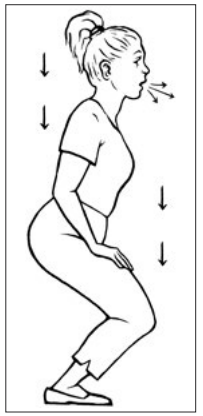
You may feel short of breath during many common activities and daily tasks. Practicing a few simple coordinated breathing techniques can help you live and work with less breathlessness.

Try coordinated breathing to conserve energy during these activities:

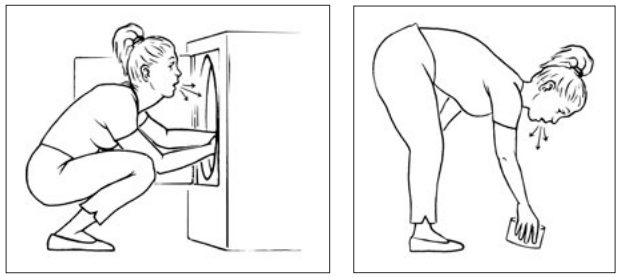
Bending

Bending puts pressure on your diaphragm. This may make you feel more short of breath. When you bend:

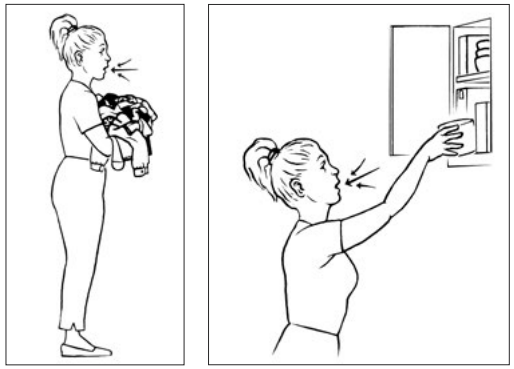
- Keep your back straight
- Exhale as you lower yourself with your legs



Stooping and reaching:



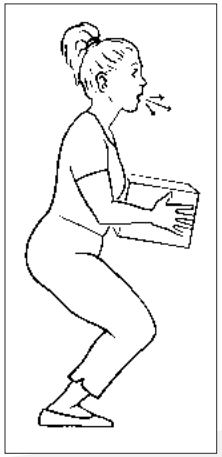
Exhale as you lean forward.



As you straighten up or reach, **inhale**.

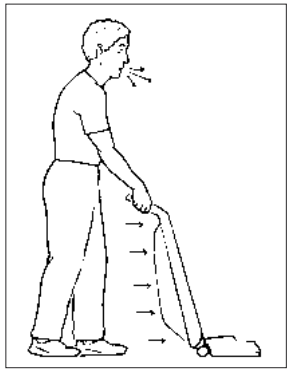
Lifting:

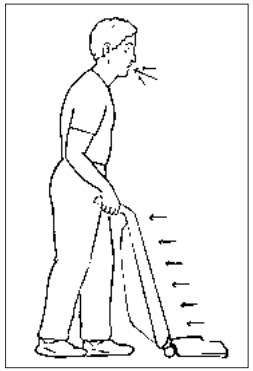
- Exhale on exertion and as you lift.
- Avoid holding your breath.
- Divide the load into smaller portions.
- Use your leg muscles to avoid straining your back.



Pushing and pulling:

Coordinate your breathing with your movements. For example, when vacuuming, exhale as you push, then inhale as you pull.



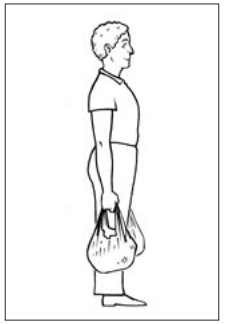


Exhale when you push. **Inhale** when you pull.

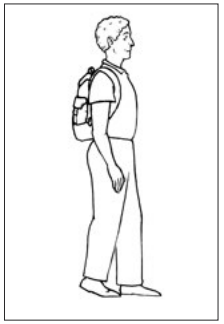
Other strategies to help you conserve energy:

Carrying:

Avoid carrying things next to your chest.



Carry one bag in each hand. Or use over-the-shoulder grocery bags, so your shoulders absorb the weight.

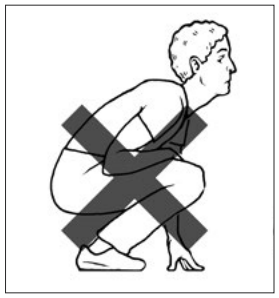


Use a backpack if you don't have back problems.

