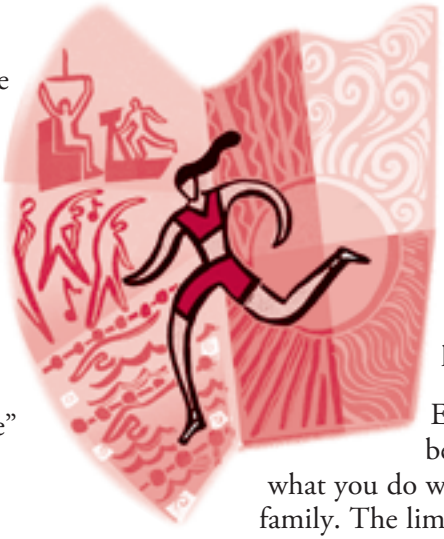
Day-to-Day

Exercise and Cystic Fibrosis (CF)



This guide explains the role of exercise in treating CF. When you think of "exercise," think of "activity," more than gyms or health clubs. "Exercise" includes many activities.

Before you get more active or start exercising, team up with your CF Care Center for advice and support.

Why Exercise?

Because it helps you feel better! Children, teens and adults with CF who exercise do better than those who don't. Their rate of lung function decline slows. They enjoy a more normal lifestyle. Regular exercise helps the heart so it is stronger during stress. Regular exercise also helps the lung function so there are more reserves to use during ***exacerbations**, or lung infections.

It's hard to know if those with CF do better because they are active or if they are active because their CF is milder. Either way, exercise helps!

Exercise helps you be less limited in what you do with friends and family. The limits that CF may put on you will be worse if you are not active. Regular exercise can help you do the things that increase self-esteem and give confidence to face each day.

Who Should Exercise?

Almost everyone can be helped by being more active. It is not a good idea to exercise if you have ***cor pulmonale, pulmonary hypertension,*** an exacerbation or respiratory infection.

What Kind of Exercise?

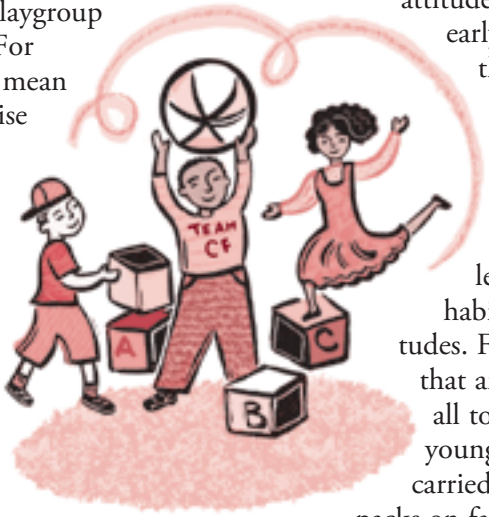
For all ages, there are three things to look at when choosing activities. The first is the activity itself. Do you *like* the activity?

*Words that appear in bold italic are defined on page 5 of this pamphlet.

Does it fit into your schedule? If not, you won't stick with it.

Second, do the activities connect you to friends or family? For children or teens, this may mean playing with a playgroup or sports team. For adults, this may mean finding an exercise partner.

Third, are they ***cardiovascular exercises*** or do they exercise your heart and lungs? Can you do them for more than 20 minutes at a time? Activities that make your heart beat faster and harder over time make your heart and lungs stronger. They also help lower the risk of cancer, heart disease, circulation problems, diabetes, and high blood pressure. Activities that involve weights or ***resistance*** are good for helping you get stronger muscles and bones. Any exercise, even short easy bursts spread through the day, is better than no exercise. Harder and longer exercise (to a point) is best.



Tips for Children

- Involve them in many types of activities
- Reward them when they join group events
- Plan active playtime on most days of the week
- Keep TV and video game time to a minimum

Advice for Children, Teens and Adults

Children

It is vital for all children to develop good exercise habits and attitudes. This starts early and with the family. When families commit to regular activity, children learn good habits and attitudes. Find activities that are easy for all to do. Very young children carried in backpacks on family hikes learn the joy of hiking and soon join in walking.

Expose children to many types of activities. Too often we push one kind or just a few, not knowing what the child will like and stick with. Children are more likely to find an activity they like and will do it if exposed to many varied activities early on. When children join in family or group activities, reward them. The best rewards are those that grow good positive attitudes

about joining in again, for example a canoe rental or a special active trip. Be creative!

