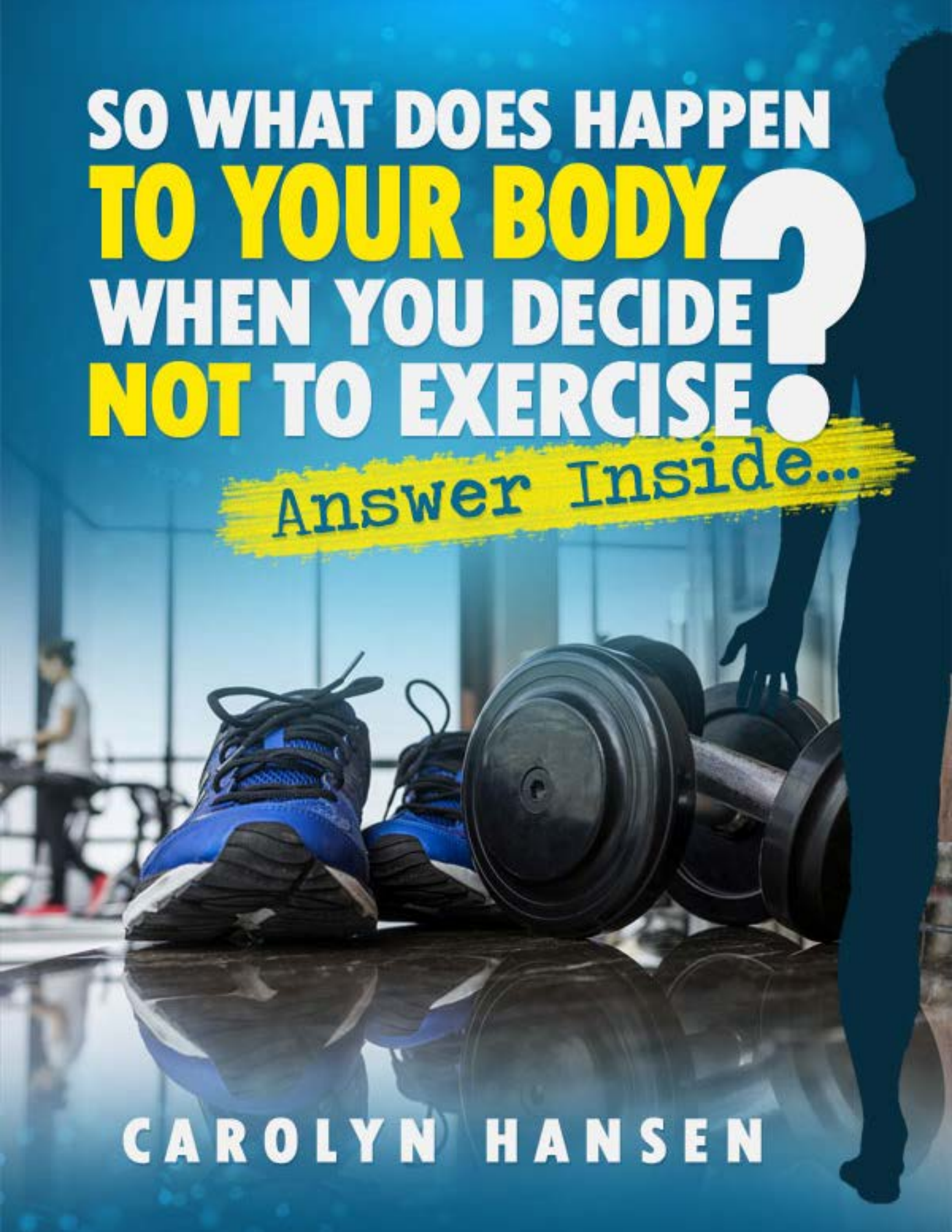

SO WHAT DOES HAPPEN
TO YOUR BODY
WHEN YOU DECIDE
NOT TO EXERCISE?
Answer Inside...
CAROLYN HANSEN

About Carolyn Hansen

Carolyn Hansen is a noted Holistic Health and Wellness Coach who hails from Whangarei, New Zealand where she owns an Anytime Fitness Gym. She has gained a reputation online as an authority on health, exercise and weight loss matters and is the author of several thousand health and fitness articles along with eBooks and programs that can be found **here.**

She has devoted more than three decades to the fitness industry, both offline and online, teaching people the simple secrets to getting into better shape, losing weight, and improving health.

Her main goal is to change the paradigm of health care from sickness care to wellness care and will be showing people how to live longer, healthier lives while avoiding the many mistaken beliefs and practices that diminish health and longevity.

She will encourage you to become stronger and stay that way through each decade of your life, maintain your health, wellness and vitality and to ensure your “health span” matches your “life span”.

Click Here To Discover The Carolyn Hansen Catalogue

Table of Contents

Hi this is Carolyn Hansen

As a fitness professional I have written thousands of articles that are on various online websites and the one that has had the most views ever is one called: “What Happens If I Don’t Exercise?”

This tells me that people are searching online for the answer and are interested in knowing what happens to their bodies if they do not get enough proper exercise.

To confirm this, a quick search on Google for that phrase brings up 215,000,000 results so it is a widely discussed topic.

Our world has changed a great deal in the last century and just less than 100 years ago a hardworking man would spend his day sweating behind a horse and plough. If he wanted to go to the village he would cycle and in the evenings he would do home repairs. His wife would be doing all the housework without appliances and cooking from scratch without a microwave.

The lifestyle of their grandchildren and great grandchildren is so very different. The modern day worker usually sits in front of a computer for most of the day, drives a car almost everywhere, spends the evening on the couch in front of the television and eats highly processed food loaded with sugar, fat and harmful chemicals.

We may wonder if technology is a blessing or a curse for our health as every day it advances at a frightening speed. Things like the awe of the internet, satellite navigation systems; spaceships about to launch civilians into space flights, bionic limbs, growing new body parts from stem cells and talking live to someone on the other side of the world on video are just a few of the mind blowing advancements.

It is an exciting time to be alive in human evolution but there is a dark side to the comfort and ease of our modern conveniences. It has also contributed to sedentary and inactive life-styles becoming the norm in large segments of the population.

Ironically, none of our new technological marvels and ground breaking scientific or medical miracles can solve our skyrocketing overweight and increasingly sick population. Unfortunately there are epidemic health threats that have paralleled the march of technology.

It's true, many of us spend our days hardly moving. We go from our bed, to sit in our car, to our desk where we sit all day. The most work we do is to click a mouse as we sit motionless in front of a computer screen. We get back in our car for the drive home only to sit in front of a screen of some sort remaining virtually motionless till we go to bed again.

Up to 80 percent of the day is spent sitting in one type of chair or another. This means nearly all of the 16 odd hours we are awake is spent in a sedentary manner expending very little energy.

Our bodies are built for and capable of great physical strength and our modern life siphons it away and leaves us weak, drained and sick and I believe it's a tragedy that we now think this is normal and the way it should be.

It is this low energy expenditure that is causing us to become metabolically unfit and at greater risk of serious disease. It is of great concern to me that most people are unaware of the potential insidious dangers of living this type of lifestyle.

Humans have been increasingly spending more time in sedentary behaviors involving prolonged sitting. This global trend is likely to continue, given the increasing availability and popularity of personal computers, TV, automation of chores at home, transportation trends, and further inventions in the future.

Are Your Lifestyle Choices Killing You and Your Children?

There is an old saying that "laziness is nothing more than the habit of resting before you get tired." Unfortunately, the majority of the Western society spends a lot of time resting in the 21st century. We work predominately sedentary jobs, sit behind a desk for seven to eight hours a day, live on smart phones or other devices, eat for convenience, care for kids/parents/animals, and when we get time to ourselves we are too tired to do anything but sit on the couch and "rest" before we eventually become tired and slip off into a fretful slumber, knowing we'll need to do it all again tomorrow. **This sedentary lifestyle is the reality for many burdened, pained people these days but their decision to rest, even after a hard day, is slowly killing them.**

Television and video games are the predominant form of "resting" for most regular families. Television is the number one form of relaxation in Western society today, and not just for adults. **Thanks to Internet streaming broadcasts, Netflix, pay-per-view programming, and an abundance of escapist video games, children are becoming more and more sedentary at the cost of physical exercise.**

From the age of sixteen, a teenager's future health can already be predetermined and, if they are choosing low-activity outlets, such as video games or television, over playing sport, then they are at an increased risk of developing metabolic syndrome when they reach (or before) adulthood.

Metabolic syndrome is a combination of obesity, cholesterol issues, hypertension and an inability for the body to regulate glucose levels, leading to weight gain and type 2 diabetes.[1]

The most direct effect of sitting idle is that the work performed by the large skeletal muscles in the legs, back, and trunk required for upright movement comes to a halt.

Over the time course of just one day this causes ***the loss of opportunity for cumulative energy expenditure (calories burnt) resulting from thousands of intermittent muscular contractions*** throughout the 16 hour period that people are awake. This is where the propensity to become unhealthy, overweight and sick originates from.

Unaware of the danger, we carry on living our modern day inactive life but we are paying a very high price for it. The chronic "lifestyle" diseases killing us in increasing numbers take ten, twenty or more years to manifest themselves and when they do show there is not a pill or medical procedure that can fix them.

Once the human body has broken down life as we know it is all but over and although we may continue to live it is only living half a life.

The frightening fact is that already fifty percent of the world's population has a chronic "lifestyle disease" and many have multiple conditions which slowly siphon their lives away. These diseases such as heart disease, cancer and diabetes and dozens (hundreds) of others are called "lifestyle diseases" because they are caused by the way we live our lives. Caused by what we do and don't do every single day in the way of proper exercise and proper nutrition and other lifestyle habits.

I find it incredibly distressing even thinking about the unimaginable human suffering and financial cost of the predication that 400 million people WILL die from disease that is premature and preventable in the next decade and I do not want you to be one of them.

So I ask you to forgive me if at times I seem harsh or too intense as it's because of the passion I have for at least informing people of the situation. Then they can make their own choices and my job is done and I am a happy woman.

Then I can only hope you make the right decisions going forward.

Now let's drill down into how lack of physical activity impacts the human body.

Why Strength Matters

Physical strength has always been the most important thing in a human beings life. This is true whether we want it to be or not. As humanity has advanced throughout history, physical strength has become less critical to our daily existence, but no less important to our lives.

Our strength, more than any other attribute we possess still determines the quality and the quantity of our life. Whereas previously our physical strength determined if we were eaten by other animals or our enemies, how much food we ate, how warm and dry we stayed, and our capabilities to raise our young, it now merely determines how well we function in the new modern surroundings we have crafted for ourselves as our culture has evolved.

As the nature of that culture has changed, our relationship with physical activity has changed along with it. We previously were physically strong as a function of our continued existence in a simple physical world. We were adapted to this existence well, since we had no other choice. We do have a choice now but the basic blueprint remains with us.

Since most of us now have been freed from the necessity of personally obtaining our subsistence, physical activity is regarded as optional. It may be from the standpoint of immediate necessity, but the reality of millions of years of adaptation to an existence will not just go away because desks and cars were invented.

Like it or not, we remain the possessors of potentially strong bodies made up of muscles, bones, and organs and we still need these characteristics. They were too important in our evolution to just be ignored, and we do so at our peril.

Our bodies have not changed in tens of thousands of years. They were designed to be active – very active. They are designed for hard physical work which is the necessary signals that tell our body that it's strength is needed to feed a family. That it is needed to remain alive and well.

Early man had all the activity needed built into their daily lives so there was no need to add extra in. Today it is very different, we do not use our muscles in daily life as all of the "grunt work" has been replaced by technology or machinery which although makes our lives "easier" it also robs us of the physical activity a human body and brain needs to remain healthy and disease free.

Bottom line: when the brain stops receiving signals that strength is needed the human body is put into "shutdown mode" as it is assumed there is no longer a family to feed and protect and this is how resources such as food were made available for the next generation coming along as part of an evolutionary process.

This is simply the "use it or lose" it principal in action. What is not being used is discarded. The human body does not keep in storage muscle tissue, bone, hormones and body cells that it is not using. When these things are lost overall health is downgraded and the disease risk increases enormously as the body weakens.

This is the same genetic blueprint we have had since man appeared on this earth. Resources were scarce and our DNA was based on that fact and has not changed or had time to adapt to our modern sedentary world.

We used to think the difficulties with getting older was simply due to the number of candles on our birthday cake but with ongoing research we now know this is from nothing more than disuse.

To boil it down, if we continue to send signals to the brain that strength is needed the body will assume there is a family that needs feeding and protecting and to ensure survival of the species the "shutdown mode" switch is not activated. It is that basic.

The body does not know how old it is it only knows the chemical instructions it is receiving that either tell the body to repair, replace, renew, and rejuvenate old worn out cells and tissues or the opposite happens - as without these hormones chemicals whisper to the cells – Degenerate. Decay. Die.

This is what we are seeing all around us, in our families and communities as the disease rate is skyrocketing taking out people long before their time.

Now Would be a Good Time to Ask Yourself What Signals Are You Sending Your Body and Brain?

It is a sad fact that 8 out of 10 adults do not do enough proper exercise. This means they do not get to work their muscles anywhere near enough to keep these vital "growth and repair" hormones stimulated and flowing that keep us healthy, well and youthful regardless of age.

Somehow people do not know or believe how crucial it really is and do not understand how important their muscular system and it's condition are to the state of their overall health.

The reality is this siphoning of strength is unseen. Often body weight can remain the same as fat creeps into the space left by the shrinking muscle tissue so there is little to no outer evidence of this happening.

Most people are simply not aware that it is our healthy toned muscle tissue serves as body's armor and defense system against killer diseases and illness and a human body without enough muscle building and maintaining activity can lose up to 50 percent of muscle mass by the age of 70 years.

That low energy expenditure we have already discussed caused by our increasingly less active lifestyles negatively changes our body composition which not only saps our strength and energy; it also lowers our metabolism (the body's engine) accelerates the aging process and pushes the body towards premature and preventable disease.

It Starts Early in Life

Before the age of physical maturity at about 25 years, our body is continually growing and developing and during this phase muscles and the entire body stays strong even without specific exercise. After we reach the age of 30, we basically have two options available to us.

We can either begin the long process of becoming weaker or we can work to maintain our strength for the rest of our life.

After this point, if the body does not receive the necessary stimulus to trigger muscle growth, a slow process of muscle wasting begins. This loss of muscle tissue hastens the degenerative processes and conditions that characterize the dreaded aging process.