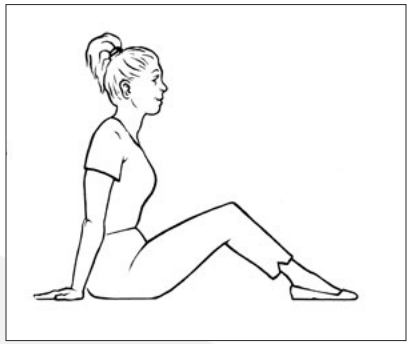
You may also want to consider using a cart or a luggage carrier.

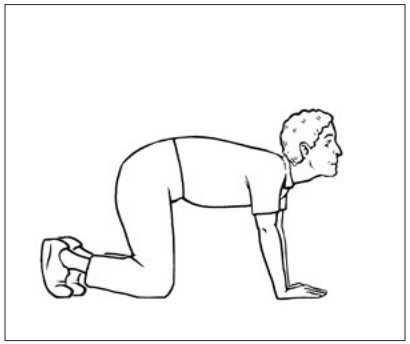
Crouching:

Crouching restricts the movement of your diaphragm. Your abdomen pushes against your chest, making it harder to breathe. Avoid crouching if you can.



It's better to sit down or get down on your hands and knees if you have to do a task for a long time.





Climbing stairs:

Stair climbing is a demanding activity that may cause shortness of breath. Pace yourself and rest every few steps (or at every step) if you need to.

- Exhale when you take a step up.
- Inhale when you rest.
- Try to breathe evenly and smoothly.
- Find a pattern that is comfortable for you.

Follow an even rhythm of leaning and standing, and match your breath to this rhythm.

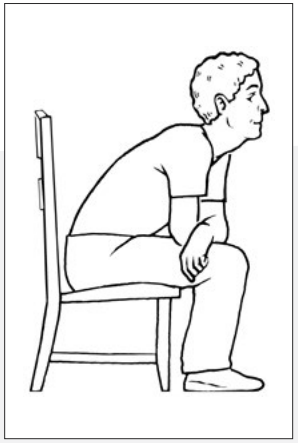
You may also want to think about using a long-handled "reacher" for tasks that involve bending, stooping, and crouching. You can find them in pharmacies and medical supply stores. They're a great way to save energy while doing household chores.

Using your arms and hands vigorously:

- Stabilize yourself against a wall, or sit in a chair with a back you can lean against.
- Support your elbows on the table or desk edge while using your arms.

Taking these steps allows you to relax your breathing muscles while using your arms.

Tips for recovery:



Leaning forward helps you breathe by placing your diaphragm on a diagonal stretch between your ribs and spine. This gives it a bit more elasticity for breathing and can help you recover when you've lost your breath.

Recovery breathing can help you get your breathing back to normal if you're panting or out of breath.

S.O.S FOR S.O.B. (Shortness of Breath)

- Stop and rest in a comfortable position
- Get your head down
- Get your shoulders down
- Breathe in through your mouth
- Blow out through your mouth
- Breathe in and blow out as fast as is necessary
- Begin to blow out longer but not forcibly while slowing your breathing
- Begin to breathe deeply in and out through your nose
- Stay in the position for 5 minutes or longer

Adapted from the American Lung Association

EXERCISING WITH ALPHA-1 LUNG DISEASE: QUESTIONS & ANSWERS

Whether you're on your own or doing a formal Pulmonary Rehabilitation program, safety is very important. Let's take a look at some questions and answers about exercising with Alpha-1 lung disease.

What should I wear?

You don't need to run to the nearest sporting goods store for exercise clothing. But you should wear clothing that allows you to move freely. Your shoes should be in good shape and right for your activity.

Do I need to use oxygen with exercise?

Your doctor will tell you if you need to use oxygen during exercise. If you use oxygen regularly, they'll likely recommend a different flow rate to use during exercise. You should adjust the flow about five minutes before you start, to prevent low oxygen when you first begin.

If you're exercising in a supervised program, the staff will monitor your oxygen level. They'll let you know if you need to adjust it.

If you're exercising on your own, talk to your doctor about adjusting your oxygen if you feel short of breath. (Note: The Borg Scale for Rating Perceived Dyspnea is helpful to rate your level of breathlessness.)

Remember: More oxygen isn't always the answer. Many people experience shortness of breath when exercising, even with normal oxygen levels. You may just need to slow down.

Oxygen is a "drug" for managing your chronic lung disease. Don't increase or adjust your oxygen use without talking to your doctor first.