Planning active playtime on most days helps grow good attitudes toward activity in children less than 4 years old. Five- and 6-year olds can do more "adult," "life-long" activities, like biking or hiking.



Watching TV and playing video games keep kids from being active. The more time children spend doing these things, the more likely they are to become unhealthy.

Teens

Teens need activities that help them feel good around their peers. This is truer for teens whose activities are limited by lung disease.

Teens are more likely to stick with a regular activity program that increases their self-esteem. This is true with sports teams and leagues. Teens: put the sports teams and leagues to this test first and ask yourself:

- "Are they run so that I will feel good about my growing skills?"
- "Are those in charge trained to give me a good experience and do they care about my CF needs?"
- "Is winning 'number one?'" Having fun should be most important in order for teens to want to stay involved.
- "Are players matched by age, skill *and* size, or am I sometimes overwhelmed by the other players?"

If you feel uneasy (fear of exposing CF, poor skill levels, etc.) or unable (due to CF) to play on a sports team or league, think about a formal exercise program. If you are well enough, point systems (see page 6-7) can support you in meeting your goals through varied activities. Formal exercise programs can include treadmills, stationary bikes, etc. Before starting, you should have an ***exercise test*** ordered by your doctor. This test will show if your heart and lungs can handle the exercise. Rarely, exercise makes the hearts of some people with CF beat abnormally. If this happens during the

test, your ***heart rate*** should be watched during exercise and your exercise kept at a lower level. Exercise should also be kept at a lower level if it causes low ***blood oxygen levels***. You should be monitored until you learn how to keep your exercise at a safe level.



Adults

If adults haven't made regular activity part of their lives, they *must* talk with their CF Care Center *first*. Some activities can make heart and lung disease and bone and joint problems worse. As with teens, an exercise test may be needed to find safe levels.

When planning an exercise program…

- Pick comfortable activities to do that you *like*. This will help you stick with them.
- Choose activities that keep your heart and lungs exercising the whole time.
- Find an exercise partner. This will also help you stick with it.
- Do a variety of activities. This will reduce boredom and bone/joint injuries.
- Choose activities that fit your life. You may like to snow ski, but you can't do it regularly if you live in Florida! Also, find an exercise time that fits your schedule.
- Pick lifetime activities like running and biking. Tackle football is fun but isn't something people do for too many years.
- Find some activities that aren't extremely competitive (against others or yourself). Exercising "just for fun" lowers tension.
- Set fair yet challenging goals. Most of us won't become paid athletes, but we can all improve our health.

How's the Weather?

With exercise, people with CF should be careful when it's hot and humid. They don't handle heat stress well. More sodium (Na^+) and chloride (Cl^-) or salt is lost in CF sweat, so drinking fluids is vital. Drink more fluids and choose fluids that maintain or replace Na^+ and Cl^- (***electrolytes***). Many sports drinks have a certain level of electrolytes to best absorb ***ions*** and fluid from the stomach into the blood. For those with CF, the level should be slightly higher.

Safety

It is important to participate safely in whatever activities you choose. While one might say that the problem with common sense is that it isn't common enough, that's basically what it comes down to.

To reduce the risk of ***musculoskeletal*** injuries be sure to participate in any activity in moderation until you have built up enough ***stamina*** to exercise at a higher intensity.

Pay attention to proper clothing, footwear and other gear required for your activities; wear a reflective vest in poor light conditions if you are exercising on the road; wear a bicycle helmet whenever you ride your bike, etc.

GLOSSARY

Blood oxygen levels: How much oxygen is in the blood. It is measured by a small monitor (oximeter) put on the finger.

Cor pulmonale: When the right lower part of the heart grows larger. This makes the heart less able to pump blood through the lungs.

Electrolytes: Chemical salts that help cells work. Electrolytes include sodium, chloride, potassium and bicarbonate.

Exacerbation: When there is an infection in the lungs.

Exercise test: An exercise is often done on a treadmill or stationary bike. The person will likely exercise for 10 to 15 minutes. The workout gets harder until they have to stop. During the test, the heart and lungs are watched for problems.

Cardiovascular exercises: Activities that use lots of muscles and last at least 20 minutes.

Heart rate: How many times the heart beats in a minute. During exercise, a small heart monitor (electrocardiogram) can be used to watch heart rate.

Ion: a charged atomic particle, such as sodium (Na^+) or chloride (Cl^-).

Musculoskeletal: The muscles and bones of the body.

