

Introduction to Physical Activity

What does it mean to be physically fit?

Most of us aren't trying to be physically fit enough to be an Olympic athlete – we just want to feel good, be as healthy as possible, and have the strength and energy we need for activities like playing with the kids, going on a hike, going up the stairs, carrying groceries, and more. Almost all of us would feel better, be healthier, and be able to do more by becoming more physically fit than we are now.

So how do you know how physically fit you are – and how much more physically fit you need to get? One way to measure physical fitness is health measurements that tell you how well your body is working.

How well is your body working?

Heart rate – Your heart rate is the number of times your heart beats per minute. The normal resting heart rate for adults is 60 to 100 beats per minute.

Blood pressure – Your blood pressure is the pressure of the blood against the inner walls of your blood vessels. Blood pressure depends on the strength of the heartbeat, the elasticity of the arterial walls, the volume and viscosity of the blood, and a person's health, age, and physical condition. Normal blood pressure is 120/80 mmHG and high blood pressure is 140/90 mmHG or higher.

Respiratory rate – Your respiratory rate is the number of times you breathe in per minute. Normal respiratory rate is 12 to 20 breaths per minute.

Cholesterol – Cholesterol is a waxy, fat-like substance that is in all your body's cells and in your blood. Too much cholesterol can cause blockages in your circulatory system. A normal total cholesterol level is less than 200 mg/dl. A normal LDL cholesterol level is less than 130 mg/dl. A normal HDL cholesterol level is 40 to 60 mg/dl.

BMI – Your Body Mass Index (BMI) measures whether you are at the right weight for your height. The ideal BMI is 18.5 to 24.9. Women with a BMI over 25.8 and men with a BMI over 26.4 are overweight.

If your health measurements indicate that you aren't very physically fit and your body isn't working as well as it could, being active is a great way to improve them – and you will feel better and greatly improve your health too!

What can your body do?

Physical fitness is a combination of your strength, endurance, and flexibility:

Cardiorespiratory endurance – “Cardio” refers to your heart and “respiratory” refers to your lungs, so “cardiorespiratory endurance” refers to the ability of your heart and lungs to supply blood and oxygen to your body when you are working hard or exercising. If you are out of shape, your heart and lungs will tire quickly and you won't be able to exercise very long. For example, going up the stairs might tire you out very quickly. If you are more physically fit, you will be able to walk further or go up stairs without getting out of breath as easily.

Muscular strength – This is how much strength your muscles have when you use them. If you are out of shape, you can't lift very much weight or push or pull very hard.

Muscular endurance – This is how long your muscles can work without getting tired. If you are out of shape, you might find that you can't rake leaves very long because your arm muscles get tired very quickly.

Body composition – This is how much fat and muscle you have in your body. Weightlifters are often heavy, but most of that weight is muscle. Most normal people have extra weight, but it is fat, not muscle.

Flexibility – This is how well you can move your joints (knees, ankles, elbows). Flexibility helps prevent injury. If you are out of shape, you may feel stiff and not move as well as you used to.

How does your body feel?

If you feel anxious or sad, have trouble sleeping, or don't seem to have any energy, increasing physical activity can help. Exercise releases chemicals in your brain that improve mood, fatigues your muscles so you are more tired when you go to bed, and improves blood flow, which increases energy.

What is physical activity?

Many people don't realize that there are actually 3 main types of physical activity – and each works different parts of your body and has different benefits for how well your body works and what your body can do. There is some overlap between the 3 types.

- 1) Flexibility activities
 - Stretch or loosen muscles and joints to help with balance and coordination
- 2) Strengthening activities
 - Make your muscles stronger by making them work harder, usually against resistance such as air, water, or some type of weights
- 3) Aerobic activities
 - Work most of your body, especially your heart and lungs

How much physical activity do I need?

If you have an on-going health condition, get your doctor's advice about how much physical activity you should be doing. But for most people, it's a good idea to have a regular program of physical activity that includes all 3 types: flexibility, strengthening, and aerobic. Here's what a basic plan looks like – start where you are and slowly add activity:

- **Flexibility activities:** As needed (work well for warm up and cool down)
- **Strengthening activities:** 8 to 10 different strengthening exercises, 2 to 3 days a week
- **Aerobic activities:** 30 minutes of moderate aerobic exercise, 3 to 5 days a week

How do I get started?