KEY LEARNING: Do not increase or modify your oxygen prescription without speaking with your physician.

When is exercising with Alpha-1 safe?

It's safe when you	It's not safe when you
• Feel tired or shaky. • Have a headache. • Just had a steroid burst. • Are having a bad day. • Have too many other things to do. • Feel bored or lazy.	• Feel nauseated. • Have leg pain for no reason. • Have chest pain. • Don't have any oxygen (if using oxygen). • Are sick with a fever or strep throat.

Here are some basic rules for exercising during an illness or infection:

- **If you are seriously ill**, maintain a very low level of activity. This includes self-care, sitting in a chair for meals, and very little walking.
- **If you've been in the hospital or had a setback**, restart your exercise program slowly. Increase your pace and effort level with guidance from your doctor or trainer. Getting back to your exercise program can help your recovery. But, it's good to ease back into it.
- **When you have unusual symptoms**, take it easy. Keep it at a 1-2 on The Borg Scale for Rating Perceived Exertion. That means a very small amount of effort.

Exercising with Alpha-1: indoors or outdoors?

You can exercise wherever you want, as long as you're comfortable. But, when you exercise indoors, you can control factors like temperature, humidity, airflow, and lighting. And, it's easier to monitor your heart rate and breathing if you don't have to adjust for environmental factors.

When exercising outdoors, your body responds to air temperature and humidity. If it's too cold, you may become chilled during your warmup. If it's too hot, you may become too overheated to complete your workout.

Pay attention to how temperature and humidity affects your daily activities. Do your symptoms flare up when it's hot and humid or cold and dry? If so, consider working out inside, where you can control your environment.

Should I change my exercise program when I travel?

That depends on two things: **access and altitude**. If you don't have access to the equipment you need for your usual workout, you'll have to adjust. Walking is a great choice for exercising with Alpha-1.

Why? Because you can walk almost anywhere at any time. And it's easy to adjust your pace so you don't work too hard.

If you want to know how fast you're walking, follow these steps:

1. Use a stopwatch, the second hand of your watch, or the stopwatch app on your smartphone.
2. Count the number of steps you take in 15 seconds at a moderate pace.
3. Multiply that number by 4.
4. See where that number falls in this table.

How to calculate walking speed

STEPS PER MINUTE	MILES PER HOUR
75	2.5
100	3.0
115	3.3
125	3.5
135	4.0

Exercising with Alpha-1 at high altitude

The air we breathe is less dense at higher altitudes. If you travel to a higher altitude than what you're used to, you may have more symptoms. If you feel more shortness of breath than usual, adjust your pace. It's OK to take it easy when you're at high altitudes. You'll still get the benefits from working out.

If you have an oximeter, you may wish to use it to see if your blood oxygen level has changed at the new altitude. If it has, you can adjust your effort to meet your exercise prescription and your oxygen needs.

When should I take my medicines?

If your doctor recommends it, use your rescue inhaler 15 to 30 minutes before exercising.

Does what I eat matter?

Ideally, you shouldn't eat a heavy meal right before you exercise. Wait at least 30 minutes. Better yet, time your meals so that you have the energy to exercise before eating a meal. If weight management is your goal, you will find that you will eat less after you have completed an exercise session.

EXERTION AND EXERCISE SAFETY: WHAT YOU NEED TO KNOW

Monitoring your exertion (effort) during exercise is critical for anyone beginning a program. But it's even more important when you have Alpha-1 lung disease. Monitoring lets you get the most benefit from your program and ensures that you're safe and comfortable.

As your fitness improves, you'll notice that activities that once were difficult now take less time and effort. When you're ready to challenge yourself, monitoring tools help you do it safely.

Most people without lung disease use a Target Heart Rate to find the right intensity for their exercise program. But Alphas with moderate to severe lung disease don't have the same level of respiratory function. They should find the right intensity by using:

- The Borg Scale for Rating Perceived Exertion
- The Borg Scale for Rating Perceived Dyspnea (shortness of breath)

KEY LEARNING: Target Heart Rate assessment is not recommended as a safe method for monitoring exercise tolerance.

Monitor exertion with The BORG Scale for Rating Perceived Exertion (RPE)

This scale helps you monitor the intensity of your exercise and learn to manage daily activities. Benefits of using the RPE include:

- Increased exercise tolerance and improved respiratory function
- Less risk of injury
- No special skills or equipment required
- Let's you maintain your exercise pace

How to use RPE

The RPE measures your exertion or effort on a scale from 0 to 10. For example, sitting quietly in a chair may have a rating of 0. Waving your arms while sitting might increase the exertion rating to 0.5. And you might give walking at a moderate pace a rating of 3.