All body systems weaken **including the immune system** leaving one exposed to life threatening disease and illness. This is serious as research shows even a 1 percent loss in lean body mass (LBM) means impaired immune function.

Beginning in your mid-twenties, without the physical "work" to maintain strength, as previously explained around one half pound of muscle tissue is lost per year. After age 50 the rate of this loss doubles.

You will not hear about this very often but it is the central cause of the epidemic of current lifestyle disease. It's a fact; modern medicine does not concern itself with lifestyle problems. Doctors don't treat them, medical training does not teach one how to rebuild a weakened human body.

This is where proper exercise comes in as studies are showing that regular strength training exercise provides **long-term immune protection**, it causes adaptations that allow the body to withstand training stress and recover from it more efficiently.

In effect, you are building a protective shield in the body against disease. The up-regulation of energy use and protein synthesis with a minimal stress hormone response shows how strength training improves more than just body composition, muscle force and mobility. It makes the body work better to repair tissue and fight off disease and stress.

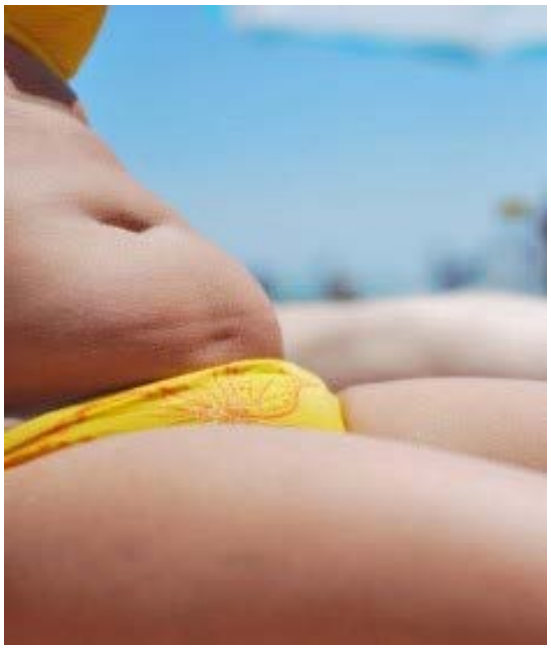
This is where you get the massive reduction in disease risk (up to 80 percent in fact) - from this one simple lifestyle strategy amounting to 2-3 total hours each week dedicated to maintaining your body structures.

This makes sense as the human body is a "use it or lose it" machine.

You see, your muscles do far more than just make movement possible. There is now clear evidence that the muscles that make up to 50 percent of our body weight also play an important role in metabolic health and wellness.

Now-a-days, we hardly ever have to bend down, lift and carry, reach, twist, climb, stretch or run. When we finally get up out of our chair and attempt to use our body, pain and even injury can be the outcome. We are engineered for a lifestyle we no longer live.

Although the message is getting out there about the crucial need for proper exercise people seem to be in denial of it's importance in our lives. Even with modern medicine finding cures for many diseases and illnesses our health has been steadily declining since World War II. For example in the last four decades the prevalence of overweight adults has increased from 31 percent to 64 percent alone.



We absolutely know now, that the main reason for this decline in health is our steady loss of muscle mass as we have become more sedentary.

Up until recently the scientific and medical communities have taken muscle strength and mass for granted. The loss of muscle throughout adult life didn't even have a name until 1988.

The term "sarcopenia" that is used to indicate the progressive reduction in muscle mass and muscle strength is strongly associated with bone loss and osteoporosis. The two go together hand in hand.

All of the attention has been given to osteoporosis. Yet our muscles are attached to bone and if muscles are not kept strong there is less pulling on the bones they are attached to so they weaken as well.

The reason sarcopenia doesn't get as much attention is because people don't break a muscle. Having thin bones translates into broken bones. With lost muscle mass, it's a little less obvious.

Sarcopenia is characterized by subtle symptoms, such as difficulty gripping objects, rising from chairs, walking, and maintaining balance.

Millions of people have sarcopenia - both YOUNG and old, and the condition is predicted to become one of the biggest health problems the world faces. It is suddenly a very hot topic in aging research as it has a devastating effect on the quality of the last 20 -30 years of a person's life.

Many people believe they are active enough because they are "busy" and are often rushing around. But being busy does not work the major muscle groups through their ranges of movement under an adequate load which is the formula for muscle building and maintaining activity.

There in no way you would get that sort of muscle stimulating activity from the normal tasks and activities of everyday life - unless you happen to have a job as a manual laborer, which is not so common these days.

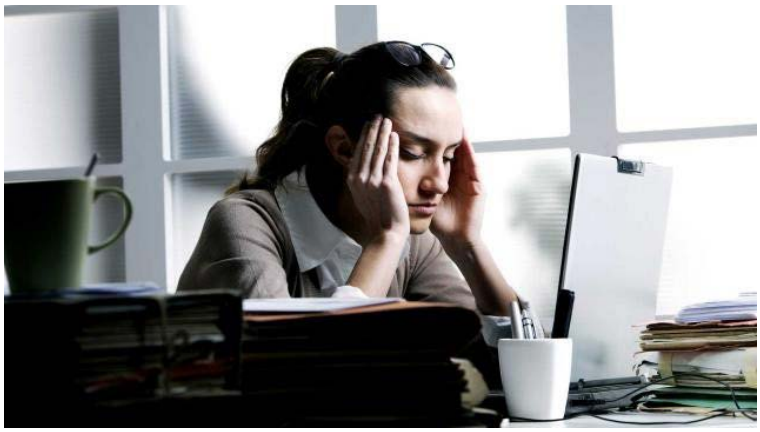
For the human body, food was scarce for the majority of the time over which it evolved. As a result, the human body is tremendously efficient at converting body tissue into life-sustaining energy - so anything not being used weakens and withers.

Unused muscles weaken and shrink and unloaded bones lose density, thickness and strength. Unused brain neurons die and nerves not being used degenerate.

Unused joints and tendons lose strength and get damaged easier. An unused heart becomes scrawny and weak and cannot pump effectively. Lung capacity diminishes, and the red blood cell count declines if oxygen demand is low.

All of this means that there is a high price to pay for not getting enough proper exercise. Physical inactivity adversely affects the function of the muscles, bones, brain, heart, blood vessels, liver, the immune system and every other organ and system in the human body.

An inactive person is more likely to suffer from anxiety and depression, find stress harder to manage, and lose self-confidence and self-esteem.



Not being active affects the body right down to the cellular level where the ability to transfer oxygen and nutrients from the bloodstream to cells is diminished. And if you can't get enough oxygen out of your blood the quality of your entire life is affected and your body attracts disease rather than repels it.

Without enough activity dangerous fat builds up inside our bodies when fat burning enzymes cannot do their job properly when blood circulation is slowed down in the low energy environment already mentioned earlier.

This fat wraps itself around major organs and releases toxic chemicals in the most susceptible part of the human body –the abdomen where all of our working "machinery" is located.

You can be at normal body weight and have this harmful fat deep inside your body and you will not even know that you have it. But if you do not do enough physical activity you will likely have it and it sets the stage for massive health risks.

It's such a simple concept… activity that works our muscular system forces our body to grow. Sitting around and living a no-exercise lifestyle encourages the body to decay, AND, you must keep reminding your body over and over that it's strength is needed right throughout adult life.

Now I want to tell you HOW toned healthy muscle tissue is crucially important for the immune function. There are two important ways:

Number one: The necessary fuel source used by many cells of the immune system is the amino acid glutamine and the muscles are the primary site where this is stored. The more toned muscle you have the more plentiful the glutamine supply, the better the immune system works.

Number two: Muscle is where the body stores protein. Protein is essential to produce new antibodies and white blood cells to fight off infections or find and destroy cancer cells. The body uses protein at a much faster rate when fighting sickness, and muscle tissue is where a reserve of extra protein is kept to draw on when needed.

Physical activity that raises the heart rate also serves to speed the circulation of antibodies and killer cells through the body and can raise white blood cell counts by anywhere from 50 – 300 percent after an exercise session.

As many people get sick when they are stressed or depressed vigorous activity helps reduce stress hormones and releases good hormones. Along with providing an outlet for the nervous energy produced by stress, this activity will increase the robustness of the immune system itself and lessen susceptibility to disease.

Studies are now showing a strong link between strength and lower risks of ALL chronic lifestyle diseases, especially those feared top three - heart disease, cancer and diabetes together with dozens of others. The stronger you are relative to your body mass, the healthier you are.

This is the CRITICAL LINK between total Body Health and Wellness and regular muscle building and maintaining activity

So forget the notion that muscles are just for looks, they are essential for the healthy functioning of the immune system and the ability to withstand disease.

These People Are All Approximately The Same Age

Which Life Are You Designing?

This One... *Or This One?*

Never Before in History Have We Been So Unhealthy – But Do We Even Care?

Many people live unhealthy lifestyles but seem satisfied with their level of health and wellness as long as they are free from symptoms of disease.

Although getting a major life-threatening disease is the number one thing most people are afraid of they do not contemplate change until they suffer a major health issue.

Yet it is our present lifestyle habits that dictate the health and wellness of tomorrow. It is what is done and what is not done each and every day through the years particularly in the way of proper exercise and healthy eating that adds up to whether one gets a “chronic lifestyle disease” or not.

True health is much more than the mere absence of disease, yet we take major risks with our health continuing on doing things and not doing things that are not good for us while in the back of our mind we sometimes think. “So far so good, I have made it this far” with a sense of relief. Yes, that may be so, but for how long?

Our modern world has changed things so much, we sit most of the day hardly ever having to “move a muscle” and eat so called “foods” in pretty boxes and packets. These concoctions barely resemble real food and contain little to zero nutrition and are full of chemicals that are completely foreign to our bodies.

We shovel them into our mouths without a thought for the consequences somewhere down the track.

We see our friends, members of our own families and our communities being taken way before their time inflicted with tragic diseases. Heart disease, cancer, diabetes and dozens of others that are in fact conditions we give ourselves and are epidemic in our world which is why they are called “chronic lifestyle diseases”.

They wait in the shadows and stalk us when we weaken from not keeping our bodies strong with proper exercise and nourished with proper nutrition from real foods.

Somehow we think that doctors and drugs are the key and are there to fix us up when the wheels fall off. But they are only there to treat our sickness, not our health. By the time symptoms of disease show themselves the human body is in such a broken down state that there is not a doctor or drug in the world that can fix it.

At best modern medicine will manage a disease (there are no cures) but often the sufferer is left with a “condition” that may not cause them to die but make their lives miserable. These issues can range from mildly intrusive to massively disruptive to one’s life.

There are also huge numbers of others that are struggling with being overweight or obese including children and others that feel lousy and are tired and worn out much of the time.

How Could We Have Let Ourselves Become So Unhealthy?

This situation is so worrying that we could not be blamed for wondering what will happen to us, if we will be unlucky and fall victim to a life threatening disease or illness. Will we be taken from our families before our time with no control over the situation?

The facts are that **one out of every two** of us WILL get cancer in our lifetime. Yes that's right 50 percent! And that is just one disease out of many hundreds.

The main thing we should be asking ourselves is "Why have we eliminated the very thing in our lives that keeps us healthy?"

If we are living what is considered a "normal" lifestyle and are enjoying the fruits of modern science and technology we are living a very high risk lifestyle.

Because we may ask "What about the human body? We now know that it cannot stay healthy without vigorous activity but that has been removed and replaced to make our lives easier. It doesn't make sense that we would do this to ourselves. But we have.

The Health of Our Children Has Never Been Worse at Any Time in History

The very worst thing out of all of this is the sad fact that we are passing it on to future generations. With all of our technology and other incredible achievements we are leaving future members of our species with a legacy of unhealthiness that cannot be matched in previous generations.

Here is an example of just one serious and skyrocketing health issue. Just 30 years ago diabetes was an old person's problem - but no longer. Young people who are not even yet into their teens are being diagnosed in frightening numbers. In just 10 years the incidence of children needing medication for diabetes has increased a whopping 150 percent.

This situation has become so serious that one in three children are predicted to develop diabetes before they turn 18. If they have been born after the year 2000 they are likely to have a 20-30 year shortened lifespan. This generation will be the first in recorded history to NOT outlive their parents.

The devastating disease of diabetes is mostly hidden but each time a child eats something high in sugar a surge of insulin is produced to bring the blood sugar level back down to a safe level. But because the children of today live a sedentary lifestyle and the main villain here is something with a screen – video games, television, or computers there is no use for the sugar in the bloodstream.

Normally sugar in the blood gets processed by the muscle cells for energy but seeing the muscles are not being used there is nowhere for the sugar to go. So, it circulates round the body hand in hand with the hormone that is supposed to control it – insulin - doing damage to sensitive cells and tissues in major organs like the heart, kidneys and eyes.

You do not actually die from diabetes you die from the damage it causes to your body.

There is a much recognized link between becoming overweight and/or obese, a no exercise lifestyle and diabetes. Overweight children used to be rarely seen but now they are everywhere. In the past three decades childhood obesity has more than tripled.

How can this be happening you say - what is causing this epidemic and destroying our children's health?

For starters we can look towards us, the adults, we are the ones that are supposed to be leading the way and teaching our children how to be healthy so they do not have shortened lives. We need to clean up our own act before it filters down to the younger ones.

What are we doing to encourage children to be more active? Is buying them another video game or the latest electronic gadget doing them any good?

Should we not lead by example and take positive steps ourselves that include proper exercise and healthy eating? By doing that many of the preventable diseases like heart disease, cancer and diabetes associated with sedentary living will not take out our children before their time. After all, inactive children become inactive adults.

The other important factor is what quality of food are you allowing yourself and your children to eat? Does it come in pretty boxes and packets with little to zero nutrition loaded with chemicals and other junk that overwhelms their growing bodies and brains?

What you should be doing is to teach them to eat well. This has to be the greatest gift you can give a child. Teach them that real food does not have a food label. Things like a piece of grass-fed beef, a tomato, a piece of fish from the ocean, a sweet potato, a bunch of spinach, free range poultry or eggs or an orange and so on.

Teach them how to cook these foods from scratch and protect them from the man made sugars, harmful fats and chemicals that are ruining their health. They will thank you later when they pass the same good nutrition and exercise habits on to their own children and we start to move away from the epidemic of misery we have in essence created for children being born today. Don't we owe this to them?