Pulmonary hypertension: High blood pressure in the lungs.

Resistance activities: These activities make muscles work harder than normal, and strengthen muscles.

Stamina: Staying power, ability to do something for a while.

Track Your Success to Exercise Your Lungs

The object of "Exercise Your Lungs" on the next page is to help you track your exercise program. To complete the chart, fill in a box with the appropriate symbol that represents the type of the activity you completed. The duration of your exercise activity will determine how many boxes to fill in with the symbol. For instance, if you ride your bike for 15 minutes, you fill in one box with a B and if you ride for 30 minutes, fill in two boxes. If you hike for 1 hour you get to fill in two boxes with H. And so on.

Suggestion

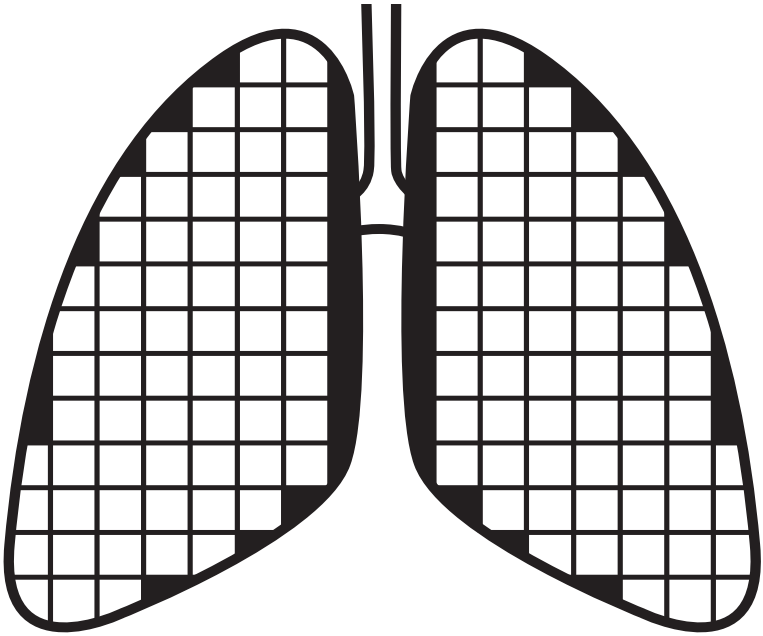
Make several copies of the chart on next page before using so you can keep your exercise reward program going!

Activities that are 15 to 30 minutes are best. Choose activities that you like and try to find a partner to join you. Start your program slowly and work your way up, for example try to fill in 10 to 12 boxes in week one and increase to 15 to 18 boxes by week four. Listen to your body; if it hurts too much, slow down.

When you complete one sheet, give yourself a reward such as a special family activity or a movie night!

Exercise Your Lungs

A point system to support your activity program



Minutes	Activity	Symbol
5	Running/jogging	R
	Cross-country skiing	CS
10	Swimming	S
15	Riding bikes	B
	Gymnastics	G
	Downhill skiing	DS
	Team sports (soccer, volleyball, basketball, etc.)	T
	Ice skating	I
	Rowing, canoeing	C
	Weight training	WT
	In-line skating	IL

Minutes	Activity	Symbol
30	Ping pong	P
	Horse riding	HR
	Dancing	D
	Bowling	BO
	Hiking	H
60	Walking	W
	Golf	GO
	Gardening	GA

NAME

DATE BEGUN DATE COMPLETED

Resources

Exercise: "Just Do It" for Improved Health and Longevity. CF Services Newsletter, HomeLine Guest Author Series, May 2002, www.cfservicespharmacy.com

Exercise - The Facts. CF Services Newsletter, HomeLine Guest Author Series, March 1997, www.cfservicespharmacy.com

These Web sites have more information about exercise:

The CDC: how much exercise do you need?
www.cdc.gov/physicalactivity/everyone/guidelines/index.html

CF Foundation: Virtual CF Education Day Web cast: *Exercise and CF*
www.cff.org/LivingWithCF/Webcasts/ArchivedWebcasts/#Exercise_and_CF

MedlinePlus: Exercise and Physical Fitness
www.nlm.nih.gov/medlineplus/exerciseandphysicalfitness.html

Tips for increasing physical activity:
www.mypyramid.gov/ - go "Inside the Pyramid" and click on the person climbing the pyramid

Gauge your fitness level:
www.healthierus.gov/exercise.html

An interactive tool for kids: Body and Mind - www.bam.gov

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