Don't base your rating on pace or speed. Base it on how hard you feel like you're working. Walking on a flat path might be a 3. But, add some hills and your RPE could increase to a 6, even if you're walking slowly.

People with Alpha-1 lung disease should aim for an RPE between 3 (moderate) and 4 (somewhat strong).

Let RPE be your guide

Reduce the intensity of your exercise if:

- You're short of breath and coordinated breathing doesn't help.
- You have aches and pains 20 to 30 minutes after your exercise session.

Adjust your exercise until you think your RPE is about 1 to 2.

Then, slowly increase your effort until it reaches 3 to 4.

RPE SCALE (RATE OF PERCEIVED EXERTION)	
1	**Very light activity** It doesn't even feel like you're exercising.
2–3	**Light activity** You could keep going for hours! It's easy to breathe and have a conversation.
4–6	**Moderate activity** You're breathing heavily, but you can have a conversation.
7–8	**Somewhat difficult activity** You're short of breath. You can speak, but only about one sentence at a time.
9	**Very difficult activity** You can barely breathe, and can only say a few words at a time.
10	**Maximum effort activity** You're completely out of breath, and can't talk.

Modified BORG Scale for Rating Perceived Dyspnea (RPD)

This scale helps you figure out how breathless you feel while exercising or doing daily tasks.

How to use RPD

The RPD measures your shortness of breath on a scale from 0 (none) to 10 (so much you have to stop your activity). Using RPD with RPE helps you monitor both aspects of your exercise program — and adjust if you need to.

As your strength and endurance improve with exercise, the feeling of breathlessness will decrease when you're exercising at the same level. You may also notice that daily tasks don't take all your energy or leave you feeling short of breath.

MODIFIED BORG SCALE FOR RATING PERCEIVED DYSPNEA (RPD)	
0	Nothing at all.
0.5	Very very slight shortness of breath
1	Very mild shortness of breath
2	Mild shortness of breath
3	Moderate shortness of breath or breathing difficulty
4	Somewhat severe
5	Strong or hard breathing
6	
7	Severe shortness of breath or very hard breathing
8	
9	Extremely severe
10	Shortness of breath so severe you need to stop

DESIGNING YOUR PERSONAL EXERCISE PROGRAM

Now that you know how to monitor your exercises, you must choose what type or mode of exercise to do. We recommend choosing activities that:

- You like to do
- You have easy access to
- Are right for your fitness level
- Challenge you safely

The possibilities are endless!

A good exercise program consists of three parts:

Warm-up and stretching (flexibility training)

- Prepares you for physical exertion
- Improves your flexibility and coordination
- Prepares the muscles in your belly and pelvis to help you with the work of breathing

Muscle strengthening (strength training)

- Also called resistance or weight training
- Improves muscle endurance to improve your ability to work (and play) without getting tired

Cardiovascular exercise (cardio endurance training)

- Strenuous activity that increases circulation
- Improves heart and respiratory function
- Includes walking, cycling, rowing, swimming, and playing sports

Challenge yourself safely!

Adding some physical activity to your daily routine gives you many health benefits. When you're ready to push yourself a little harder, remember:

Increase the duration (how long you exercise) before you increase intensity (higher on the RPE scale). If you have unusual symptoms or feel uncomfortable, decrease the intensity until the symptoms go away.

Warm-up & stretching exercises for Alphas

Every work out session should start and end with warm-up and stretching exercises. This reduces your risk of getting hurt, and releases muscle tension and soreness.

Warm-up and stretching exercises should always be completed prior to beginning more strenuous activities to reduce the risk of injury. It's also important to stretch after completing your exercise session to release muscle tension and soreness.

Some people are naturally more flexible. Your flexibility depends on genetics, gender, age, and physical activity. The less active you are, the less flexible you're likely to be. In fact, as you age, you tend to lose flexibility. Not because you're old, but because you may be less active.

But, just like your strength and endurance, you can improve your flexibility with regular training.

Stretch for success

Before stretching:

- Spend at least 5 to 10 minutes to warm up. Stretching cold muscles can cause injury.
- Begin with a simple, low-intensity warm-up, like brisk walking in place for 10 minutes.
- Stretch all of the major muscle groups.

GOOD NEWS: As with cardiovascular endurance and muscle strength, flexibility will improve with regular training.

While stretching:

- Start each stretch slowly.

  Inhale at the beginning of the stretch.

  Exhale as you gently stretch the muscle.

