

FITNESS AS MEDICINE

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*How Exercise Can Improve Symptoms
and Even Reverse Chronic Disease*



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How Exercise Can Reduce Disease Symptoms and Even Reverse Chronic Disease

You've probably heard, from your doctors and the media, that exercise is good for you. What you may not know – and what generally isn't talked about – is why exercise is good for you and how it's good for you. Truly, exercise has been shown in study after study to reverse, prevent, and virtually eradicate diseases.

What About DNA?

If you're like millions of people in the country and around the globe, you may have a family history of certain types of diseases. For example, when you go to the doctor they ask you about your family heart history, cancer history, diabetes, and neurological conditions like Alzheimer's.

These conditions do have a genetic component that CAN make you more susceptible to getting the disease. However, lifestyle changes can impact your DNA. You can change your DNA by changing what you eat and how you exercise.

It's a field called epigenetics. Epigenetics looks at your personal risk factors and explores how to change your lifestyle to prevent, or significantly reduce, your risk of getting the condition. Additionally, if you're already dealing with a health problem, changing your lifestyle and exercising can reverse the condition.



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Benefits of Exercise as Medicine

- Regular physical activity can decrease the risk of death by 40%.¹
- Active individuals in their 80's have a lower risk of death than inactive individuals in their 60's.
- Regular physical activity can:
 - Reduce mortality and the risk of recurrent breast cancer by approximately 50%.
 - Lower the risk of colon cancer by over 60%.
 - Reduce the risk of developing of Alzheimer's disease by approximately 40%.
 - Reduce the incidence of heart disease and high blood pressure by approximately 40%.
 - Lower the risk of stroke by 27%.
 - Lower the risk of developing type II diabetes by 58%
 - Be twice as effective in treating type II diabetes than the standard insulin prescription and can save \$2,250 per person per year when compared to the cost of standard drug treatment.²

Before we talk about how to leverage exercise as medicine, let's talk about the common conditions that exercise can improve. Let's look at where exercise as medicine is most effective.

We'll give a quick description of the condition and define it, then share a brief example of how exercise can improve the condition.

¹ Low activity increases risk of death. Physical inactivity: the biggest public health problem of the 21st century Blair SN. Physical inactivity: the biggest public health problem of the 21st century. Br J Sports Med 2009; 43:1-2.

² http://exerciseismedicine.org/assets/page_documents/EIM%20Fact%20Sheet%20February%202016.pdf
<https://onlinelibrary.wiley.com/doi/epdf/10.1111/sms.12581>

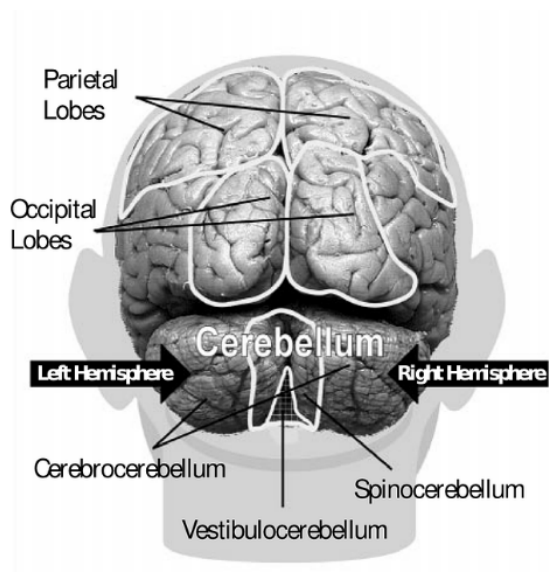
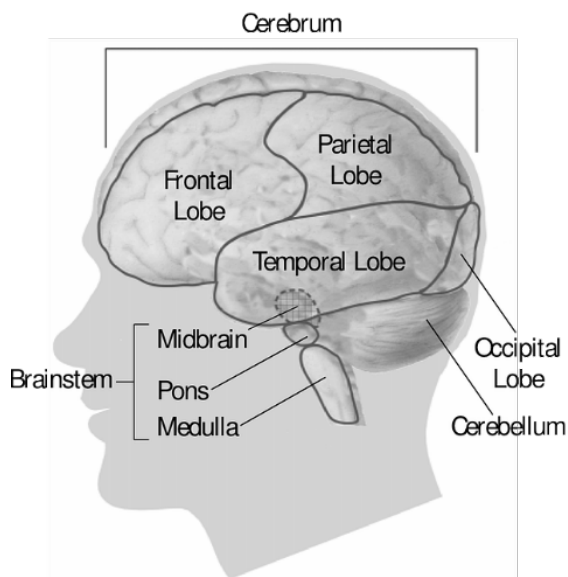
Common Conditions That Exercise Can Improve

Neurological Diseases

Neurological diseases are conditions related to your brain. They include dementia and Parkinson's. There are more than 200 causes of dementia, including Alzheimer's and vascular dementia. It's been studied extensively, and while much about neurological conditions like dementia is still a mystery, scientists do know that there's a direct correlation between exercise and prevention.