Doctors Are Not There to Keep Us Healthy - They Are There to Treat Our Sickness

During the recent era of health/wellness/sickness care one point has emerged clearly and that point is that each of us will have to chart our own course to ensure our good health. We, not doctors and the medical system should be in the driver's seat, which means we need to reclaim and practice a level of self-responsibility toward our own health, wellness and longevity.

Over the past 50-60 years responsibility for our health/sickness was solely the domain of doctors and the medical establishment. Those days are coming to an end as this is not the best way to enhance our drive to stay healthy and well. It has enforced a vulnerability, helplessness and lack of accountability that has done more harm than good for our overall well-being.

In our modern world rife with inactivity and low quality processed foods that foster sickness and poor health there has never been so much indisputable scientific proof to support and back what we humans has always known to be true. That proper exercise and good nutrition are vital components of a well, active, strong, vibrant healthy life.

Our Destiny Involves Each of Us Taking Responsibility for Our Own Health

We have reached a stage in our development as human beings that we need to make some important decisions regarding our health and well-being. Maybe it is time that we take some of the focus on this constant development of technology and focus on our very own health.

Every one of us is touched by this, we all have people that we know around us becoming sick and dying before our very eyes (many long before their time) yet no one does anything about it. The people in the "sickness treatment system" do not mention the fact that our bodies need a certain amount of physical activity to stay healthy and well as opposed to drugs and treatments after symptoms of sickness appear.

Our bodies are hardwired and programmed for hard physical activity to allow us to survive in the harshest of conditions. Our prehistoric genes do not know that the fridge in the next room is full of food and that we have cars to take us from A to B. These genes do not understand why we sit and do nothing for almost every waking moment each day.

The fitness/exercise industry is being flooded with sick, desperate people looking for solutions. Whose job is it to help people stay well? Incredibly powerful money motivated forces are preventing people from taking control of their own health by withholding the information and solutions to keep people healthy.

Who allows the pretty boxes of so called food in the supermarkets full of dirt cheap ingredients that offer little or nothing in the way of nutrition? This is actually encouraging people to gain weight and become unhealthier.

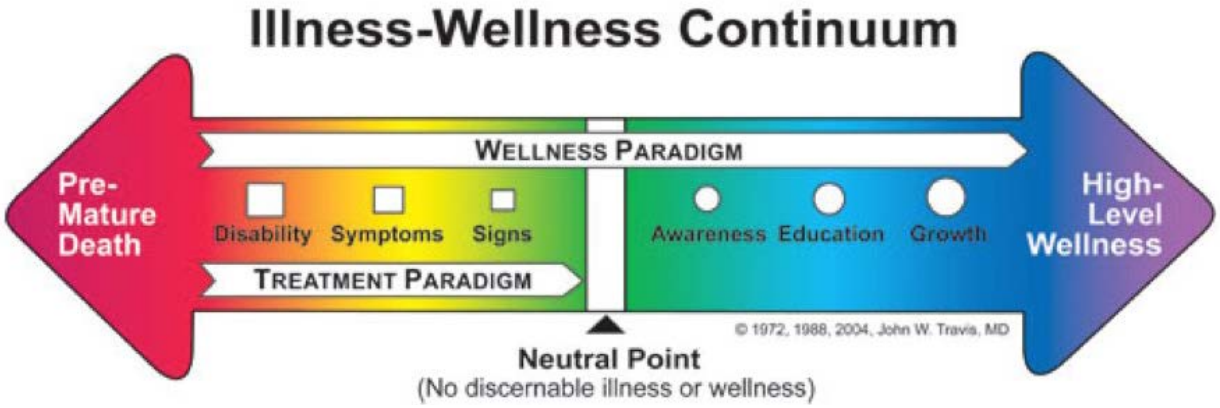
These forces that control our food sources and “health” care are so powerful that nothing short of a revolution will be able to stop them and that is what must happen.

A much greater awareness must be created in each of us that recognize the importance of the environment, the quality of our food, and the quality of our health. This new way is called wellness and can be defined as living to the best of one’s potential and is more than the absence of disease.

It involves taking personal responsibility for one’s health, taking positive steps to avoid disease and living a lifestyle that promotes health, strength, fitness, vigor, and energy. Wellness means practicing self-care by the use of proper strength building exercise, eating well and taking care of your top life priorities, ***your health.*** Rather than living your life slowly going downhill, losing strength and energy until sickness finally catches up with you.

The emerging wellness industry is as much a reaction to the dictatorship of the sickness and the food industries as it is to every person's desire for the freedom, good health and longevity that wellness can offer. Each one of us practicing wellness is the next natural step forward in our destiny and in the advancement of mankind.

It comes with accepting and understanding that good health is not just an accident. It is not something you say when you get to mid-life "So far so good" with fingers crossed. Good health requires your active participation and ongoing input in two main areas.



These areas are number one – a proper exercise program that contains mostly strength training exercise. This directly works the muscular system so that "growth and repair" hormones are stimulated right down at cellular level sweeping away old worn out cells and tissues and replacing them with new younger healthier and stronger ones.

And not just a little bit younger and stronger… A ***whole lot*** younger and stronger.

Only strength training exercise can do this so keep your low intensity, single mode, repetitive endurance activities (walking, jogging, swimming, cycling and so on) for your leisure time. Your proper exercise program needs to be done first and foremost otherwise you will not get the health benefits that will really make a difference.

Number two is to get rid of as much processed food from your diet as possible. Replace it with natural whole unprocessed foods cooked from scratch. Anything without a food label is good as it has not been mucked around with by man.

Those are the two main areas we all have easy access to and can implement to avoid becoming another statistic of the killer diseases that are epidemic in our modern sedentary world. But it certainly does not have to be this way – we each have the power to protect ourselves and our families and the responsibility for this lies at our door.

An Unmatched Fountain of Youth To Keep You Young

Many people look to cosmetic surgery to look more youthful. But there is a well-known fact and proven remedy that can really slow down and even reverse the aging process and it has nothing to do with cosmetic surgery, injections or implants.

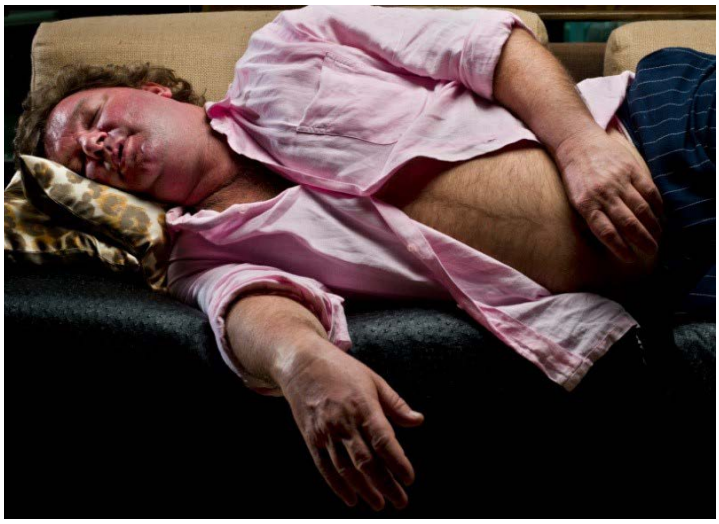
It is something that no doctor or surgeon can inject or carve with a scalpel. It is naturally built, vital-looking, healthy, strong muscle tissue that gives you a younger more pleasing body shape, tighter and firmer along with the ability to sidestep disease.

Muscles are taut against your body, as opposed to fat and flab, which hangs and sags adding years to your looks and appearance and threatening your good health. Yes, strength training exercise is the answer to renewed energy and vitality and without question; no other activity has more of a positive impact on overall health and well-being.

A proper program made up of muscle strengthening exercise performed just 2-3 times each week can do fantastic things on the inside of your body right down at cellular level as well as make you look younger.

Muscle and bone strength and health is boosted, cardiovascular (heart/lung) function is improved, blood pressure lowered, excess body fat is reduced, mood is improved, stress and anxiety chased away and susceptibility to depression and disease is reduced.

You can see that the first (and the most visible) aspect of staying younger and healthier is the physical side. Because of this the fitness industry has seen fast growth over the past years due to an epidemic of overweight, unhealthy and unfit people raised on a sedentary fast food lifestyle that has not served them well.



It's true, during our teenage years and into our twenties we believe we are invincible. Sickness and physical dysfunction could not be further from our thoughts. If we are active and take the time to exercise it is all about appearance, prowess and sex appeal.

But, as you move into your 30s, 40s and beyond, moving your body in conscious ways on a regular basis takes on a whole new meaning and purpose.

The impact of life's grind begins to show itself in ways not experienced earlier in life. The cumulative effect of weekend warrior attempts, long periods of inactivity, late nights out on the town and years of repetitive movement take their toll.

These issues like sore backs and knees and lack of “huff and “puff” come as a bit of a shock to the left-over indestructible mind-set of our youth. We have only two choices here, we either let the aging process continue to take it’s toll hastening our entry and progression into a downward spiral of declining health.

Or we can take charge and become more active and be in control of the speed at which we age. If we want a health span to match our lifespan it is critical that we keep our strength with a muscle building and maintaining program. Just simply doing daily tasks and activities is not enough to keep your strength.

You may not think it matters now as you still may enjoy good health but are you prepared to take the risk? Once the human body has been left to decay and deteriorate and sickness sets in there is very little that can be done other than try and manage the symptoms. But the quality of life is eroded and cannot be recovered.

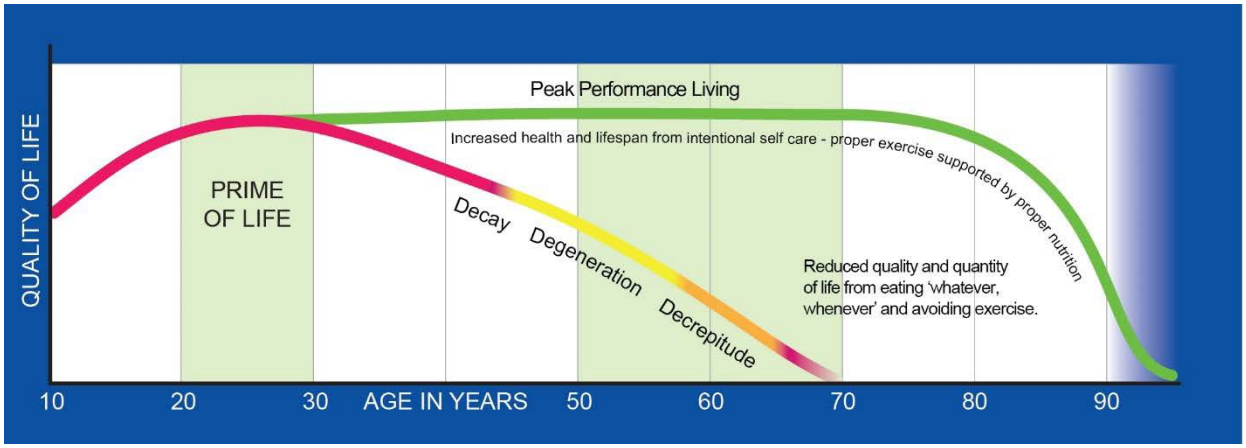
Just because you may have gotten away with not taking time out to perform a proper exercise program 2-3 times each week does not mean that you should continue to de-prioritize exercise as the years pass you by. The negative impact reaches far beyond what you ever imagined.

A sedentary lifestyle is now considered at dangerous a risk to health as smoking and the less you exercise the more likely you are to die younger. This shows that physical activity really does make a difference - not only for how long you live but for how long you live a healthy life.

It is well known that being physically active has a host of health benefits. It reduces the risk of being overweight and of developing many life-threatening diseases, improves overall quality of life, and lowers the mortality rate.

Slowing down the aging process and improving ones health is no longer something you do when you have a health scare or wait till later in life to put right. People should be taking steps to ensure that they stay healthy and remain youthful at a young age as it is something that builds and strengthens as time passes. So by the time you reach your mid years you have built a healthy investment in yourself and your health and wellness.

It's very good news that something as simple as proper exercise is clearly the best weapon we have to not only slow down or reverse the effects of aging but to combat disease and illness. It is no wonder that the experts believe that exercise is the closest thing we have to a true Fountain of Youth and it is easily accessible to both men and women of all ages and levels of health and fitness.



As the majority of adults do not exercise, somehow they need to be convinced they need to take a more active role in their own health and not just sit and wait for a pill to prevent this or that or save their life. A better deal could not be found anywhere – get physically active and grab some more precious time for yourself.

How Exercise Heals

When we hear the word "exercise" we tend to think of losing weight or getting into better physical shape but exercise is a powerful healer in it's own right.

Want a stronger heart, a more alert mind and a better sex life?

Would you like to be better equipped to combat cancer and heart disease, fight the common cold, and even heal wounds faster?

This may sound like an infomercial for a too-good-to-be-true pill, but, in fact, it's an invitation to enjoy your body's amazing ability to heal itself - an ability that is substantially amplified when you make physical activity a part of your life.

We know now (and have done so for a very long time) there is no doctor, procedure, pill, surgery, medication or nutritional supplement on the planet that even comes close to having all of the effects exercise does.

It's truly the best medicine we know of.

You may have heard already that proper physical activity can help us heal and recover better and more quickly and give us an edge over all kinds of disease and injury. In fact, exercise is nature's best medicine.

We tend to think of exercise as a preventive measure — something that helps us maintain our general fitness and keep excess weight at bay. But in reality, exercise has a vast range of healing influences on the body — influences that can help reverse negative biochemical trends, while improving our resiliency and immunity at virtually every level of our physiology.

Research is uncovering how good levels of strength and fitness has global body healing effects, working simultaneously on multiple systems to improve physical, mental, and emotional health and wellbeing.

Sure, being physically active with the right exercise builds and maintains muscle and bone and makes our heart work better, but, it also changes the way our genes function, making it less likely that we will get cancer, that our arteries will harden or that we will suffer from depression. Better yet, in the event these or other maladies do befall you, there is tons of evidence that exercise can help you recover from them more easily and successfully.

In fact, proper exercise aids nearly every system in the body. Since these systems are interconnected, it can be difficult to categorize proper exercises many specific benefits. That's why, in the interest of giving exercise at least a little more of it's considerable credit, here is just a few of the powerful ways exercise heals. Read on, and then kick your body's own healing engines into high gear.