- Stretch to the point of mild discomfort.

  Hold each stretch for at least 10 seconds, then slowly release.

- Repeat three times.

Avoid these stretching mistakes

Don't bounce. Holding a stretch is more effective, and you have less risk of hurting yourself.

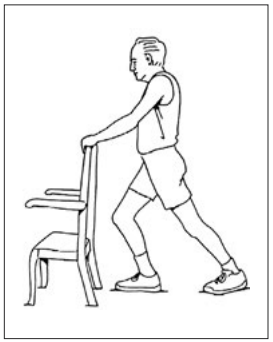
- Don't stretch before you warm up.
- Don't strain or push a muscle too far. If it hurts, ease up.
- Don't hold your breath.
- Don't stretch right after a meal.

Recommendations for Warm-up and Stretching

- Frequency *(how often)*: Usually 5 times per week, or daily, if for postural correction/awareness
- Duration *(how long)*: Hold each stretch for 10 to 30 seconds
- Intensity *(how hard)*: 3 to 5 repetitions per stretch

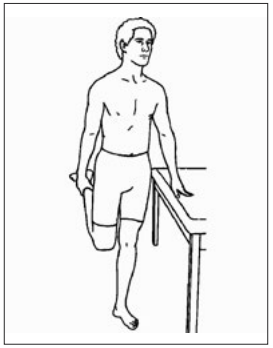
Calf stretch:

1. Place hands on a wall or chair. Stand with right foot in front, left foot behind.
2. Lean forward, keeping right heel on the ground.
3. Hold 30 seconds while counting out loud. Repeat on the other side.



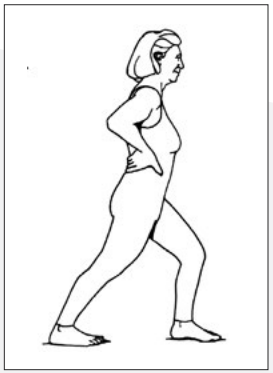
Quadriceps stretch:

1. Use a wall, table, or other support for balance.
2. Grab either your right or left ankle.
3. Gently pull your foot toward your buttocks until you feel a stretch on the upper part of your leg.



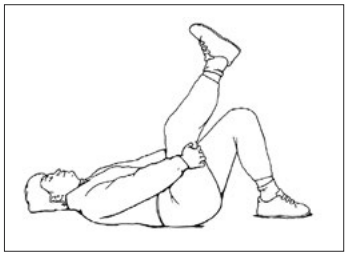
Hip stretch:

1. Stand with your feet parallel.
2. Bend your front leg, keeping the knee in line with your ankle.
3. Lean into the stretch, keeping your back leg straight.
4. Push your hips forward slightly. Hold 5 seconds. Repeat on the other side.



Hamstring stretch:

1. Lie on your back with both knees bent.
2. Keeping one foot flat, put your hands behind one knee, and slowly try to straighten that leg.



You can't change your genetics, but with regular stretching, you can become more flexible.

Strength Training Recommendations for Alphas

Strength training is a key part of any exercise program. It can help increase your stamina and reduce shortness of breath. This means you can do more of the things you want to do.

Let's look at some strength training exercises for your upper and lower body.

Strength training: Lower body

Lower body strength training is a cornerstone of any exercise program. These exercises target the large muscles of your lower body. They help fight muscle weakness that might limit your activities. They also boost your stamina or endurance, which can help you feel less breathless.

Recommendations for Lower Body Strength Training:

- **How often (Frequency):** Three times per week
- **How hard (Intensity):** One set of 10 repetitions (reps)
- **Progression:** Increase to one set of 20 reps (as monitored by RPE and RPD)

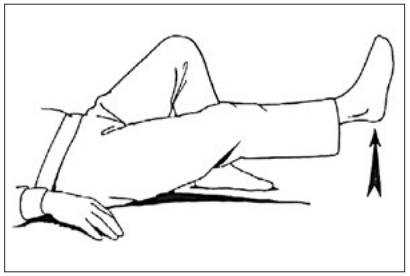
Once you can perform two sets of 20 reps for two exercise sessions in a row, you can increase the resistance. This is known as the 2-for-2 rule of strength training.