If you aren't active at all right now, or haven't been very active recently, how do you get started? The most important thing is start where you are and slowly build on your plan each week. Here are some other important things to consider:

- 1) Make a plan for getting starting that answers these questions:
 - a. What type of exercise will I do?
 - b. Who will I exercise with?
 - c. Where will I exercise?
 - d. What days and time will I exercise this week?
 - e. What supplies or equipment do I need?
- 2) Talk with your doctor – Most of the time your doctor will be ecstatic to hear you are planning to start moving more – but especially if you have a heart condition, a breathing condition, or diabetes, it is a good idea to make an appointment to double check.
- 3) Think about equipment – There are some supplies you will find helpful when you get started. You'll be a lot more comfortable if you wear clothes that are loose-fitting and breathable (like cotton) and that you can sweat in. Women should wear a supportive bra. When exercising outdoors, you might need a hat and sunscreen to protect yourself from the sun. For every type of exercise, you will need a good pair of shoes to prevent injury – you'll want shoes with a rubber sole that provide good support.
- 4) Stay hydrated – It is important to drink water to replace all the fluids you are sweating out, especially during the summer and fall months when it is so warm. You should drink water before, during and after you are physically active. Drink a large glass of water (between 1 and 2 “coke cans worth”) 1 to 2 hours before you are physically active. Then drink about ½ cup of water every 15 to 20 minutes during and after you exercise. Depending on how long you are active, you may need to carry water with you.
- 5) Warm-up and cool-down
 - a. The purpose of warm-up activities is to let your heart, lungs, and muscles increase their work gradually. Warm up should be at least 5 minutes and you can do a slower version of the exercise you are getting ready for (like stroll for a few minutes before walking briskly or put your exercise bike to low resistance for a few minutes and then increase it).
 - b. The purpose of cool-down activities is to let your heart and lungs slow down gradually. For cool down, take a slow walk or do some gentle stretching. Stretching also helps to reduce muscle soreness and stiffness that may follow exercise.
 - c. A beginning exercise plan that includes warm-up and cool-down might be:
 - 1) 5 minute stroll
 - 2) 15 minute brisk walk
 - 3) 5 minute stroll and 5 minutes of stretching
- 6) Know when you've done too much – watch for these symptoms:
 - a. Irregular or very rapid heartbeat
 - b. Pain, tightness, or pressure in the chest, arms, neck, or back
 - c. Extreme shortness of breath more than 10 minutes after you exercise
 - d. Lightheadedness or dizziness
 - e. Excessive tiredness (more than 24 hours after you exercise)

How do I deal with exercise problems?

If you haven't exercised recently, you'll undoubtedly experience some new feelings and discomfort in the early days. It's normal to feel muscle tension and possible tenderness around joints, and to be a little more tired in the evenings. Muscle or joint pain that lasts more than 2 hours after exercise, or feeling tired into the next day, means that you probably did too much too fast. Don't stop – just exercise less vigorously or for a shorter amount of time the next day.

When you do aerobic exercise, it's natural to feel your heart beat faster, your breathing speed up, and your body get warmer. However, feeling chest pain, excessive shortness of breath, nausea, or dizziness is not what you want. If this happens, stop exercising and discontinue your program until you check with your doctor.

Advice for Exercise Problems

Problem	Advice
Irregular or very rapid heartbeat	Stop exercising. Check your pulse. Are the beats irregular or regular? How fast is your heartbeat? Make a note of these and discuss this information with your doctor before exercising again.
Pain, tightness, or pressure in the chest, jaw, arms, neck, or back	Stop exercising. Talk with your doctor. Don't exercise until you have been cleared by your doctor.
Unusual, extreme shortness of breath persisting 10 minutes after you exercise	Notify your doctor and get clearance before exercising again.
Light-headedness, dizziness, fainting, cold sweat, or confusion	Lie down with your feet up, or sit down and put your head between your legs. If it happens more than once, check with your doctor before you exercise again.
Excessive tiredness after exercise, especially if you're still tired 24 hours after you exercise	Don't exercise so vigorously next time. If the excessive tiredness persists, check with your doctor. Talk with your doctor before you exercise next time.

Sources

Living a Healthy Life with Chronic Conditions (2006) by Kate Lorig, et al.

CDC Physical Activity for Everyone (<http://www.cdc.gov/nccdphp/dnpa/physical/everyone.htm>)

Metro Louisville Department of Public Health and Wellness (<http://www.louisvilleky.gov/Health/CHEP.htm>)