1. Muscle and Bone Building and Maintaining

Over time, and especially with not enough physical activity for our muscles, our bone density deteriorates as the pulling of the muscles on the bones is what keeps them strong. It's a mechanical thing. When bones sense load (when muscles are being used), a small electrical signal causes the bone to respond and grow.

Without this trigger normal bone loss becomes osteoporosis which is the reality for the millions of people who do not do enough muscle building and maintain activity. It's a proven fact that strengthening exercise at any age just twice a week can avoid bone loss and can even increase it in as little as one year.

It's vital to build (and rebuild) strong bones and muscle through exercise if you want to enjoy your full vitality and mobility for the long haul. Exercise improves circulation, neurological activity and a variety of biochemical influences that promote healing.

Skeletal muscle has the remarkable ability to regenerate itself in response to injury. Gentle stretching and range-of-motion exercises are key to getting blood to the area and facilitating proper healing – so good strength, fitness levels along with good flexibility are key to avoiding and recovering from musculoskeletal injuries of all kinds.

2. Keep Your Heart Healthy With a Regular Beating

Most of us don't think about our heart much. As long as this mysterious beating organ is doing it's job in keeping us alive and breathing we tend not to have cause to even give it a second thought. And yet we should give our heart health some thought as heart disease is not just a condition that strikes older people.

Like so many other diseases that used to be the sole domain of older people heart disease is now making a play for people of much younger ages that you would expect. Heart disease is the number one killer in the developed world and now accounts for 40 percent of all deaths.

One of the reasons that many people may ignore the possibility of developing this villain is that it is a gradual, lifelong process that people cannot see or feel. Heart disease doesn't happen out of the blue and that is why you need to give the health of your heart the attention it deserves.

We used to think that if our blood pressure was raised it was just part of getting older, nothing we could do about it. But now we know that it is not caused by passing birthdays but is in fact an indicator of silently advancing disease.

This raised pressure is the cause of much of the trouble that leads to heart disease. It starts in the arteries, the tubes that carry the blood and allow it to flow to the body's organs, cells and tissues. Fatty deposits clog and narrow these tubes restricting blood flow and placing additional permanent strain on the heart system and damaging the walls of these plumbing pipes.

The best protection you can give yourself is to strengthen your whole body which includes the heart. After all this mother of all muscles responds to proper exercise just the same as every other muscle in your body – it thrives on it, growing stronger and more efficient.

Taking the time to strengthen the heart is like buying health insurance. Instead of money paid the required premium is a regular installment of exercise. The type of exercise has to be right though to properly condition the heart. Strength training exercise is the magic bullet that will beef up the strength and resilience of the heart muscle protecting it from disease.

As your overall strength improves your heart will become more efficient and this can be measured by a reduced or slower resting heart rate. This is the number of heart beats per minute taken when you first wake up and before you get up in the morning.

If you can reduce this number by 10 beats per minute and you will with increased fitness, you will save your heart from having to beat approximately 14,000 beats a day. This is where you can get increased longevity from a proper exercise program which will not only add more active and productive years to your life but lots of life to your years.

To properly condition your heart the exercise program need to be performed at the correct level of intensity. Don't think a gentle stroll is going to do it as it won't even come close.

Strength training exercise will make your muscles stronger so they can act like auxiliary pumps taking some of the load off the heart. When your muscles are firm and toned they help squeeze and "milk" blood around the body every time you move. This extra overall body strength also helps the heart function more efficiently when placed under a load such as lifting or carrying objects or during vigorous activity.

If you plan on living a long time and wish to be active and well beyond your eighties you need to take care of your 'ticker'. Don't just assume it is healthy just because it keeps on beating. Remember each time you workout at your exercise program it gets a workout as well. And this is the recipe to keep you and it strong and healthy.

3. Your Mental and Emotional Health Needs Exercise to Remain Healthy

We are all aware of the benefits of proper exercise on the health of our body. We know it tones our muscles, burns fat, helps circulation, and reduces our disease risk. But what about the benefits exercise has on our mental health?

While the majority of fitness research efforts focus on the physical and health benefits of exercise, there is a growing body of work demonstrating that exercise promotes mental and emotional health as well.

Firstly exercise makes you feel good. When you exercise (with some effort of course) there are a cocktail of hormones released that stay in your system for some time after you finish, lifting your mood and banishing any trace of any negative feelings.

Some of the exercise benefits that can make life so much better are:

- by reducing stress hormones (cortisol), which are linked to depression
- by restoring sleeping and eating patterns, raising energy levels
- by releasing endorphins, the 'feel good' hormones
- getting in better physical shape improves self-esteem
- manage feelings of anxiety, sadness, tension and anger
- improves blood flow to brain, cut Alzheimer's risk by 40 percent
- great alternative treatment for depression

Our mental health is important and it's health does not lie with taking pharmaceutical drugs. Prescriptions for antidepressants have increased 400 percent in the last decade with a third of the adult population now taking a mood altering drug.

It's a staggering fact that children as young as two years old are prescribed these drugs. Yet research shows that physical activity has the same effect as chemically addictive antidepressants and unlike these drugs has no negative side effects.

It is so much better for your health to avoid using drugs as they can interfere with brain biochemistry. Our knowledge of how drugs affect the brain is in it's infancy. It gives cause for concern that prescriptions for these unnecessary drugs are so freely given out. The same prescription pad could be used for a much healthier alternative – exercise.

Attitudes need to change so that people take more responsibility for their own health and wellbeing. There are much healthier options available that address the cause of the problem not just mask it, and that is exercise.

Take some time out for a proper structured exercise program and discover how you can feel joy and pleasure just being in your own body. Exercise is not a task or punishment and vigorous movement is something the human body needs to maintain wellness and can be viewed as self-care that can help prevent physical, mental and emotional conditions.

You don't have to spend hours to gain these benefits; just a couple of sessions each week of strength training exercise will make you feel fantastic.

4. Dials Down Inflammation

We know now that inflammation is one of the fundamental underlying causes of almost all chronic preventable "lifestyle" disease. It is the common thread that links together a lot of different problems, and for the first time, science is beginning to understand these underlying roots of illness.

What is inflammation?

The human body was designed for constant activity and evolved with movement. Our history dictates that the vast majority of human existence was steeped in the harsh realities of the natural world. Our ancestors did low intensity activity all day every day and were forced to engage in vigorous movement to find food and shelter and avoid danger.

This extreme physical reality made injury and infection commonplace and inflammation; the body's natural protective mechanism for healing was produced in response to these physical insults. Over thousands of years the human body evolved and used acute inflammation to heal, repair, and regenerate itself.

Vigorous human movement was an essential part of this healing and regenerative process creating an anti-inflammatory and growth stimulating effect keeping inflammation under control.

With the arrival of the industrial and technological revolutions human movement came to a crawl removing the unique anti-inflammatory and growth stimulating effects of exercise therefore leaving inflammation unchecked.

Inflammation is one of the body's natural protective mechanisms, but when it becomes chronic it can turn destructive. As human movement has continued to decrease chronic inflammation has become rampant and contributes to all the major killer diseases, illnesses and conditions.

In modern day life, the human body is confronted with persistent stress. Along with this stressful lifestyle, humans are no longer dependent on movement and it's growth stimulating and healing effects. Three major factors are at the root cause of inflammation, not enough exercise, a diet based on processed foods and too much stress (exercise manages stress). As a result, acute and controlled inflammation has given way to continual, chronic, low level inflammation.

While inflammation is often thought of as destructive, it is actually a closely orchestrated event that first produces pain, redness, swelling, heat and tissue destruction, but then is followed by repair.

Inflammation occurs after tissue injury and in response to foreign cells such as viruses, bacteria and cancer cells. Whether you cut your finger, catch a cold or run a marathon, the mechanism is the same. The inflammatory process is mediated by a variety of immune cells and dozens of chemical messengers in the blood increasing blood flow and sending in an army of white blood cells and nutrients to the scene.

These cellular mercenaries stop tissue damage, destroy lurking bacteria, remove waste materials, and rebuild tissues. Tissues grow back stronger, more efficient, and more able to withstand future forces.

Under ordinary circumstances, inflammation is a healthy process that comes to the body's aid when it's injured. By the time you can see and feel physical signs of inflammation — heat, soreness and swelling — the damaged area is probably well on it's way to healing.

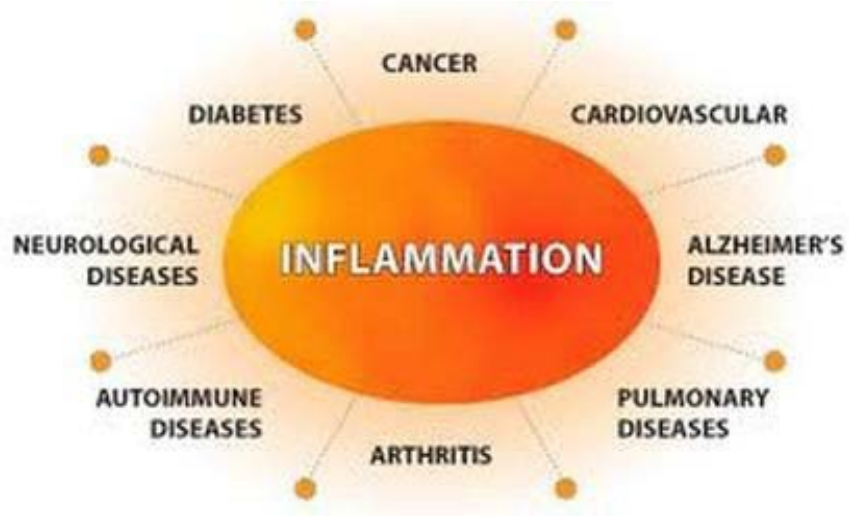
Unfortunately, inflammation isn't always so exact. Like a houseguest who overstays his welcome, inflammation sometimes hangs around too long and refuses to leave. Aging is one of the biggest risk factors for inflammation, since, as we age, our bodies are less able to disarm the inflammatory process.

Lack of physical activity, poor diet (processed food look-a-likes), high blood pressure, heavy drinking or smoking can also fuel the flames. When the inflammation switch refuses to turn off, the body operates as if it is always under attack. White blood cells flood the system for weeks, months and even years.

The problem is that the immune system can't handle the constant demand. When the immune system becomes drained, the body then has difficulty warding off other illnesses.

For instance, viruses, bacterial infections, even cancer cells that are normally destroyed by a healthy immune system can now slip under the body's radar. This is what you DON'T WANT!

Your body may already be under fire from inflammation caused by stress, poor diet and a couch-potato lifestyle. Inflammation can operate in stealth mode for years. When symptoms do finally become apparent, it's usually in the form of one of the "big three" heart disease, cancer, diabetes, or any one of hundreds (even thousands) of other inflammation-related diseases.



Exercise IS Medicine

Exercise is a readily accessible, safe, and inexpensive anti-inflammatory medicine.

As we have discussed, inflammation is the body's natural means of stimulating healing, but when continuous and chronic it becomes damaging and detrimental to health.

Properly performed exercise releases signaling molecules that stimulate a unique healing response that couples both inflammatory and anti-inflammatory mechanisms to repair, regenerate, and grow tissue stronger.

Exercise can have a significant effect on not only inflammation, but whole body fuel usage, and tissue repair.

5. Helps Your Hormones

You will hear a lot about hormones these days as it is very big business as we continue to uncover how the depletion of our body's hormones is a major cause of the premature aging and "lifestyle" disease.

The granddaddy of all of our hormones is our very own growth hormone (HGH) often called the "youth or fitness hormone". When it falls below a certain level required to keep our body in good running order signs of aging appear.

Things like a loss of muscle strength, body fat increasing around the mid-section, heart and lung power declining, height shrinking, loss of vital energy and a general feeling of one's life force being drained away.

The really good news is you can keep your body producing this special hormone so it can keep rejuvenating you right down at cellular level. This will give you not only a better quality of life in the short-term it will likely give longevity as well.

There is only one way you have any chance of increasing this hormone naturally and that is when you "work" your muscles regularly with proper strength training exercise. Intense muscle movement is what stimulates this and other youth hormones as the brain receives signals that strength is needed.

The body responds as it is the most basic of the laws of nature – the old "use it or lose it" scenario. As previously mentioned, the human body does not know how old it is, but it does know when it is no longer receiving message that strength is needed. Staying strong is the key to remaining "youthful" regardless of age.

Do not think you will get the same results with any low intensity, recreational activity like walking, jogging, tennis, swimming and so on. These types of activities DO NOT work the muscles directly under a load so are not intense enough to stimulate the "strengthening" hormones that will keep you young.

And more importantly, spending time on these types of recreational activities will leave less time for the proper exercise that WILL work at keeping your hormonal army healthy and working for you.

Recreational activities are fine as part of an active lifestyle but can never replace proper muscle building and toning exercise to replace that lost one half pound per year of precious muscle tissue from our mid 20's on (and this rate doubling after age 50) unless you work to keep it. Do your proper program first then if there is time left over add in other "recreational" activities.

Lifestyle is Medicine

It's a face, in our fast-paced world, we often look for quick-fix solutions to our health challenges, not realizing that these "solutions" in fact may contribute to our problems. Most health challenges are the result of an imbalance in our bodies and lives, and most quick-fix solutions actually exacerbate these imbalances.

If, instead, we take a Lifestyle Medicine approach – identifying the root cause of our health challenges, then creating a thoughtful, step-by-step, and long-term response to it – we effectively bring ourselves back into balance. In doing so, we not only can resolve our primary complaints, but we also can benefit elsewhere in our lives, often in unexpected ways.

Against the backdrop of our assembly-line model of medical care, with Lifestyle Medicine it gives us more natural tools for optimizing general wellness and healing chronic illness. With Lifestyle Medicine, we are recognized as the supreme authorities on our own bodies, and doctors serve as our guides – helping us navigate the maze of conventional, complementary, and alternative medicine options.

In some cases, we may need to schedule a surgery. In other cases, we may need to cultivate new habits of self-care such as proper exercise supported by REAL food and other lifestyle changes that are necessary.

The sophisticated effectiveness of Lifestyle Medicine is summarized by this simple nursery school song: The knee bone is connected to the thigh bone; the thigh bone is connected to the hip bone… If we are chronically sick, tired, or depressed, we need an examination that includes, but goes beyond, the exact location of our symptoms. Everything is inter-dependent – muscles and nerves, bodies and minds, people and planet.