Options for more resistance:

- Use a stronger resistance-band
- Add one pound in free weights
- Add a plate if you're using a weight machine

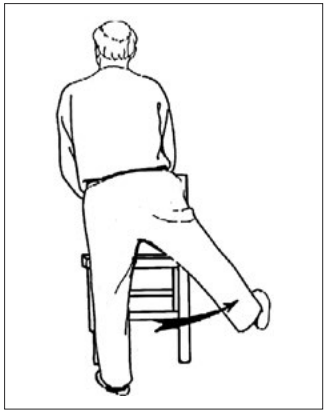
Straight leg raises:

1. Lie on your back with one leg bent.
2. Raise your other leg 6 to 8 inches with knee locked.
3. Exhale and tighten thigh muscles while raising leg.
4. Repeat using your other leg.



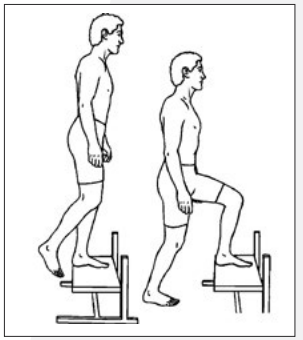
Hip sidekicks:

1. Hold a chair for balance.
2. Stand with legs shoulder-width apart and toes pointed forward.
3. Kick one leg out to the side, keeping the knee straight. Do not lean.
4. Repeat using your other leg.



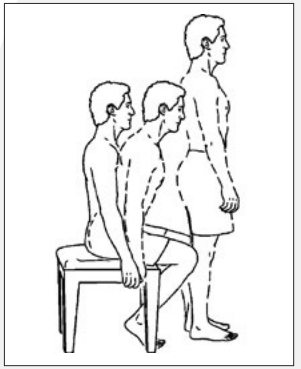
Step-ups:

1. Using stair or stool, step up and then down with the same leg 5 times.
2. Repeat using your other leg.



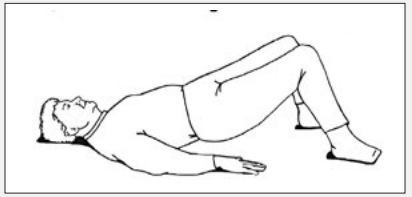
Modified knee bends:

1. Stand up from a sitting position.
2. Once standing, keep your back straight. Do not bend at the waist or slump.
3. Sit down slowly.



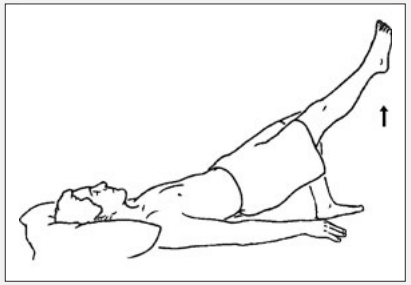
Bridge:

1. Lie on your back with feet shoulder-width apart.
2. Lift hips toward the ceiling.

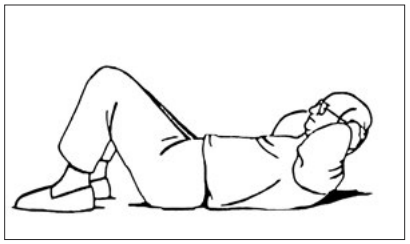


Single-leg Bridge:

1. Lie on your back with feet shoulder-width apart and one leg straight.
2. Lift hips toward the ceiling while keeping your leg straight.



Crunch:



1. Lie on your back with knees bent and fingertips touching ears.
2. Exhale as you slowly try to lift your shoulders about four inches off the floor. (Keep the small of your back against the floor.)
3. Inhale as you return to the floor.

Strength training: Upper body

Alphas with lung problems frequently use their arm and shoulder muscles for breathing. As a result, they may have shortness of breath (dyspnea) when dressing, showering, and doing household tasks.

Strength training for your upper body targets your arms and shoulders. It helps you do more activities at or above shoulder height and improves your posture. Strong upper body muscles and good posture can help you breathe more easily.

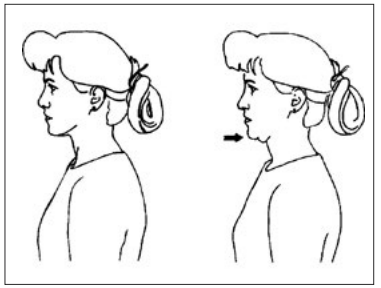
TIPS FOR BETTER POSTURE	
Do	**Don't**
• Stand tall and erect. • Tuck your chin. • Align your head and shoulders. • Check your posture regularly in a mirror or window.	• Slouch or slump while watching TV or reading. • Sit, stand or lie in one position for too long. • Hold your breath while you stretch. • Stretch without warming up.