One simple example to explore is vascular dementia. This type of dementia is caused by micro-bursts of the circulatory system in the brain, aka mini-strokes. Each mini-stroke causes damage. As they add up, the damage can become more impactful on your cognitive processes. One mini-stroke may not have noticeable results, but 10 or 20 or 100 will impact thinking, movement, and more.

Exercise strengthens the vascular system and improves circulation, thus reducing your risk of getting vascular dementia. There's also a strong correlation between exercise and the prevention of other types of dementia, including Alzheimer's.



Cancer

Cancer is a group of diseases where there is uncontrolled cell growth. This often rapid and destructive cell growth essentially damages the surrounding tissues. Cancer cells can then travel through blood and lymph systems and spread throughout the body. The underlying cause of all cancers is a change or mutation in your genetic material, which allows for the uncontrolled growth.

As you likely know, there are hundreds of different types of cancer, ranging from bone to breast and everything in between. Exercise plays a role in both helping people with cancer live a higher quality life, as well as helping to prevent certain types of cancer.

For example, there is growing evidence that exercise protects against the development of colon cancer, breast cancer, endometrial cancer, and prostate cancer.



Cardiovascular Diseases

Cardiovascular diseases are diseases that impact your circulatory system and your heart. For example, heart disease, congestive heart failure, high blood pressure, atherosclerosis, and stroke are all examples of cardiovascular diseases and/or conditions.

There are a number of causes for these conditions, ranging from diet and genetics to a sedentary lifestyle. Physical inactivity is a risk factor for almost all cardiovascular conditions.

The solution...? One powerful way to keep your heart and circulatory system healthy is to exercise. We'll talk about recommendations later. For now, know that if you have a genetic predisposition to cardiovascular disease, regular exercise is one of the best things you can do for yourself.

Psychological

Depression is the easiest example, and perhaps most common, of a psychological condition. Other examples include stress and anxiety. According to the Anxiety and Depression Association of America, Major Depressive Disorder affects more than 16.1 million American adults, or about 6.7% of the U.S. population.

And exercise has been shown to be an effective treatment, and preventative, for depression in many cases. The reasoning is that exercise causes a release of hormones that may be imbalanced in those suffering from depression. This release of hormones may mitigate or eliminate symptoms for a large number of sufferers.

And the stress and exercise connection has been widely studied, showing that exercise helps a body have a better, and less destructive, stress response, thus reducing the harmful impact stress can have on physical and emotional/mental health.

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Metabolic Conditions

Metabolic conditions include diseases like type II diabetes, obesity, and hyperlipidemia. They are conditions that can have a genetic component, however they are largely reduced and often eliminated with lifestyle change.

Generally speaking, the lifestyle change required to reverse, prevent, or eliminate metabolic conditions requires both dietary changes and exercise. Both are important, and exercise can have a true and significant impact on both health and longevity.

Musculoskeletal Conditions

Musculoskeletal conditions are those that impact the bones and connective tissues. Arthritis is a common musculoskeletal condition. It also encompasses osteoporosis and back pain. Like metabolic diseases, the prevention or reversal of these conditions is often a combined approach of diet and exercise. One example of how exercise can impact health later in life is strength training to reduce bone loss for those suffering from osteoporosis.



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Pulmonary Conditions

Pulmonary conditions are those that impact the lungs. COPD, asthma, and cystic fibrosis are examples of pulmonary conditions. With proper training and the right type of exercise, it's been shown that physical activity can play a significant role in the reduction and management of symptoms of those with both COPD and asthma.

What's The Right Exercise Program For You?

These seven different broad categories of health conditions represent that majority of the challenges that people from around the country and around the world face every day. There is solid evidence that a regular exercise program can not only help better manage symptoms of a wide variety of diseases and health problems, it can in many cases reverse the condition, send it into remission, or prevent you from every having to deal with it.

We haven't touched on other conditions like IBS, insomnia, and hormonal imbalances. They too, like many other health problems, can be helped with a commitment to a regular exercise program.

The next question you might be thinking as you consider your own health challenges and those that you may face due to family genetics is, *"OK, what's the right exercise program for me and how do I get started?"* That's what the remainder of this report strives to answer.