Each connecting thread has a domino effect on the other. Self-neglect over a long period of time, for example, might lead to chronic illness that makes us unable to get out of the house or work – leaving us isolated, broke, and as a result, severely depressed. In this scenario, the quick-fix of anti-depressants will overlook the root of, and therefore solution for, our depression.

The Difference: Growing Old vs Staying Young

I truly believe from the bottom of my heart there IS an elixir of eternal youth. But this Fountain of Youth is a bit further left field than where Ponce de Leon was looking for it and also cannot be found in a pill, syringe or via the surgeon's knife, but rather it can be found in very specific lifestyle choices.

No doubt you've read about the well-known health benefits of good (REAL) food and exercise and it's the latter we will be looking at today. Unless you've been living under a rock for the last twenty or thirty years you should know the basics anyway – physical activity and plenty of it, as much unprocessed food as possible, fresh air, quality sleep, getting rid of bad habits that can shorten your life and so on.

My focus in this chapter is about strength (weight or resistance) training and why I think it is the absolute key to both anti-aging, and in certain cases, reverse-aging backed up by research studies and trials.

Let's think about these two phrases for a second as they don't mean the same thing. Anti-aging is all about age prevention, reverse-aging means actually turning the clock back…

Before we delve into either of these two phrases and the types of exercise that help us to achieve our goal of staying as youthful as possible, let us look briefly at a little science. There is an often cited Tufts University study looking at the ten key markers to aging and we will be focusing on the top two as they are the ones that predict the rate of age related decline. Those top two are - **loss of muscle mass and a loss of muscle strength.**

In 1992 researchers William Evans, PhD, and Irwin H. Rosenberg professors of nutrition and medicine, respectively, at Tufts University USDA Human Nutrition Research Center on Aging (HNRCA) determined 10 biomarkers of aging. Biomarkers are things that tell how old you would be if you didn't know how old you were in years. These biomarkers are:

1. Muscle Mass
2. Strength
3. Basal Metabolic Rate
4. Body Fat Percentage
5. Aerobic Capacity
6. Blood-sugar Tolerance
7. Cholesterol/HDL Ratio
8. Blood Pressure
9. Bone density
10. Ability to regulate Internal Temperature

Somewhat radical for the time Evans and Rosenberg found that strength training exercise was the intervention that most positively affected ALL of the biomarkers.

Here is the review of the research that has occurred in the past two decades since then, focusing on the physical biomarker of strength, muscle mass, blood pressure, bone density, cardio metabolic health, and metabolic syndrome. (1)

Now hanging your hat on this study and saying that keeping your muscle mass and strength high on the priority list will stop you from growing old is kind of like looking at the world through a straw, and there is much more to it than that of course, but it should stop and make you think.

It should make you ponder even harder when I tell you that researchers from the University of Texas confirmed what some of us gym goers have been observing for years – that weight training (in this case a 12 week study) can actually reverse the aging process in seniors and that a 2007 Canadian study (on reverse aging with exercise) came to the following conclusion: (2)

"To be honest, we were expecting some indication that the exercise program improved strength," says biologist Simon Melov, director of genomics at the Buck Institute in Novato, Calif., and co-author of the reverse-aging with exercise study. What the scientists didn't expect was what they actually found that after six months of resistance (weight) training, there were dramatic changes at the genetic level. As Melov puts it, "The genetic fingerprint of the participants was reversed to that of younger people, not entirely, but enough to say that their genetic profile was more like that of young people than old people."

All that science aside, I don't have much time to dig deep into studies, especially on a subject that is right before the eyes of someone such as myself who has been a gym owner for over 20 years and spending A LOT of time in a gym for over 30 years, what does my own real world experience bear out?

Over the years it has been a privilege and an honour to interact with, learn from, and observe men and women who have been weight training for thirty and even forty years.

They don't do it because of some anonymous study, they don't even do it for the myriad of health benefits, although that obviously helps, they do it because they have built this exercise habit into their lives. It has long since become "something they do"…but "something they become".

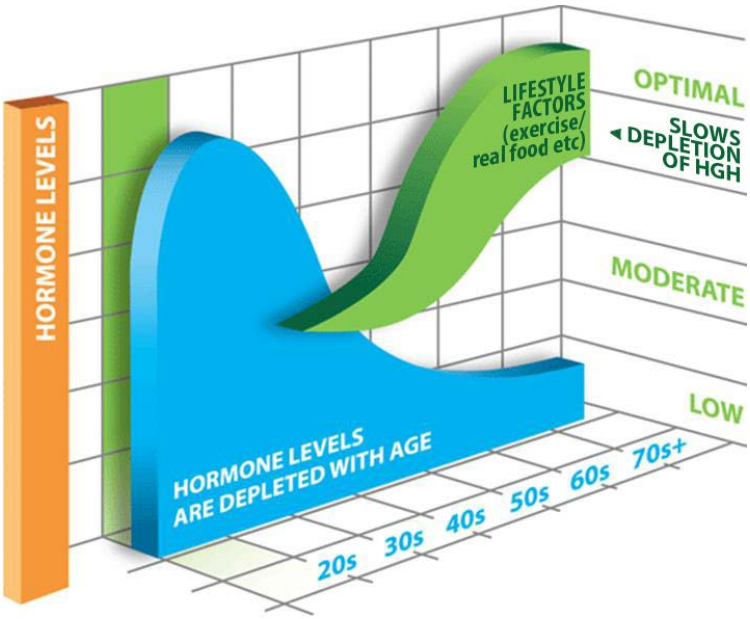
And to me who does see these people often, they ALL share one common characteristic. They have a vitality, a physical energy, a zest and presence that can make a fifty year old man or women seem like a thirty year old, and a seventy year old seem like a forty year old.

And the reason for this shared youthfulness is, yes you guessed it, weight training. Some might say it's a shared mindset, and the weight training is symptomatic of that, but although there is truth in this comment I would beg to differ.

The key to their physical success is very simple – they like to exercise and a good deal of what they do in the gym is resistance training based. They have stronger bones, infinitely better posture, carry themselves like much younger people, possess a youthful mindset and a vitality that is unique to a strong, fit, healthy person. I see people with all these attributes on a daily basis at my gym.

Yet when I go out into my community I see the opposite – tired looking, shoulders stooped, struggling to move properly, overweight, unhealthy looking skin and so on. If you look into their eyes there is a certain "lifelessness" a deadness that tells me the life force is being sucked from them like the outgoing tide.

They are simply not getting the positive metabolic by-products and hormonal stimuli of physically challenging their body regularly. When you lift weights at a certain high intensity (see note below on what this means) you will automatically have an energy, enthusiasm and zest for life and living because you are getting a constant trickle of important "youth" or growth factor hormones like testosterone, thyroid and Growth Hormone levels that otherwise will decline with age.



These gym goers are the women and men who "get it". The ones who appreciate the fact that science now bears out what they have long known instinctively – that properly conducted resistance training sessions can profoundly improve one's quality of life by boosting all the key aforementioned hormones associated with vitality and youth.

Note on intensity - degree of intensity is defined as you working as hard as you possibly can. It is giving your best effort using the most weight you can use for the required amount of repetitions you can do in an exercise with good form.

The bottom line is this: You MUST challenge yourself when training or your body will adapt to the workouts and never make progress. Does this mean you must lay on your back or crawl on your knees to your car after every workout? NO. Because that will lead to physical and mental burn out.

Sure your workouts should challenge you, but you should almost always be able to leave the workout with some energy in the tank, allowing you to stay motivated and energized to want to come back for the next one.

There is absolutely no doubt in my mind that a well thought out and consistently applied strength training program will put both years in your life and life in your years. Anti-aging certainly, reverse-aging potentially.

All this clinical and anecdotal evidence only leads me to ask the one question – why on earth isn't everyone lifting weights? To simply start and never stop. I myself don't ever want to grow old…instead I plan on aging well!

Let's look at more scientific evidence

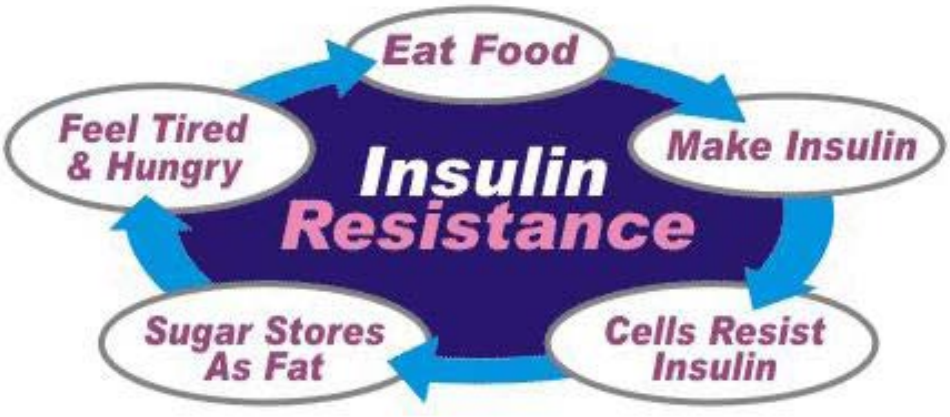
Body of Evidence

Powerful new studies reveal how to be fitter and stronger – and even reverse cellular aging.

We all know that making time for exercise is a good thing but with so many options available we often wonder which type is the best. Well, a Mayo Clinic study says its high-intensity exercise that can reverse some cellular aspects of aging (3) (4) (5)

The researchers compared high-intensity interval training along with resistance (weight or strength) training and report that not only did these types of exercise improve lean body mass (ie muscle tissue) but also improved insulin sensitivity as well. This is important as the FIRST thing you should improve if you want to change your body by losing fat or putting on muscle is to improve insulin sensitivity.

Insulin sensitivity is SO important that it means when you are insulin resistant (a pre-diabetes state) your body is much more likely to store the food you eat as fat. Insulin resistance also produces inflammation in the body, causing a whole host of health problems somewhere down the track.



How strength training exercise helps:

Muscle health (ie toned and strong muscles) is vital as muscle cells are what gobble up glucose from the blood stream both when you work out and at a higher rate for at least 24-48 hours after a workout.

Maintaining muscle tissue through the years and decades is vital for healthy aging as an adult loses muscle tissue at the rate of one half pound per year (if they don't work to keep it) and this rate doubles after age 50.

This gradual, yet progressive loss of muscle mass and function (sarcopenia) is quickly becoming recognized as a major health concern as it has been linked to increased functional disability, loss of independence, and decreased life expectancy.

Strengthening exercise shows improved muscle protein content that enhances energetic functions. Researchers emphasize an important finding: Exercise training significantly enhances the cellular machinery responsible for making new proteins. That contributes to protein synthesis, thus **reversing a major adverse effect of muscle tissue loss during the adult years.**

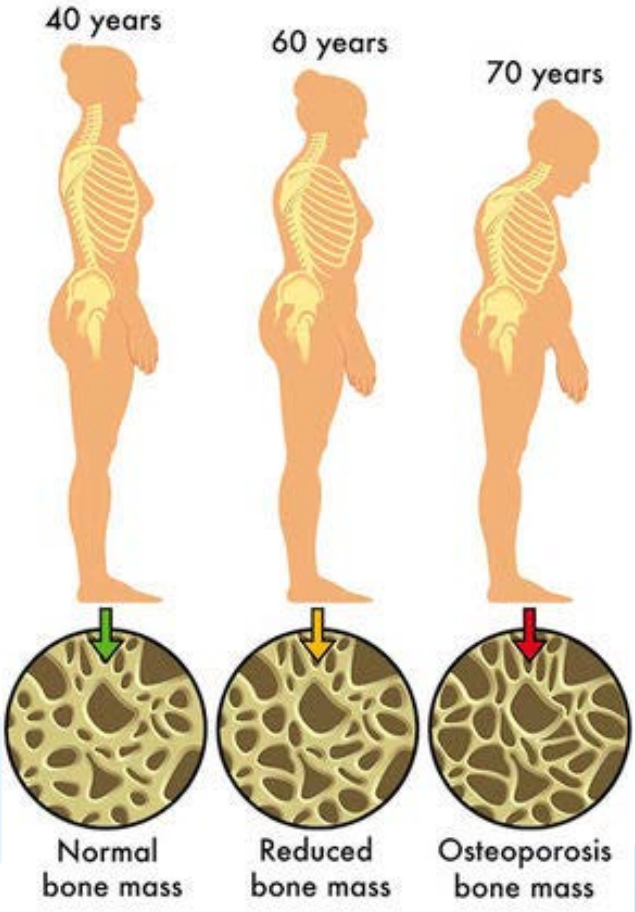
Adding a couple of strengthening exercise sessions a week is important to achieve enough muscle strength and muscle mass to take into your later years and is vital just to maintain functional capacity.

The more muscle you have the more glucose-disposal and glucose-control you have. As mentioned above, muscles hold the cells that burn fuel for energy and maintaining control of your blood sugar levels in the normal range is the key to slowing the aging process. Among the causes of aging, high insulin levels are THE BIGGEST THREAT to the length and quality of your life.

One study's goal was to find evidence that will help develop targeted therapies and exercise recommendations for individuals with health issues. Researchers tracked metabolic and molecular changes in a group of young and older adults over 12 weeks, gathering data 72 hours after individuals in randomized groups completed each type of exercise. General findings showed:

- Cardio respiratory health, muscle mass and insulin sensitivity improved with all training.
- Mitochondrial cellular function declined with age but improved with training.
- Increase in muscle strength occurred only modestly with high-intensity interval training but occurred with resistance training alone or when added to the aerobic training.
- Exercise improves skeletal muscle gene expression independent of age.

Medical Note: exercising helps to strengthen bone in addition to muscle. Working out and using your muscles makes tendons pull on bone – when a tendon pulls on its bony insertion, it causes a chain reaction of events that increases bone remodeling.



Yes, Resistance Training Can Reverse the Aging Process

Another important study has demonstrated too that strengthening (weight training) exercise can reverse aspects of aging at gene level.

The gene expressions of the resistance trained older subject's demonstrated characteristics similar to those of a younger group. The researchers also noted that mitochondrial impairment, normally seen with inactivity, was reversing with just 6 months of resistance training.

It is well known that long-term resistance training is associated with a lower risk to age-associated morbidity and mortality. This original study may be a first step in explaining how some of these positive changes occur.

For years fitness professionals have exclaimed the functional movement and health benefits of resistance exercise. Now, trainers can share with their clients that regular, progressive resistance training also improves the muscle's longevity profile at the molecular level.

