

Exercise

1. Aerobic exercise

- **What is it?**

Using the same large muscle group, rhythmically, for a period of 15 to 20 minutes or longer while maintaining 60-80% of your maximum heart rate.

- walking
- bike riding
- swimming

- **Why do we need it?**

Excerpt from <http://www.mayoclinic.com/health/aerobic-exercise/EP00002>

Aerobic exercise: Top 10 reasons to get physical

Regardless of age, weight or athletic ability, aerobic exercise is good for you. See why — then prepare yourself to get moving!

By Mayo Clinic staff

At least 30 minutes of daily aerobic activity — such as walking, bicycling or swimming — can help you live longer and healthier. See how aerobic exercise affects your heart, lungs and blood flow. Then get motivated to reap the rewards!

How your body responds to aerobic exercise

During aerobic activity, you repeatedly move large muscles in your arms, legs and hips. You'll notice your body's responses quickly.

You'll breathe faster and more deeply. This maximizes the amount of oxygen in your blood. Your heart will beat faster, which increases blood flow to your muscles and back to your lungs. Your small blood vessels (capillaries) will widen to deliver more oxygen to your muscles and carry away waste products, such as carbon dioxide and lactic acid. Your body will even release endorphins, natural painkillers that promote an increased sense of well-being.

Aerobic activity can help you:

1. **Keep excess pounds at bay.** Combined with a healthy diet, aerobic exercise helps you lose weight — and keep it off.
2. **Increase your stamina.** Aerobic exercise may make you tired in the short term. But over the long term, you'll enjoy increased stamina and reduced fatigue.
3. **Ward off viral illnesses.** Aerobic exercise **activates your immune system.** This leaves you less susceptible to minor viral illnesses, such as colds and flu.
4. **Reduce health risks.** Aerobic exercise reduces the risk of many conditions, including obesity, heart disease, high blood pressure, type 2 diabetes, stroke and certain types of cancer. Weight-bearing aerobic exercises, such as walking, reduce the risk of osteoporosis.
5. **Manage chronic conditions.** Aerobic exercise helps lower high blood pressure and control blood sugar. If you've had a heart attack, aerobic exercise helps prevent subsequent attacks.
6. **Strengthen your heart.** A stronger heart doesn't need to beat as fast. A stronger heart also pumps blood more efficiently, which improves blood flow to all parts of your body.

7. **Keep your arteries clear.** Aerobic exercise boosts your high-density lipoprotein (HDL), or "good," cholesterol and lowers your low-density lipoprotein (LDL), or "bad," cholesterol. The potential result? Less buildup of plaques in your arteries.
8. **Boost your mood.** Aerobic exercise can ease the gloominess of depression, reduce the tension associated with anxiety and promote relaxation.
9. **Stay active and independent as you get older.** Aerobic exercise keeps your muscles strong, which can help you maintain mobility as you get older. Aerobic exercise also keeps your mind sharp. At least 30 minutes of aerobic exercise three days a week seems to reduce cognitive decline in older adults.
10. **Live longer.** People who participate in regular aerobic exercise appear to live longer than those who don't exercise regularly.

NEWS FLASH: Aerobic exercise generates new neurons in your brain!

2. **Weight bearing (anaerobic) exercise**

- What is it?
Exercises that strengthen muscles in a manner that uses short bursts of energy, beyond our aerobic capacity.
- Why do we need it?
With appropriate exercise, muscles become larger and stronger; without appropriate exercise, muscles become smaller and weaker.
Everything requires stress to grow (organisms, people, tissues, bones). Our bones are not static structures like rebar used to reinforce concrete structures. Our bones are a complex network, constantly losing and gaining cells (and density). In order to increase the density (strength) of our bones we need to stress them by moving the muscles attached at either ends of the bones. Moving the muscles pulls on the bones and activates them to grow.
Exercising our muscles properly keeps our body in alignment. Overworking one set of muscles leads to imbalance on one side of the skeletal structure.

3. **Stretching**

- What is it?
Stretching is a form of **physical exercise** in which a specific **skeletal muscle** (or muscle group) is deliberately elongated (often by **abduction** from the torso) in order to improve the muscle's felt **elasticity** and reaffirm comfortable **muscle tone**.^[1] The result is a feeling of increased muscle control, flexibility and range of motion. Stretching is also used **therapeutically** to alleviate **cramps**.

In its most basic form, stretching is a natural and **instinctive** activity; it is performed by **humans** and many **animals**. It can be accompanied by **yawning**. Stretching often occurs instinctively after waking from sleep, after long periods of inactivity, or after exiting confined spaces and areas.

- Why do we need it?
Improve range of motion.
Reduce risk of injury during activity
Prevent post-exercise muscle soreness

Over-stretching or stretching to a point where pain is felt may be inappropriate and detrimental.

Dr. Art Brownstein (author of Healing Back pain Naturally) describes how he recovered from debilitating back pain, and subsequent surgeries (which did more

harm than good) by practicing yoga. He founded a back pain clinic where he uses yoga to help his patients recover from back injuries.

Our bodies were designed to move. Important systems such as the lymphatic system (plays a major role in immune response) relies on the contraction of skeletal muscles to act as its pump.