As with the previous section, we've divided the potential health challenges into 7 basic categories. From there we'll:

- Provide examples of what types of exercise might be best for that condition
- Why those exercises work
- What to expect from your exercise program
- How, and when, to modify
- Contraindications
- And we'll include an example workout and workout schedule

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What Exercise Approach Is Best for...

Neurological Diseases

If you remember, neurological diseases are those that affect the brain, so we're talking in large part about dementia. You may also remember that there are more than 200 different causes of dementia, so the exercise approach is varied to ensure the best results.

What Types of Exercise Might be Best for Preventing or Managing Dementia?

When it comes to exercise and neurological conditions there really is no bad exercise approach. Cardiovascular exercise like jogging, swimming, and walking are all great ways to increase blood flow and to improve circulation to the brain.

Other exercises like strength training, yoga, gymnastics, boxing, and martial arts are excellent for preventing and managing neurological conditions because they require your brain and body to make new connections. Every time you try to learn something new, you challenge your brain to make new connections.



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What to Expect

When you're learning a new exercise or trying something new, it's important to be patient with yourself. Rather than having performance expectations, go into the class or exercise with a desire to learn and to have fun.

For example, if you're taking your first yoga class you're not going to look as graceful and strong as the instructor. Instead, embrace the directions and the intention of the movements and do your best. The more you exercise, the more your body will learn how to respond.

Keeping in mind that sometimes the older you are, the longer it can take to make those neurological connections. Your brain may be telling your body to balance on your hands, but your body just isn't ready to fully listen. Be patient. Be persistent.

As for adding cardiovascular exercise to your week, start off with a realistic and reasonable approach. If you're new to cardio exercise, or "off the couch," then it will take a little time until you feel comfortable. There's no need to exercise at a high intensity. For the sake of neurological benefits, moderate intensity is ideal. Find a pace where you can hold a conversation and where your breathing may be heavier than normal but isn't stressed.

Contraindications and How & When to Modify

Always talk to your doctor if you have concerns about exercising. Getting the green light from your doctor can help you move forward with confidence. If you or a loved one is currently dealing with dementia, then exercising alone can be a risk. Exercising with another person can be much more fun and there's safety in numbers. If impact is a problem for your joints, consider low-impact cardio like walking, cycling, or swimming.

Example Workout and Workout Schedule

- Sunday: Walk 3 miles
- Monday: Swim for 20 minutes
- Tuesday: Yoga
- Wednesday: Walk 3 Miles
- Thursday: Zumba
- Friday: Yoga
- Saturday: Walk 3 Miles

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What you might notice about this example schedule is that there are no “Rest” days. Unless you’re doing high-intensity workouts or heavy-duty strength training, rest days are unnecessary. With neurological conditions, the goal is to increase circulation, improve the metabolism, and to learn new skills. Walking, swimming, dancing, and yoga are all exceptional ways to accomplish these goals.

Keep in mind that this is merely an example. If you want to kick it up and add strength training or high-intensity workouts, then by all means go for it. You can do anything you set your mind to.

Cancer

Cancer is an overgrowth of cells that in turn destroy the healthy tissue around them. These unhealthy cells can break off and travel through your bloodstream and lymphatic system to attach to other areas of your body. This is why breast cancer can spread and become lung cancer.

What Types of Exercise Might Be Best for Preventing or Managing Cancer?

To prevent cancer, it’s important to keep your body healthy and strong. Now exercise alone won’t guarantee that you don’t get cancer, but it can be a very strong preventative. And when combined with a healthy diet and lifestyle, you’re setting yourself up for success. To that end, a regular exercise program that focuses on cardio, strength, and even stress reduction can be exactly what the doctor ordered.

If you have cancer or you’re recovering from cancer, then it’s critically important that you get the okay from your doctors (including your oncologist) on the right type of exercise for you. For example, someone who has had breast cancer and has had her lymph nodes removed may be at risk for lymphedema, which can be quite painful and potentially dangerous.

There are occupational and physical therapists that can help you recover after cancer surgery, and it’s always a good idea to use these resources.

Both as a preventative measure and as a recovery program, a good cardio exercise routine will help you stay strong and healthy.

What to Expect

As with any new exercise program, expect that it may be difficult at first, so go slow. If you are currently recovering from cancer or in the treatment process, you will be tired. Listen to your body and take it easy. Gentle daily walks or restorative yoga or a soothing swim may work well for you.

Contraindications and How to Modify

We've already talked about lymphedema as a contraindication to some types of exercise. Additionally, if you are physically exhausted from cancer treatments or you've just had surgery, please take it easy on yourself.

Get the OK from your doctor and let a daily walking program be your goal and perhaps some restorative yoga poses. Do move your body. Don't overdo it.