Recommendations for Upper Body Strength Training

- **Frequency (How often):** Three times per week.
- **Duration (How long):** Increase in two-minute intervals with one-minute rest periods until you can perform the exercise for a total of 15 minutes without resting.
- **Intensity (How hard):** Work at a perceived exertion of 3 to 4 on the RPE and adjust using the RPD.
- **Progression:** Add a .5 pound cuff weight to each wrist to a maximum of 1.5 pounds per wrist as tolerated.

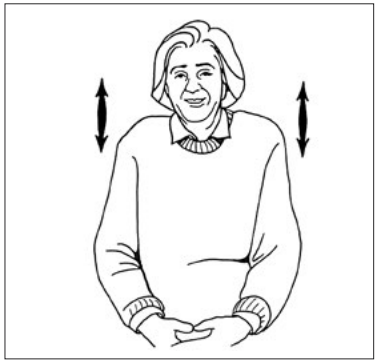
Chin tuck:

Gently pull your chin in while lengthening the back of your neck.



Shoulder shrugs:

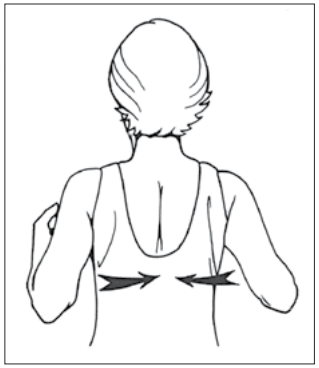
Raise your shoulders toward your ears.



Shoulder circle shrugs:

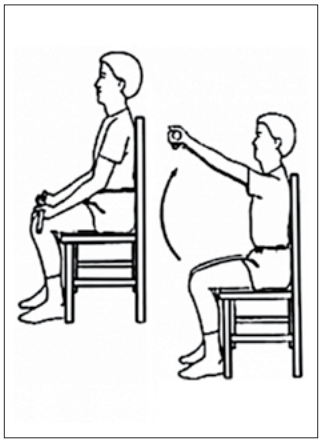
- Raise shoulders.
- Rotate backward for 15 seconds.
- Then, rotate the other way for 15 seconds.

Shoulder pinches:



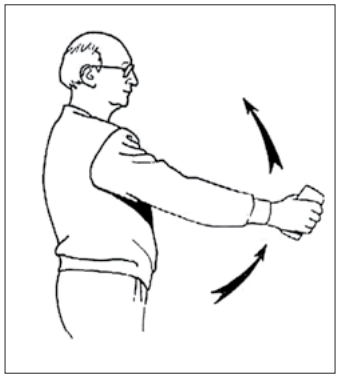
1. Pinch your shoulder blades together.
2. Hold 10 seconds while counting out loud.

Dowel raise:



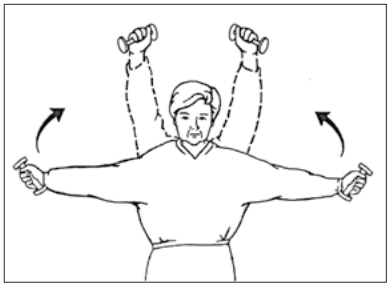
1. Sit in a chair.
2. Bend your arms slightly and inhale for one count (one second) as you raise your dowel. (You can also use a cane.)
3. Exhale for two counts while lowering the dowel.
4. Continue raising and lowering your dowel at this rate. (20 times per minute.)
5. Work for up to 15 minutes, and then add ½ pound weight to each wrist.

Weighted arm raises:



1. Sitting or standing, hold a weight in one hand.
2. Keeping your elbow straight, raise your arm above your head.
3. Very slowly, return the arm to your side.
4. Repeat with the opposite arm.

Standing arcs:



1. Sit or stand with your arms at your sides, holding weights.
2. Lift your arms out to the side and up as far as possible.

Resistance band rowing:

1. Anchor your resistance band to a door, and grasp both ends.
2. With your elbows bent, pull back, squeezing shoulder blades together.

IT'S A FACT: Resistance bands are elastic bands that can be cut with scissors to any length. They are available in a variety of strengths and can be purchased at any store selling medical supplies as well as many rehab centers and drugstores.

CARDIO ENDURANCE TRAINING RECOMMENDATIONS FOR ALPHAS

Cardiopulmonary training, sometimes called endurance training or "cardio," is a key part of any exercise program. There are many ways to get a "cardio" workout, including:

- Stationary bike
- Treadmill
- Step machine
- Elliptical machine
- Brisk walks

When choosing your "cardio" activity, pick something you like. If you have access to a gym, you'll have lots of choices. If you don't, walking is just as effective as using a machine at a gym.