Keep Moving: Exercise Not Only Helps Avoid Brain Shrinkage but Increases Cognitive Abilities

Scientific evidence also shows that physical exercise helps you build a brain that not only resists shrinkage, but increases cognitive abilities. Fitness even supports the generation of new neurons in the hippocampus, where memories are laid down.

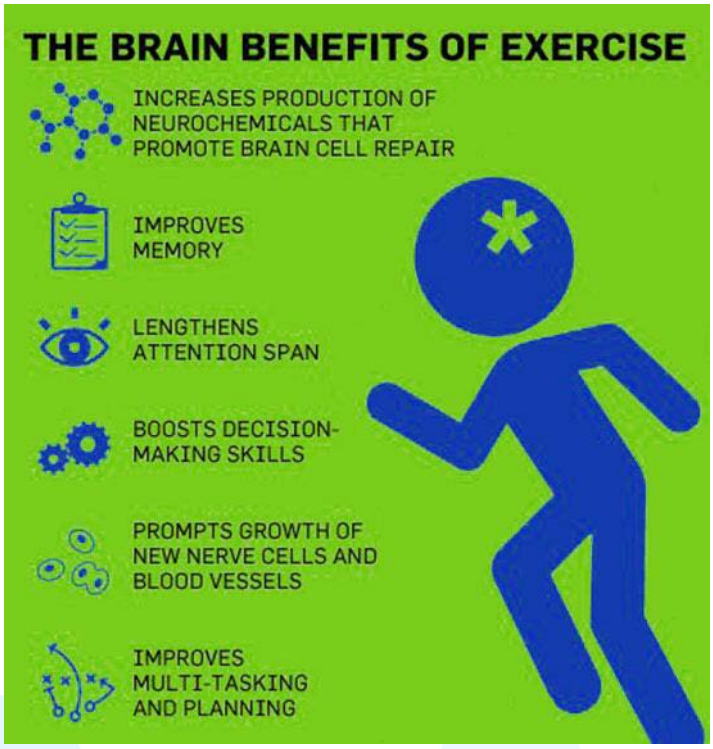
There is no doubt exercise is good for your body, but it's clear your brain will also thank you for getting off the couch. Study after study supports the idea that higher levels of physical activity are linked to a sharper mind and fewer age-related effects on the brain.

Brain cells guzzle energy and need lots of oxygen to function well. The most obvious beneficial effect of physical exercise on cognitive abilities is an increased blood flow through the brain, but a workout achieves more.

One of the most common manifestations of aging is a general slowing down – longer reaction times and more difficulty learning and remembering new information.

Fitness seems to protect the brains grey matter, the dense bundles of nerve cells that decrease with age in some parts of the brain, and the improvement is most pronounced in brain areas in charge of executive tasks. It also supports the generation and survival of new neurons in the hippocampus, where memories are laid down.

Exercise encourages your brain to work at optimum capacity by causing nerve cells to multiply, strengthening their interconnections, and protecting them from damage. During exercise, nerve cells release proteins known as neurotrophic factors, such as brain-derived neurotrophic factor or BDNF, which activates brain stem cells to convert into new neurons. BDNF also triggers numerous other chemicals that promote neural health. (6) (7) (8)



Exercise for Energy: Workouts That Work

A Harvard Medical School report (9) on how exercise can boost energy confirms the reason why many of us find it difficult to get going: it's easy to lose fitness and much harder to rebuild it. The less fit you are, the more you feel the effort, even when you're doing less than a fit person.

Compared to an active person, a sedentary person experiences more fatigue when carrying out a physically demanding task and both a higher heart rate and lower oxygen consumption.

The link between exercise and energy can be counter-intuitive. When your energy levels are low, you need to expend some to get some. But you don't need to work out to the point of exhaustion to start reaping benefits.

The energy boost comes in four main ways, the Harvard report says:

- As you work out your muscles burn more energy, and as they do, mitochondrial function increases.
- Your body's oxygen-carrying capacity increases with regular exercise because it creates more capillaries, and by breathing more deeply and increasing your heart rate, you pump more oxygen into your blood.
- Exercise affects the levels of several hormones and other chemical messengers some of which control your mood.

- Working out helps you to get more refreshing rest by increasing the time you spend in deep sleep. Even if you have the same amount of sleep, the sleep of active people is more restorative and refreshing and they don't wake up as often.

Note: Mitochondria are known as the powerhouses of the cell. They are **organelles** that act like a digestive system which takes in nutrients, breaks them down, and creates energy rich molecules for the cell.

The biochemical processes of the cell are known as **cellular respiration.** Many of the reactions involved in cellular respiration happen in the mitochondria. Mitochondria are the working organelles that keep the cell full of energy so keeping these little healthy is vital to healthy aging.

Its The Number 1 Workout That Keeps You Young, According to Research

Weight or resistance training exercise done with adequate effort (High Intensity Interval Training) has been shown to keep your cells young more than any other. Its benefits include boosting your metabolism, burning a ton of calories in a crazy-quick amount of time (*and* even after the workout is over), preserving muscle, and boosting your aerobic fitness. But brand-new research shows that HIIT might have an even *more* exciting benefit: keeping you young.

As you age, mitochondria become less efficient, which is linked to insulin resistance and lower cardiorespiratory fitness, according to the researchers. The HIIT regimen actually appeared to reverse the age-related decline in mitochondrial function and proteins needed for muscle building.

Based on current research, there's no substitute for exercise when it comes to delaying the aging process. These things we are seeing in the growing "body of evidence" through the research and studies cannot be achieved by any medicine, or any doctor on the planet.

Resistance training can also do a lot more than just make you stronger. It helps optimize biomarkers indicative of overall wellness such as triglycerides, LDL-cholesterol, and HDL-cholesterol in both men and women.

There are also long term unique benefits to sticking with a resistance training program. While changes in strength and some biomarkers taper off after you start strength-training, markers of inflammation (CRP) and energy utilization (glucose) decrease more as you continue.

The overall takeaway: Exercise is good for your body, and to get the biggest anti-aging cellular boost, do your strength training with some effort to challenge your body. If you don't challenge your body you cannot change it.

This is important, because you lose vital muscle strength as you age, strength training is your golden ticket to staying healthy and strong throughout your adult years with the added boost of having a health spa to match your life span.

Combating the aging process isn't only for those with crowded birthday cakes either. The earlier we begin preparing for those later years, the better we can minimize their impact on us. Proper exercise will make you "younger," no matter how old you are. It will also make you stronger, more flexible, healthier and fitter, improve your endurance, your balance and increase your energy levels.

It is never too late to start doing something about your health and fitness, and it should be seen as an investment, because it is something that builds, increases and strengthens as time passes by.

You can wipe away 10 -20 years of inactivity with just a few months of performing a proper exercise program. Now that is REALLY reclaiming your youth.

Without question, no other physical activity has more of an impact on your overall health and wellbeing than strength training exercise. Our bodies were designed to respond to physically challenging situations. When you add physical activity into your life you can become trim and fit, reduce the risk of chronic disease, relieve fatigue and anxiety and regain the youthful enthusiasm and energy you need to live your life to the fullest.

Don't Lose Your Marbles

Staying Sharp So Your Health Span Matches Your Life Span

Fifty years ago it was believed that aging bought with it a loss of brain function, of memory and mental agility and that once neurons die, nothing could be done about it. Hence deterioration and progressive memory decline was considered a more or less inevitable part of aging. Today, we know there's nothing "inevitable" about age-related cognitive decline at all.

Its well known that leading a sedentary life is detrimental to long-term health and puts a person at higher risk for chronic conditions such as heart disease, diabetes and cancer. But research shows that spending more time on the couch and less time being active is also a fast-track to cognitive decline. It turns out lack of enough proper exercise leads to a decrease in brain size.

Dementia is at epidemic disease proportions - affecting one in eight people aged 65 and over who are living with the disease. In the next 20 years, it is estimated that dementia will affect one in four rivalling the current prevalence of obesity and diabetes.

Globally, the numbers of people living with dementia will increase from 46.8m in 2015 to 131.5m in 2050, a 281 percent increase.

There is still no known accepted cure for this devastating disease, and no effective treatments. Dementia is the only condition in the top 10 causes of death without a treatment to prevent, cure or slow its progression.

Dementia drugs are often of little to no benefit at all, which underscores the importance of prevention throughout your lifetime.

Fortunately, dementia and Alzheimer's prevention is actually easier than you might think. There's exceptionally compelling research showing that your brain has great plasticity, which *you control* through your diet and lifestyle choices.

Poor Fitness Now = Smaller Brain Later

We've all come to accept the notion that our brain will shrink as we get more candles on our birthday cake. And nowhere in the brain is this decline more impactful than in the hippocampus, the memory center, one of the primary brain areas that's first to decline in dementia or Alzheimer's disease.

Researchers measuring the size of the hippocampus show a clear correlation between shrinkage of the hippocampus and declining cognitive function. So, at least as it relates to the hippocampus, size does matter.

However, new and exciting research challenges the notion that this is just a natural part of the aging process and shows that we have the potential to actually grow new cells in this vitally important area of the brain. We can actually expand the hippocampus in size and enhance memory function.

Scientists have linked physical exercise to brain health for many years. In fact, there's compelling evidence that physical exercise helps build a brain that not only resists shrinkage, but *increases* cognitive abilities by promoting neurogenesis, i.e. your brain's ability to adapt and grow new brain cells.

In essence, physical activity produces biochemical changes that strengthen and renew not only your body but also your brain - particularly areas associated with memory and learning.

The converse is also true. Researchers have shown a sedentary lifestyle correlates to brain shrinkage, which increases your risk of memory loss and other cognitive problems.

Exercise helps protect and improve your brain function by improving and increasing blood flow to your brain; increasing production of nerve-protecting compounds; improving development and survival of neurons; and reducing damaging plaques in your brain.

Over time, the cumulative effects help slow down the rate at which your brain ages.

A new study published in *Neurology* (10) links low levels of physical fitness in midlife to lower brain tissue volume two decades later. These findings affirm the role physical fitness plays in protecting the brain throughout our life span.

The researchers looked at 1,583 men and women who didn't have dementia or heart disease. They worked out on a treadmill to assess their fitness levels.

Then, 20 years later, the people in the study did another treadmill fitness test and had brain scans.

"Brain volume is one marker of brain aging. Our brains shrink as we age, and this atrophy is related to cognitive decline and increased risk for dementia," says lead author Nicole Spartano, a trainee at the Whitaker Cardiovascular Institute at Boston University School of Medicine. "So it is important to determine the factors - especially modifiable factors, such as fitness - that contribute to brain aging."

Exercise Slows Brain Aging by as Much as 10 Years

For days when you just don't want to get yourself moving. there's new motivation in the form of scientific evidence: physical activity can slow brain aging by as much as 10 years, reports a new study published in the journal *Neurology.*(11)

It's among the first studies to actually put a number on how beneficial exercise can be for the brain. The researchers asked a group of 1,228 men and women of diverse racial and ethnic backgrounds living in Manhattan about their regular exercise habits. They also answered questions that tested their cognitive abilities, including their memory, organization, reasoning and thinking speed. Five years later, they performed the same tests on about half of the study group.

People who reported doing more physical activity showed higher scores on cognitive tests - consistent with previous studies linking more exercise to better brain health. But when the researchers adjusted for the effect that factors like high blood pressure, diabetes and heart disease can have on brain function, the link disappeared.

Conditions like these could impair blood flow to the brain and therefore compromise cognitive functions, says Dr. Clinton Wright, associate professor of neurology and public health sciences at University of Miami and senior author of the study. “That suggests that people with low physical activity levels also had a greater burden of those risk factors,” he says.

He and his colleagues then focused just on people in the study who didn’t have these blood flow risk factors, and compared their cognitive scores at the beginning and end of the study. They found similar trends showing that people who exercise more had higher cognitive scores, while those who were less physically active tended to have lower scores. This time, even after accounting for the contribution of possible confounding factors, they found that this trend remained strong in two areas in particular: thinking speed and memory of specific past events.

They also found that people who exercised less showed sharper declines in their cognitive scores than people who were more active. The drops were equivalent to the declines found during normal aging over about 10 years, they concluded.

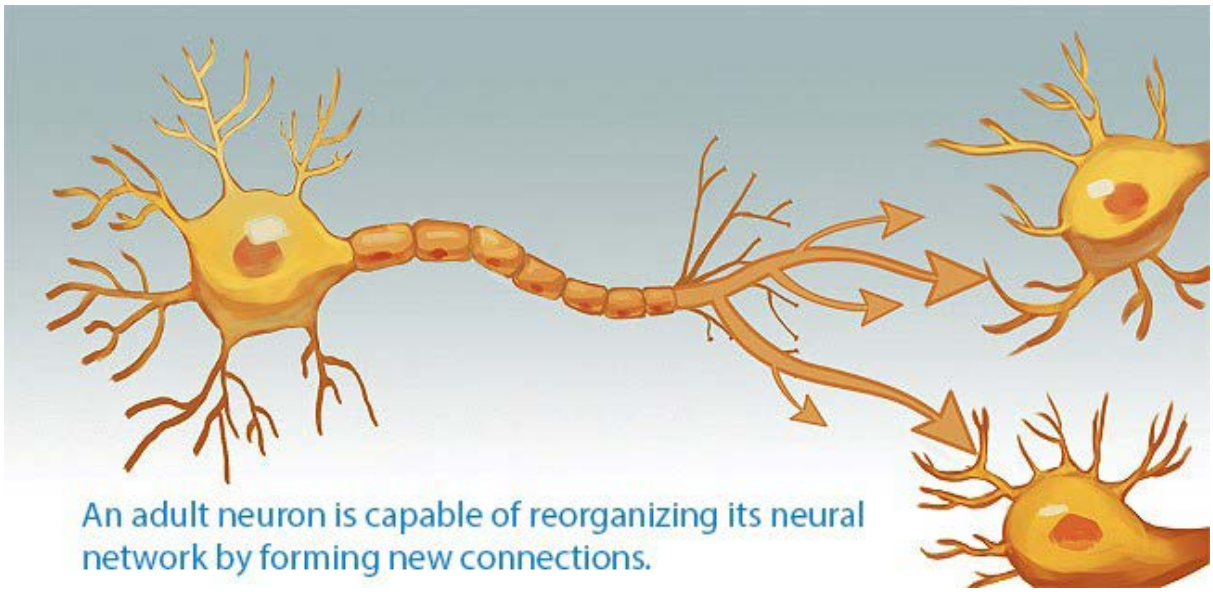
How Exercise Protects and Improves Brain Function

When you challenge your muscles with intense physical activity it increases blood flow to your brain elevating oxygen levels. This triggers biochemical (hormonal) changes that result in new neurons being formed that are then bathed and protected with released nerve growth factor (BDNF).