Example Workout and Workout Schedule Cancer Prevention

- Sunday: Hike 3-5 miles
- Monday: Strength training
- Tuesday: Yoga
- Wednesday: Spin class
- Thursday: Run 5k
- Friday: Strength training
- Saturday: Power yoga

If you're working through cancer treatment or recovering from cancer/cancer surgery, then a daily walking program is ideal. You may fit in some restorative yoga poses if your doctor approves it and work with your physical therapist or occupational therapist for guidance on mobility and recovery exercises.

Cardiovascular and Pulmonary

We're combining cardiovascular and pulmonary because the two are intricately linked and the approaches are similar. If you have asthma or COPD then you'll want to make sure that you use your prescribed medications, like your inhaler, before you exercise and that you keep any emergency inhalers with you.

What Types of Exercise Might be Best for Preventing or Managing Cardio and Pulmonary Conditions?

While cardio exercise (something that gets your heart rate up and pumps oxygen through your body) is the go to for improving your cardio system and reducing/preventing disease, it's also important to embrace stress management exercises.

If you're a high-stress person or have a high-stress lifestyle, then you may want to avoid high-intensity exercise and focus on moderate intensity exercises like jogging, hiking, cycling, dancing, kickboxing and so on. And of course, yoga, golf, tai chi and other martial arts may help with the stress management.

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Contraindications and How to Modify

With cardio exercise, expect initially to get out of breath quickly. You might start with a walking/running program. For example, you walk for 2 minutes, run for 2 minutes. Gradually, as your fitness improves, you'll be running more than walking.

Again, if you have joint issues then you may want to make sure you're choosing low-impact exercises.

Example Workout and Workout Schedule Cardio &/or Pulmonary Condition

- Sunday: Walk 5 miles
- Monday: Treadmill or indoor cycle 30 minutes
- Tuesday: Yoga
- Wednesday: Walk/run 3 miles
- Thursday: Yoga
- Friday: Walk/run 3 miles
- Saturday: Indoor rowing machine or elliptical 30 minutes

What Types of Exercise Might Be Best for Preventing or Managing Depression, Stress, And Anxiety or Psychological Conditions?

Any exercise that gets your body moving and feels somewhat enjoyable is a good exercise. The goal for people struggling with depression and other psychological issues is that there is likely a hormone imbalance. It's really a matter of finding what works for you.

Some people, for example, may prefer group exercise classes like CrossFit or kickboxing because it gets them out of the house and around people. The class is directed by someone else and there's easy accountability.

Other people struggling with anxiety or depression may prefer to exercise alone. Beach body type programs, home gym equipment, or heading out the door for a bike ride, a hike, or a run is a good way to get daily exercise.

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If you're struggling with depression or anxiety, then you may want to work with a specialist initially as you learn what type of exercise program works for you. This is because a trainer can help you find your answers more quickly, and help you stay accountable to yourself.

If you're depressed, it can be tricky to motivate yourself to get out the door, let alone to try a variety of new exercises. A skilled and experienced health coach may also be able to guide you and create a custom program.

Strength training, cardiovascular training, and stress management exercises like yoga or tai chi may be ideal for you. Consider starting with stress management exercises and then gradually, once you're beginning to see benefits, broaden your options and try new exercises.



Example Workout and Workout Schedule Cardio and/or Pulmonary Condition

- Sunday: Walk 5 miles
- Monday: Yoga
- Tuesday: Body weight movements like squats, pushups, and plank
- Wednesday: Walk/run 3 miles
- Thursday: Tai chi
- Friday: Walk/run 3 miles
- Saturday: Body weight movements like squats, pushups, and plank

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Metabolic Conditions

Metabolic conditions are generally conditions where the metabolism, for a variety of reasons, is out of balance. Type I and type II diabetes are both examples of metabolic conditions, as well as obesity.

The truly great news is that most metabolic conditions can be prevented, or even eliminated, with lifestyle changes. Type I diabetes is a bit different because it's an autoimmune condition, but it can be well managed with exercise and a nutritious diet.

What Types of Exercise Might Be Best for Preventing or Managing Metabolic Conditions?

The hard truth is that many people who struggle with metabolic conditions just don't exercise, and any type of exercise is an improvement. So, the first step is to find an exercise program that you enjoy and will follow through on.

That said, if you are ready to get in shape and turn around your metabolic condition try:

HIIT – High Intensity Interval Training. This type of exercise is noted for short bursts of exercise at a high intensity. A simple example would be a 30 second all out sprint followed by a minute of walking followed by a 30 second sprint.

