Science Read L

☐ Career Guidance ☒ Interesting Science ☒ Real Life Application ☐ Real Time News

What Happens to The Body When You Exercise?

Dr. Mercola's Natural Health Newsletter

20 SEPTEMBER 2013

What Happens to Your Body When You Don't Exercise?

BARRETT BARLOWE

11 SEPTEMBER 2017

Exercise can improve your health and reduce the risk of developing several diseases like type 2 diabetes, cancer and cardiovascular disease. Exercise can have immediate and long-term health benefits. Most importantly, regular activity can improve your quality of life.

What Happens in Your Body When You Exercise?

1. Muscles

The muscles require oxygen to contract and move. During exercise, the breathing increases and your heart starts pumping more blood to your muscles giving more oxygen.

Without sufficient oxygen, lactic acid will form instead. Tiny tears in your muscles make them grow bigger and stronger as they heal.

2. Lungs

As your muscles call for more oxygen (as much as 15 times more oxygen than when you're at rest), your breathing rate increases. Once the muscles surrounding your lungs cannot move any faster, you've reached what's called your VO2 max—your maximum capacity of oxygen use. The higher your VO2 max, the fitter you are.

3. Heart

Your heart rate increases with physical activity to supply more oxygenated blood to your muscles. The fitter you are, the more efficiently your heart can do this, allowing you to work out longer and harder. As a side effect, this increased efficiency will also reduce your resting heart rate. Your blood pressure will also decrease as a result of new blood vessels forming.

4. Brain

The increased blood flow also benefits your brain, allowing it to almost immediately function better. As a result, you tend to feel more focused after a workout. Furthermore, exercising regularly will promote the growth of new brain cells which help boost memory and learning. When you work out regularly, your brain gets used to this frequent surge of blood and adapts by turning certain genes on or off. Many of these changes boost brain cell function and protect from diseases such as Alzheimer's, Parkinson's or even stroke, and ward off age-related decline.

5. Joints and Bones

Exercise can place as much as five or six times more than your body weight on them. Peak bone mass is achieved in adulthood and then begins a slow decline, but exercise can help you to maintain healthy bone mass as you get older.

Weight-bearing exercise is actually one of the most effective remedies against osteoporosis, as your bones are very porous and soft, and as you get older your bones can easily become less dense and hence, more brittle -- especially if you are inactive.

Your Brain Health is Directly Related to Exercise

Your brain releases endorphins, another stress-related chemical. According to researcher MK McGovern, the endorphins minimize the physical pain and discomfort associated with exercise.

They are also responsible for the feeling of euphoria that many people report when exercising regularly.

Scientists have been linking the benefits of physical exercise to brain health for many years, but recent research has made it clear that the two aren't just simply related; rather, it is THE relationship. The evidence shows that physical

exercise helps you build a brain that not only resists shrinkage, but increases cognitive abilities.

Exercise encourages your brain to work at optimum capacity by causing your nerve cells to multiply, strengthening their interconnections, and protecting them from damage. There are multiple mechanisms at play here, but some are becoming more well-understood than others.

Aim for a Well-Rounded Fitness Program

Ideally, to truly optimize your health, you will want to strive for a varied and well-rounded fitness program that incorporates a wide variety of exercises.

As a general rule, as soon as an exercise becomes easy to complete, you need to increase the intensity and/or try another exercise to keep challenging your body.

The key to health is to remain as active as you can, all day long, but that does not mean you train like an athlete for hours a day. It simply means, whenever you have a chance to move and stretch your body in the course of going about your day—do it!

And the more frequently, the better. Everything from standing up, to reaching for an item on a tall shelf, walking from one room to another, and even doing dishes count. In short, it's physical movement, period, that promotes health benefits by the interaction your body gets with gravity.

Recommended types of exercise

1. Interval (Anaerobic) Training

This is when you alternate short bursts of high-intensity exercise with gentle recovery periods.

2. Strength Training

Rounding out your exercise program with a 1-set strength training routine will ensure that you're really optimizing the possible health benefits of a regular exercise program.

3. Stand Up Every 10 Minutes

This is not intuitively obvious, but emerging evidence clearly shows that even highly fit people who exceed the expert exercise recommendations are headed for premature death if they sit for long periods of time.

4. Stretching

Stretching works with your body's natural physiological makeup to improve circulation and increase the elasticity of muscle joints. This technique also allows your body to repair itself and prepare for daily activity.

What Happens in Your Body When **Don't Exercise?**

1. Weight and Blood Pressure

When you do not move, you burn fewer calories each day. An excess of just 500 calories per day translates into a weight gain of 0.45 kg per week. When you gain weight, you have an increased risk for high blood pressure, heart disease and type 2 diabetes. Being overweight makes exercise harder because you stress your joints more when you run or jog.

2. Bones and Strength

Sitting around or lying around all day makes you weak. Unless you continuously use the major muscle groups in your body, they do not strengthen. If you are older, you lose the battle against muscle weakening with every year that passes. Bones also lose density with age, and lack

of weight-bearing exercise plays a role in osteoporosis, or brittle bones. Your body responds to the demands you put on it, and if you do not exercise, your muscles and bones weaken with time.

3. Exercise for Endurance

Just walking up a flight of stairs can make you short of breath if you are out of shape. Lack of exercise can lead to a lack of energy and endurance. The lethargies you feel further dissuades you from engaging in physical activity, and the vicious circle continues. Breaking a long period of inactivity is not easy, particularly if you are overweight or have a medical condition. Starting slow with just a few minutes of walking daily gets you moving safely.

4. Mental Health

Lack of exercise can lead to a diminished sense of well-being. Your body loses muscle tone and strength and your self-esteem can suffer as a result. Weight gain might lead to social isolation and bad eating habits. Vigorous aerobic exercise such as swimming or running stimulates your body to release endorphins. Endorphins are natural painkillers that help elevate your mood. Resuming physical activity benefits your mental health as well as your physical health.

Power Words

Cardiovascular - relating to the heart and blood vessels.

Lactic acid – substance that is produced when glucose breaks down in limited oxygen conditions

Alzheimer's disease – degeneration (worsening) of the brain.

Parkison's disease – degenerative disorder of the central nervous system.

Endorphin – hormones released within the brain and nervous system.

Anaerobic – absence of oxygen.

Osteoporosis – a bone disease that occurs when the body loses too much bone, makes too little bone, or both n.

Article adapted from:
https://fitness.mercola.com/sites/fitness/archive/2013/09/20/exercise-health-benefits.aspx

https://www.livestrong.com/article/377725-what-happens-to-your-body-when-you-dont-exercise/