These conditions encourage your brain to grow and change by forming new neural pathways and synaptic connections. This process is known as neurogenesis or neuroplasticity.

Despite the lack of any pharmaceutical development to enhance this process, you have direct control of your BDNF levels and thus the fate of your brain.

You can increase your BDNF levels and enhance the growth of new brain cells and memory. Just like your muscles, your brain cells need to be stressed to grow and this is where a structured exercise program comes in.



An adult neuron is capable of reorganizing its neural network by forming new connections.

Your brain's memory center (hippocampus) is particularly adaptable and capable of growing new cells throughout your entire lifetime, even into your 90s, provided your lifestyle supports it.

Similarly, a year-long human study (12) found that adults aged 55-80 who exercised regularly by walking briskly for up to 40 minutes 3 times a week enlarged their brain's memory center (anterior hippocampus) 1 to 2 percent per year, where typically the hippocampus tends to shrink in later years by 1.4 percent per year without enough physical activity.

Strengthening Your Body Strengthens Your Mind

While the benefits of a strengthening workout have been well-known for below-the-neck for a long time, the incredible advantages for your brain are just being discovered.

Just like your muscles, you need to work your brain cells to get them to grow and maintain strength and we can do that with proper exercise shunting blood, oxygen and growth factors into the brain.

Research is showing that physical exercise improves mood, memory, attention, creativity, and learning and reduces depression, age-related decline, and the risk of dementia. A recent Finnish study (13) with twins showed exercise to reduce dementia risks even over genetics.

Even babies of mothers who exercised during pregnancy are born with more mature brains. So much evidence is accumulating that physical exercise is the miracle potion for getting and keeping your brain healthy at any age.

Exercise Also Promotes Psychological Health and Good Mood

Memory and cognition are not the only benefits associated with physical fitness. Exercise is also known to dispel depression - in many cases more effectively than antidepressants.

One of the ways exercise promotes mental health is by normalizing insulin resistance and boosting natural “feel good” hormones and neurotransmitters associated with mood control, including endorphins, serotonin, dopamine, glutamate, and GABA.

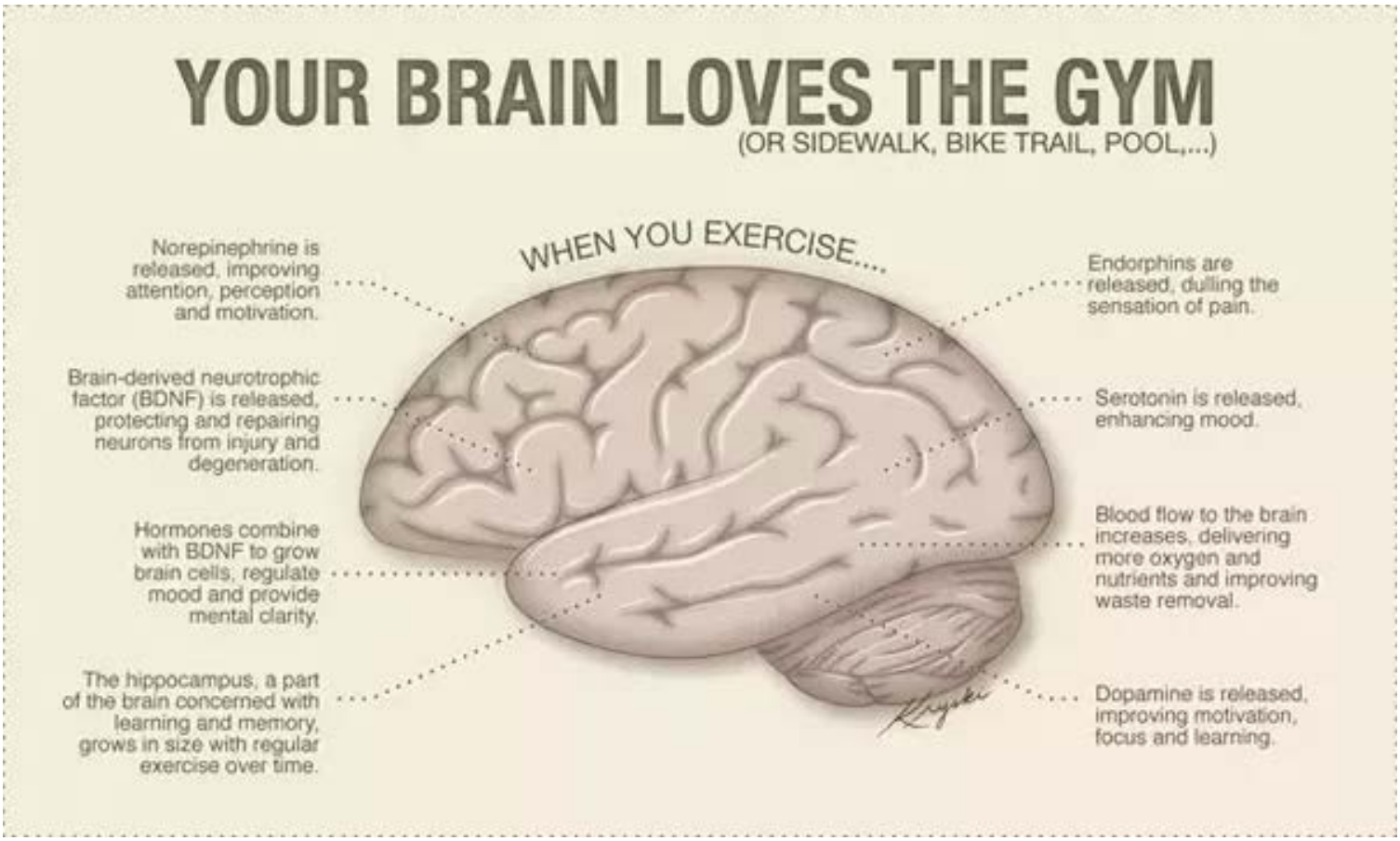
Exercise has shown to stimulate the growth of neurons in certain brain regions damaged during depression. By getting active you can reverse this damage.

One research study has also found clear links between inactivity and depression. (14) Women who sat for more than seven hours a day were found to have a 47 percent higher risk of depression than women who sat for four hours or less per day.

Those who didn’t participate in any physical activity at all had a 99 percent higher risk of developing depression than women who exercised.

Of those women, those who also sat for more than 7 hours had a 196 percent higher risk than those who sat for less than 4 hours. That's triple the risk. By assessing your own levels of current physical activity (or lack thereof) you can get an idea of just how much risk for depression you may be taking on.

Creativity also gets a boost from physical activity. According to Stanford University researchers, a workout session can increase creativity by up to 60 percent.



To Optimize Your Health and Longevity, Stay in Constant Motion

The type of exercise program that will benefit your brain is identical to the one that will benefit the rest of your body. Ideally, you'd want to strive for a comprehensive routine that includes strength training (resistance exercise) 2-3 times a week along with 1-2 high-intensity interval exercise sessions. (HIIT),

Then, *in addition* to a well-rounded workout routine, I also recommend as much incidental daily activity you can do along with standing up as much as possible throughout the day to avoid the well-documented hazards associated with chronic sitting.

Science continues to uncover the unparalleled benefits of exercise with a new study (15) that reveals increased muscle strength leads to improved brain function in adults with Mild Cognitive Impairment (MCI), which is a condition where people have mostly memory problems which are not severe enough to interfere with daily life. It is often considered to be the very early stage of Alzheimer's disease.

Another study (16) involved 86 women between the ages of 70 and 80 who also had MCI. The women were divided into 3 groups: 1) a resistance training group, 2) an aerobic exercise group, and 3) a balance and tone training group. Each group exercised twice a week for six months.

Participants' cognitive skills were measured with tests assessing executive functions (such as attention and inhibition) and memory. The brains of 22 of the participants were also scanned using functional MRI.

The results showed that resistance training improved both executive functions and memory performance. Brain scans demonstrated increased blood flow to areas of the brain associated with the improved performance (such as the occipital and frontal regions of the brain).

In contrast to prior studies, there was no benefit of the aerobic training on cognitive performance (even though the cardiovascular performance of the participants in this group did improve).

This study is one of the first randomized controlled trials comparing the efficacy of both resistance and aerobic training to improve cognitive functions.

It confirms the results obtained a few years ago by the same team of researchers showing that 12 months of once- or twice-weekly strength training improved executive functions in healthy women ages 65- to 75 years old for up to 1 year after the training.

The novelty of the study is to show that after a short period of time (6 months) the effects of strength training can benefit cognition, even in people who are already suffering from cognitive impairment. Just 20 minutes of strength training was found to enhance long-term memory by about 10 percent.

Exercise: Make Your Brain Bigger, Calmer and Healthier

Exercise also reduces stress and anxiety by increasing soothing brain chemicals, like endorphins and GABA. Antibodies are elevated strengthening your immune system and endocannabinoids (yes, they're like the active ingredient in cannabis) are released and play a role in pain sensation, mood, and memory.

Exercise even benefits us at a cellular level to reverse the toll of stress in aging our bodies. A study (16) found that stressed-out women who exercised vigorously for an average of 45 minutes over a three-day period had cells showing fewer signs of aging compared to women who were stressed and inactive.

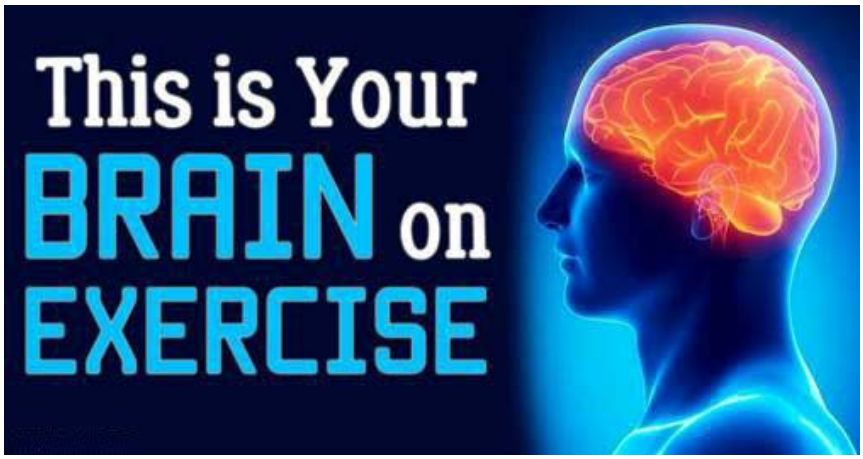
Research has also shown that burning of the equivalent of 350 calories three times a week through sustained, sweat-inducing activity can reduce symptoms of depression as effectively as antidepressants and with none of the side effects.

This is thought to be because exercise stimulates the growth of neurons in brain regions damaged by depression.

Exercise helps protect and improve your brain function by:

- Improving and increasing blood flow to your brain
- Increasing production of nerve-protecting compounds
- Improving development and survival of neurons
- Reducing damaging plaques in your brain
- Altering the way these damaging proteins reside inside your brain, which appears to slow the development of dementia.

In general, exercise improves the connectivity of brain circuits, increases gray matter (actual neurons), combats and reverses the brain shrinkage associated with poor fitness, increases performance on cognitive tasks, shields you from stress and depression, and retards the onset of dementia.



Keep Up Your Physical Activity

From 40 years and onwards, physical movement becomes really paramount, so this is not the time to fall prey to the couch. Plenty of research confirms that even if you start exercising at this time, you stand to gain a great deal. It's really never too late to begin. And…perhaps just as important as a regular structured proper exercise program, is to simply move around a lot and avoid sitting as much as possible.

While it's never too late to start exercising, the earlier you begin and the more consistent you are, the greater your long-term rewards. Having an active lifestyle is really an investment in your future well-being, both physically and mentally.

The science is really clear on this point: memory loss and cognitive decline really depends on your lifestyle. Your brain has the capacity to regenerate and grow throughout your entire life, from cradle to grave, and movement is a major key for all of these brain-boosting processes to occur.

The Intriguing Link Between Leg Power and Brain Function

Another recent study (17) supports these findings, and suggests that working your leg muscles helps maintain cognitive function as you get older.

This study followed 324 female twins, aged 43 to 73, for a decade. Cognitive function such as learning and memory was tested at the outset and at the conclusion of the study. Interestingly, as reported by MedicineNet.com:(17)

"The researchers found that leg strength was a better predictor of brain health than any other lifestyle factor looked at in the study.

Generally, the twin with more leg strength at the start of the study maintained her mental abilities better and had fewer age-related brain changes than the twin with weaker legs...

'It's compelling to see such differences in cognition [thinking] and brain structure in identical twins, who had different leg power 10 years before,' [lead author Claire] Steves said.

'It suggests that simple lifestyle changes to boost our physical activity may help to keep us both mentally and physically healthy.'"

Your brain's hippocampus, i.e. your memory center, is particularly adaptable and capable of releasing hormones from the muscles and growing new cells throughout your entire lifetime, even into your 90s, provided your lifestyle supports it.

The study on twins is said to be the first showing a specific link between leg power and cognition in normal, healthy people, and this is great news, as your leg muscles are among the largest in your body and can be easily worked with simple strengthening exercises such as squats, deadlifts, lunges etc.

Grow a New Brain (Well, Nearly!)

Researchers have discovered that the more a person exercises, the greater the protection for the brain. People with the highest and most vigorous activity levels were half as likely as inactive individuals to develop Alzheimer's and were around 40 percent less likely to suffer any dementia or mental impairment.

A meta-analysis of more than a dozen related studies (18) that looked at the effect of physical activity on the development of brain illnesses found that exercise reduces the risk of dementia and Alzheimer's disease by 28 percent and 45 percent respectively. The evidence also strongly supports the idea that physical activity prevent age-related cognitive decline.

When you partake in proper exercise, you think better, concentrate better, and your memory will be better. It boosts blood flow and growth factors in the brain so you can keep your marbles no matter how long you live.

Its time to stop thinking fitness stops at the neck and remember that our brain is the central processing unit for all of the body's systems and processes. Its health is very important.