Strength Training – When you strength train, you build muscle. If you are, at the same time, making dietary changes then you'll notice your new muscles more quickly. Strength training is exceptional because it uses energy differently than HIIT and differently than straight cardio. And you'll continue to burn calories after your strength training session as your muscles repair.

CrossFit – CrossFit is a program that combines HIIT type workouts with strength training, gymnastics, bodyweight workouts and more. The variety of workouts under the instruction of a class trainer can help you get into the best shape of your life.

Traditional Cardio – There's still something quite wonderful about traditional cardio. Get your heart rate up to a moderate level and keep it there for 20-30 minutes or longer. Run, swim, bicycle, dance, box, do whatever makes you smile.

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And, of course, adding an occasional mobility workout into your week is a good idea. Take a mobility or stretching class, go to yoga, or try your hand at Pilates.

Contraindications and How to Modify

The most likely contraindication someone may have are joint problems. Most strength training, CrossFit, and HIIT workouts can be modified to reduce impact and to ensure good alignment when performing a movement. A good trainer can be very helpful in these instances. If you want to embrace traditional cardio, try the exercises without impact like swimming and bicycling.



Example Workout and Workout Schedule Metabolic Condition

- Sunday: Yoga/Mobility
- Monday: HIIT
- Tuesday: Strength
- Wednesday: Cardio
- Thursday: Strength
- Friday: HIIT
- Saturday: HIIT

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Musculoskeletal Conditions

Arthritis and osteoporosis are the two most common musculoskeletal conditions, and for both of these conditions, there are different approaches.

What Types of Exercise Might Be Best for Preventing or Managing Osteoporosis?

Strength training has been shown to reduce bone loss. If osteoporosis runs in your family, start strength training today. This doesn't mean you have to throw down big weights. It can be exercising using bodyweight. Start doing pushups, sit-ups, squats, lunges, and other basic bodyweight movements. And of course, if you want to pick up a barbell, by all means go have some fun!

What Types of Exercise Might be Best for Preventing or Managing Arthritis?

Arthritis is often better prevented and managed with a good cardio program, along with mobility and some strength training. The cardio and mobility should be the focus. So, for example, a good day would be a day where you go for a brisk 3 mile walk and then come home and perform a few good stretches or yoga movements. The goal is to make sure the cardio system is working effectively to keep inflammation down while also ensuring that your joints stay flexible.

Contraindications and Modifications

With both conditions, it's a good idea to talk with your physician to make sure that you are clear to get started. Low impact is a good idea for both health challenges, but if you're in prevention mode then impact isn't something to necessarily worry about.

Example Workout and Workout Schedule Musculoskeletal Condition

- Sunday: Yoga/Mobility
- Monday: Cardio
- Tuesday: Strength
- Wednesday: Cardio
- Thursday: Strength
- Friday: Yoga/Mobility
- Saturday: Cardio

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Getting Started with an Exercise Program When You're Dealing with A Health Problem

We've talked a lot about different conditions and how to prevent them or reduce the symptoms. We've offered a variety of exercise options and approaches.

Exercise is one of the best medications you can start embracing. And when combined with a nutritious diet, you can turn your health around.

It's not easy, especially if you're already dealing with a health challenge. If you have cancer, asthma, diabetes, or heart disease then it's critical that you start exercising now; today.

Leverage your body's response to exercise to improve your health.

It's important to conclude with a few essential steps if you're starting an exercise program while currently dealing with a health challenge.

1. Talk to your doctor. Tell them what you plan on doing and get their thumbs up.
2. Start slowly. You don't have to run a marathon or deadlift 200 pounds. In fact, just getting out and walking for a few minutes is a great way to get started.
3. Set realistic but motivating goals. The secret to success in any endeavor is to set a goal that makes you feel excited and then to break that goal down into smaller, doable, bits.



For example, let's say that to reverse your type II diabetes you've decided to run a 5K in three months. Your first goal should be to get out and walk or walk/run for 30 minutes. Just get used to being on your feet and moving.

Your second goal might be to increase the amount of time you're running rather than walking. Then to walk/run a 5K. Then you may want to work on gradually increasing your pace. You get the picture.

Set big inspiring goals with steps that you know you can absolutely do.

Assess your body, effort, results... Spend some time paying attention to how your body is responding to your exercise program:

- How are you feeling?
- Can you increase your workouts?
- Should you take it a little easier?
- What do you love to do?
- Where are you seeing results?

Keep in mind that results aren't always physical. You may be sleeping better, have brighter eyes and skin, have more energy or feel better mentally and emotionally.

Continue increasing your goals and benefitting from the results.

Share your story!

Tell others about your results, help spread the word about the benefits of exercise to reverse and eliminate health problems.