NOTE: Many malls have designated hours for walking indoors. These programs provide a safe, climate-controlled environment, friendship, and year-round accessibility.

Get the most from your workout

To reap the most cardio benefits from your workout, you have to work out at the right level of effort. When you start, aim for a 3 to 4 on the Borg Scale for Rating Perceived Exertion (RPE). That's a medium to strong level of effort. Ramp up your workouts slowly, and assess your feeling of breathlessness using the Borg Scale for Rating Perceived Dyspnea (RPD).

To exercise safely, you must monitor your heart rate and breathing during your exercise session. As an Alpha, you can't rely on Target Heart Rate to know how hard you're working. Instead, we strongly advise that you use the Borg Scale.

Specific recommendations for cardio endurance training

- **Frequency (How often):** Once a day, 3 to 5 times per week
- **Duration (How long):** Warm-up and cool down for 3 minutes. Exercise for up to 30 minutes.
- **Intensity (How hard):** Work at a level of 3 to 4 on the RPE and adjust based on your tolerance (perceived breathless) using the RPD.
- **Progression:** Work up to 30 minutes. Slowly increase in intensity and duration, using the RPE and RPD scales. If you feel out of breath, ease up.

WHAT IS PULMONARY REHABILITATION AND HOW CAN IT HELP?

Some people like to exercise on their own. However, you might prefer working out in a group with a trainer. If so, your doctor may suggest pulmonary rehabilitation (rehab). Pulmonary rehab is a structured program. It takes place in a facility that may look like a gym.

But rehab programs have trained staff, including:

- Nurses
- Doctors
- Physical therapists
- Respiratory care practitioners
- Personal trainers
- Coaches

These programs are helpful if you don't have much experience with exercise. They're also good if everyday activities make you lose your breath. And they can help you start, re-start or upgrade your exercise program.

IT'S A FACT: Referral to a pulmonary rehabilitation program will assist in starting, re-starting, or upgrading your exercise program.

How do I choose a pulmonary rehabilitation program?

Your doctor may work with a program on a regular basis. However, you can also find one by contacting local hospitals. There are also some emerging online attempts to create a virtual pulmonary rehab environment. These are in development and probably better for maintenance after initial evaluation occurs in person.

Call your insurance company to see if they cover pulmonary rehab. Pulmonary rehabilitation has a national coverage decision for Medicare patients with a diagnosis of COPD. Cardiac rehab programs are more common, but they may not understand how to manage your condition.

What to expect from a pulmonary rehab program

Assessing your general ability is the first step in any rehab program. Next, you'll get a plan that's tailored to your goal and abilities. Then it's up to you to work that treatment plan.

During your assessments, you'll work with:

- Physical therapists
- Occupational therapists
- Exercise specialists
- Recreational therapists

If you need oxygen therapy, or have other health conditions, they can help.

A formal ability assessment looks at:

- Posture and balance
- Joint stability
- Walking patterns
- Muscle strength and endurance
- Functional task tolerance
- Cardiopulmonary exercise tolerance

Your test results help the staff design your exercise program.

The cardiopulmonary endurance (cardio) assessment includes:

- Stationary bike or treadmill test
- 6-minute walk test
- 12-minute walk test

During your test, they'll measure:

- Your heart rate & blood pressure
- How breathless you feel
- How hard you feel like you're working
- Your blood oxygen level

Functional assessment (Functional Independence Measure Scoring)

During this test, they assess how much help you need to do the following:

- Dressing
- Bathing
- Meal prep
- Eating
- Social activities
- Household tasks like laundry and cleaning
- Work tasks

Other tools assess how well you do work-related tasks. These include lifting, standing, and kneeling.

IT'S A FACT: A formal pulmonary rehabilitation team assessment includes evaluations of muscle strength and endurance, functional task tolerance, and cardiopulmonary exercise tolerance.

What are the benefits of pulmonary rehab?

These programs offer benefits you may not get if you exercise alone. Firstly, the staff monitors your form and offers feedback and guidance. Secondly, they care about your goals, so they can design a program to help you achieve them. And finally, you'll be with other people who care about their fitness. That can be very motivating.

STAYING ACTIVE

Whether or not you start a fitness program at home or at a rehabilitation center, the trick is to sustain the program over time. Maintaining your fitness is a life-long activity that takes dedication and commitment. The benefits are well known. With time, you should see measurable improvement in your ability to perform day-to-day activities with less fatigue and shortness of breath. You can take charge of your activity and fitness levels and make a significant impact on your overall quality of life. Talk with your doctor, and begin exercising safely.

NOTES

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