As research uncovers more about the importance of vigorous physical activity in both prevention and also as a healing medicine for mental and emotional health we are becoming more understanding about the significance of it. When you have physical ill-health you can have mental ill-health as well. They occur and are closely linked together.

When you improve and strengthen physical health you improve and strengthen mental health as well. With our modern world moving so fast with computers, faxes, cell phones and other technology people are expected to multitask and work at a fast pace. We get used to moving quicker and constantly 'doing' and we forget that we also need down time to de-stress and purge the busyness of our lives from our entire body.

The effects of our busy lives can affect people in many ways and one of them is the fact that many people are plagued by negative thoughts and emotions that can limit them and hold them back from reaching their full potential in life.

These things are usually fobbed of with a pill of some sort but proper exercise can act as a counter balance or ballast and dissipate and soothe those negative feelings before they can become a problem.

When our body carries out vigorous physical movement it makes us feel good about ourselves and can help us get back in touch and calm the inner self. When we work our muscular system with proper exercise natural chemicals are released that regulate emotions and thoughts and dissipate stress. Your exercise program oils the wheels that turn in our brains for everything from the way we think, to what we feel and what we do.

And we get a bonus as when oxygen rich blood is pumped around our body it benefits every single cell, tissue and organ including the brain. This gives the software in our brain a boost in power which stimulates energy to the rest of the body. This is why you feel so good after an exercise session. If you are tired, fatigued or stressed an exercise session can rejuvenate you in a very short time.

Think of your exercise session as house cleaning, chasing away negative thoughts and stress. Pills will never fix things – but exercise will. It is up to each of us to do whatever it takes to be calm, happy and fulfilled as a person and protect both our body and our brain.

Exercise is a simple inexpensive gift we all have access to and can give ourselves. The investment will pay off in multiple ways right throughout our life.

Crisis Situation

According to the Centers for Disease Control (CDC), half of America suffers from at least one chronic illness; chronic illness causes 70% of deaths in the United States each year; and the percentage of children and adolescents with chronic illness has quadrupled since the 1960s.

Among highly industrialized nations, the United States ranks only average or below average for health, despite spending on medical care 16% of America's wealth – more than that of any other nation worldwide.

Not surprisingly, a whopping ¾ of Americans believe that our healthcare industry is facing a "crisis." We are sick and tired of being sick and tired, and the medical establishment is responding inadequately to our demand for more effective treatment.

For the most part, current medical treatment comes in the form of pills and procedures, which can save lives in acute emergencies but are inadequate for those interested in healing chronic illness and embodying true prevention and wellness. Still, we are tempted with all sorts of promises, wasting our time and money in the process. We deserve better. Indeed, it is time to emerge from our healthcare rut and embark on the path of optimal wellness: Lifestyle Medicine.

Last Word

People are falling over themselves to look and feel younger. We know this because millions of dollars are being spent each year on all sorts of so called anti-aging products. These products range from surgical options to injections, therapies, supplements, pill and creams. Yet the very "real deal" for staying younger and healthier is right under their noses.

Proper exercise will give you benefits that none of the above methods can ever give you.

None of them can:

- transform your body
- give you unlimited energy and vitality
- make you stronger and more vibrant
- make you mentally strong and resilient
- prevent you from disease and illness
- prevent you from having aches and pains
- give you long-lasting health for life like proper exercise does…

Exercise is Medicine -The All-Natural, No Pill Prescription for Better Health and a Longer Life

Prevent, improve or solve almost any health issue.

We could safely say pretty much everyone wants to lose weight, feel better and live longer. People have spent decades waiting for a miracle pill to let them do just that. But what if that miracle drug already existed? And what if those results were just the beginning?

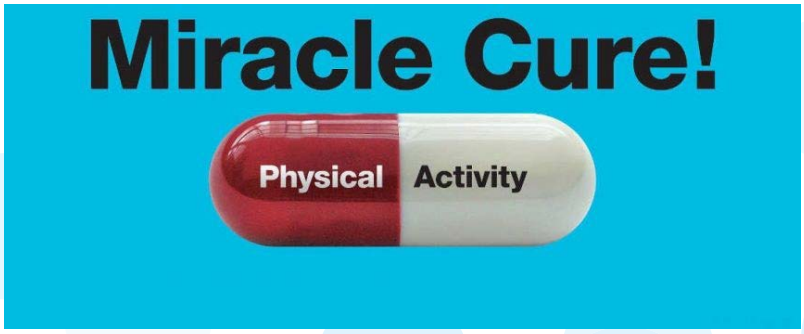
Imagine a medicine – a wonder drug, really – that can prevent disease by up to 80 percent, including heart disease, reversing type 2 diabetes, preventing and combating cancer as well as improving depression, and has incredible results boosting low energy, enhancing sleep quality, battling osteoarthritis, erectile dysfunction, and even PMS symptoms.

And what if the list of potential side effects read like this: Improved blood sugar regulation, healthy weight loss, lower blood pressure and cholesterol, improved mood, stronger muscles, thicker bones, better circulation, increased flexibility, better coordination and an ability to function day to day at a higher level and for a longer time?

If this wonder drug existed, you'd take it wouldn't you?

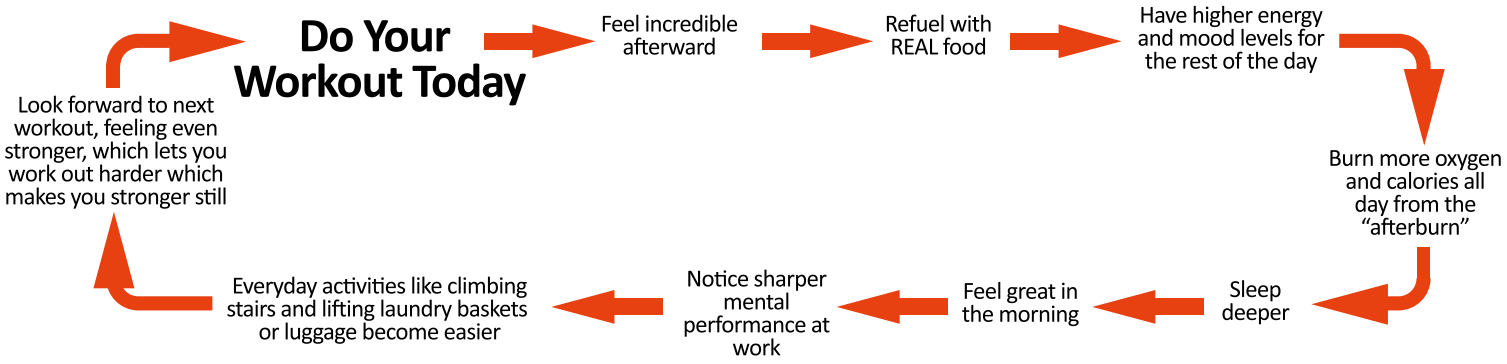
Well, it does exist, and you can take it, starting today.

Research has proven, time after time that **EXERCISE IS MEDICINE**. It has real, measurable and lasting positive effects of almost every health issue. All you need to do is take the right dose, at the right time to benefit from the world's most effective medicine. It can give strength to the weak, energy to the tired, health to the sick and youthfulness to older people.



"Take care of your body, then the rest will automatically become stronger!"

It is so powerful it can set a cycle in motion that builds and builds on itself in a self-perpetuating loop. Start with "Do Your Workout Today!" and follow the arrows to see how your life will change for the better – all from an exercise session.



The Simple Self-Test You Need to Take Right Now

Brazilian researchers figured this one out, and I think every doctor should give this test to every patient. If anything, it will open everyone's eyes to the importance of regular proper exercise.

Here's what to do. Sit on the floor, Indian style is good. Now: Stand up.

Do so without worrying about speed, and do so with the absolute minimum help you need (whether it coming from using hands, another person, a wall or furniture).

That's it. That's the test. What does it prove?

The researchers tested 2,000 men and women ages 51 to 80. Those who could stand up without having to use assistance lived longer than those who couldn't. **A lot longer!**

Those who got up on their knees and needed help from a table wall or another person to stand where six time more likely to die prematurely than the non-help group. Why?

This very simple test reveals ***everything*** about your current strength, flexibility and coordination. In this research group those who could rise using one hand, or with no help at all where in the top 25 percent for musculoskeletal fitness.

It's so simple….the higher your strength and fitness level the longer you will live.

"What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?"

Sure the people in this research were older, but it's highly likely a LOT of younger people would have a tough time standing up from the sitting position without any help.

Take it to heart folks and take this test. If you have any trouble with it get yourself started on a strengthening exercise program right away then retest yourself in a few weeks' time. Try it as your life may depend on it!

I Prescribe This Medicine to Myself – Every Day

Not so long ago, people who exercised like myself were considered "fringe" and a bit weird but now science has caught up and it has gone mainstream and the benefits widely known.

I see the incredible personal payback of over three decades of regular exercise when I look in the mirror. I also see feel the benefits of having tons of energy and being able to create new businesses and travel the world when others are winding down and marking time after retirement.

It allows me to be more, to do more and get more out of this last third of life. It means the health span can match the life span.

Humans were made to be active – very active. Physical movement makes us happy. Lying around watching the world go by makes us sad. It's little wonder that anti-depressant drug usage has increased 400 percent in the last decade.

I find it so incredibly disturbing that millions of people are suffering (and dying) from a ridiculous number of self-inflicted health issues – some major some minor that could become major – because they lack basic strength and fitness.

I make no apology to try and get as many people moving as possible. So, I'm glad you're here and I need your help to make this world a better place not only for our generation but for future generations.

If I can help you get a proper program cemented into your life so you can enjoy these fantastic unrivaled benefits (and who wouldn't?) I can offer the following….

How to Avoid the Health Crises Associated With Aging…

Here we are at the end of the book and by now you might be wondering to yourself "Is there an easy way to sidestep all the health problems that seem to be a consequence of avoiding exercise over a lifetime?"

The short answer is that, no, there doesn't seem to be an easy way out here. But that's also not to say that if you have avoided exercise until now it's too late to begin to worry about the consequences. It's never to late to take action and real benefits to your long term health and longevity are likely to be the result of engaging in some form of exercise going forward. Even if exercise has largely been absent in your life to this point.

At the beginning of the book I asked a simple question: "What happens to your body when you decide not to exercise?"

I've now answered that question and proved to you that the benefits of exercise far outweigh the inconveniences associated with taking action.

Recently I asked myself whether there might be a way to come up with a simple workout, no more than 10 MINUTES in duration, that could be used two or three times a week to stave off the ill effects of aging. Something to counter all the health problems outlined in this book.

I realized that there IS such a workout.

It's one that can be performed in your own home with the barest minimum of equipment - something known as a sandbag.

I particularly like sandbag workouts because not only do they allow for such short workouts, allowing them to be checked off your schedule quickly, the sandbag has the advantage that it can be taken with you anywhere you care to go. It's entirely portable.

If you'd like to know more about how this works, including how to get access to a FREE mobile app designed to manage your sandbag workouts, simply go here:

http://projectmefinallyfit.com/

And if you'd like to check out the sandbag I recommend for training, here's where you can find details on that and reviews of the product:

http://projectmefinallyfit.com/sandbagamzn

Thanks for taking the time to fully digest this book and allow yourself the opportunity to take advantage of the information it provides.

To long life and superior health,

Carolyn Hansen

References

1. Research article Tufts University Health & Nutrition Letter - 10 Determinants of Aging You Can Control (May 2006)

2. Resistance Exercise Reverses Aging in Human Skeletal Muscle
Simon Melov1, Mark A. Tarnopolsky, Kenneth Beckman, Krysta Felkey, Alan Hubbard

3. How exercise -- interval training in particular -- helps your mitochondria stave off old age
ScienceDaily. 7 March 2017.

4. Enhanced Protein Translation Underlies Improved Metabolic and Physical Adaptations to Different Exercise Training Modes in Young and Old Humans
Matthew M. Robinson, Surendra Dasari, Adam R. Konopka, Matthew L, Johnson S. Manjunatha, Raul Ruiz Esponda,

5. Mayo Discovers High-intensity Training Can Reverse Aging Processes In Adults
Mayo Clinic 10-Mar-2017

6. Strength Training Can Boost Your Long-Term Memory and Lower Your Risk of Dementia
Dr. Mercola October 24, 2014

7. Lifting Weights, Twice a Week, May Aid the Brain
Gretchen Reynolds

8. Physical Exercise Boosts Your Brain Power in 20 Minutes, Helps Stop Brain Shrinkage

9. Healthy Mind, Healthy Body: Benefits of Exercise
Myechia Minter-Jordan, Irene S. Davis, Zolt Arany

10. Spartano NL, Himali JJ, Beiser AS, et al. Midlife exercise blood pressure, heart rate, and fitness relate to brain volume 2 decades later. *Neurology*. 2016; doi: 10.1212/WNL.0000000000002415.

11. Willey JZ, Gardener H, Caunca MR, et al. Leisure-time physical activity associates with cognitive decline: The Northern Manhattan Study. *Neurology*. 2016; doi: 10.1212/WNL.0000000000002582.

12. Exercise training increases size of hippocampus and improves memory
Kirk I. Erickson,[a] Michelle W. Voss,[b,c] Ruchika Shaurya Prakash,[d] Chandramallika Basak,[e]

13. Midlife Physical Activity and Cognition Later in Life: A Prospective Twin Study.
Iso-Markku P, Waller K, Vuoksimaa E, Heikkilä K, Rinne J, Kaprio J, Kujala UM.

14. Sitting-Time, Physical Activity, and Depressive Symptoms in Mid-Aged Women
Jannique G.Z. van Uffelen, Yolanda R. van Gellecum, Nicola W. Burton, Geeske Peeters, Kristiann C. Heesch Wendy J. Brown

15. Increasing muscle strength can improve brain function: study
New research from the Faculty of Health Sciences - October 2016

16. The Power of Exercise: Buffering the Effect of Chronic Stress on Telomere Length
Eli Puterman, Jue Lin, Elizabeth Blackburn, Aoife O'Donovan, Nancy Adler, Elissa Epel

17. Kicking Back Cognitive Ageing: Leg Power Predicts Cognitive Ageing after Ten Years in Older Female Twins
Steves C.J. Mehta M.M, Jackson S.H.D, Spector T.D

18. Physical activity and risk of neurodegenerative disease: a systematic review of prospective evidence