

# HEALTH CARE / SELF CARE

## A Nine Month Wellness Education & Health Restoration Program

**Congratulations!** You have decided to embark on a journey of self discovery that, I guarantee, will change your life. By choosing this program I assume you believe there is a need in your life for such change. A change to become a healthier individual and a change that will result in all the benefits an improved state of health affords.

Like any focused venture this journey will require effort. Time will need to be set aside each day in order for you to grasp the information presented and develop the healthy habits necessary for your body to maximize its self healing capabilities.

But don't let this scare you. While this journey may at times challenge your comfort zones it is designed to pique and satisfy your intellectual curiosity and to provide a healthy community within which you will receive the support needed to easily achieve your goal of improved health.

**Education:** The program will cover on a basic level many areas of human physiology, allowing you to master the anatomy and physiology of the **body's stress response**. It is the body's stress response that, while normal and life-saving during periods of acute distress, is at the root of chronic illness.

**Belief Systems:** This program will not force any particular "belief system" on you. Belief systems are simply intellectual conclusions you arrive at yourself after any educational experience.

**Behavior:** After being educated on how our bodies are programmed for health and not disease I believe new and self-concluded belief systems will empower you to choose healthy behaviors regarding diet, exercise, and positive attitudes that support these self healing abilities.

**Health:** By addressing your diet, exercise habits and attitude based on Health Care / Self Care concepts you will enjoy all the benefits that an improved healthy state allows: vitality, energy, intellectual stimulation, and improved focus on pursuing whatever it is that you believe will make you a more fulfilled human being.

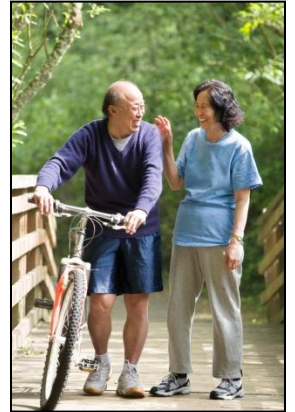
Yours in Health,

Joe Dockery, D.C.  
Certified Chiropractic Wellness Practitioner

# Health Care



# Self Care

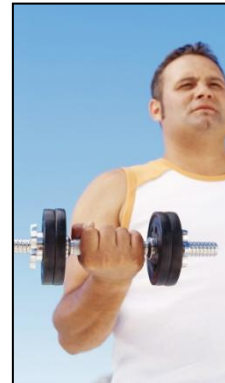


## Exercise Module

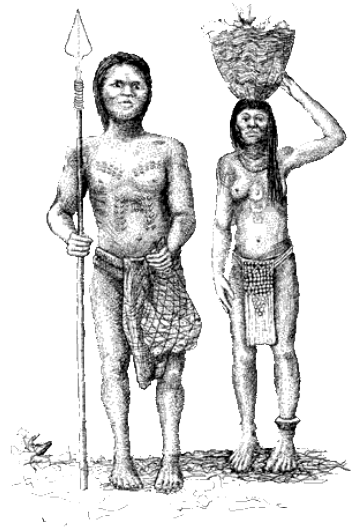
**Flexibility**

**Strength**

**Aerobic**



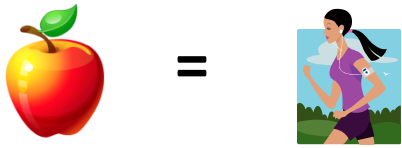
Natural selection occurred during times of obligatory physical activity. We often view our ancestors as brutes, but what we do not appreciate is that we have evolved into superior beings as a result of the developing intelligence of our ancestors. They learned to use their brains to find food and survive, not just their brute strength. We will learn how the very areas of the brain that allow us to dream, plan and create are the same areas that govern movement.



Similar to the fact that today our bodies require the same foods that fueled our evolution, our bodies also REQUIRE the same levels of physical activity as our ancestors in order for normal expression of human physiology.

Anything less and homeostasis is disrupted, leading to dis-ease and susceptibility to illness.

Nutrients



Apple – provides good carbs, fiber, vitamins necessary for healthy cell function.

Exercise – stimulates production of brain chemistry necessary for healthy cell function.

Exercise, we will discover, is an **ESSENTIAL NUTRIENT**.

We will also learn how a sedentary lifestyle actually leads to faulty physiology, decreasing the body's ability to fully assimilate food properly, and lessens our ability to deal with stress.



**Our hunter-gatherer ancestors may not have made a practice of lifting heavy stones or running around in circles for exercise, but their very existence depended on a life that was inherently strenuous. Simply hunting and gathering and cooking kept our species active most of the day.**

### **Exercise and the Blood Glucose/Insulin Dynamic**

- **Not only do we modern humans have more fat deposition than our lean and physically fit ancestors, we also have less muscle mass. It has been shown that “ A disproportionate amount of adipose relative to skeletal muscle reduces the blood-glucose-lowering effect of a given pancreatic insulin secretory pulse so that additional insulin secretion is necessary to achieve appropriate blood glucose levels.” (Eaton & Eaton. An Evolutionary Perspective on Human Evolution. 2003.) In other words, over-fat and under-muscled humans require more insulin than normal, contributing to pancreatic stress.**
- **Physiological processes in the body have evolved to support physical activity. The healthy expression of our genes (phenotype) actually depends on a high level of physical activity. “For example, we hypothesize that the phenotypic expression of insulin resistance in skeletal muscle initiates whole body insulin resistance, which in turn is associated with atherosclerosis, hypertension, truncal obesity, and Type 2 diabetes.” (Booth, et. al. Waging war on physical inactivity. Journal of Applied Physiology. 2002.)**
- **Exercise also increases insulin sensitivity (vs. insulin resistance) in skeletal muscles, meaning that less insulin is needed for glucose transport into muscle cells. The system is much more efficient due to exercise.**



## Exercise and Heart Health

- The heart is a muscle, and just like exercising the bicep strengthens that muscle, exercise strengthens the heart's endurance.
- The blood vessels are also muscle, smooth muscle, and they respond just like the bicep or other skeletal muscles.
  - The lining of the blood vessels (endothelium) weakens from inactivity, which has been found to be a precursor to atherosclerosis, a buildup of plaque within the endothelial lining.
  - Increased heart rate and increased blood volume causes a stress on the walls of the arteries, strengthening them similar to skeletal muscles' response to resistance exercises. Aneurisms can be prevented with strengthening of the artery walls via exercising and increasing heart rate.
- Both type 1 and type 2 diabetes and high blood pressure results in arterial wall dysfunction. Exercise decreases obesity, lowering diabetes risk and high blood pressure.



## Exercise and Lung Health

- Exercise strengthens breathing muscles, including the diaphragm and the chest, allowing for greater intake of oxygen and greater release of carbon dioxide.
- Flexibility exercises will decrease the resistance to chest wall expansion that tight chest and intercostal muscles will cause.



## Exercise and Bone Health

- Bone cells are constantly being absorbed and replaced. When there is stress on the bone, from both impact and contraction of muscles that are attached to the bone, the brain senses the need to keep the bones strong, preventing osteoporosis.
  - Weight training is recommended for ALL ages.
- Inactivity sends the opposite signal where the brain perceives less need for strong bones and allows the rest of the body to seek calcium and other nutrients from the bone for use elsewhere, leading to OSTEOPOROSIS.



## Exercise and Fats

- Exercise reduces low density lipoproteins (LDL – Bad cholesterol)
  - Remember that LDLs build up on the side walls of the arteries (plaque) causing atherosclerosis.
- Inactivity increases LDL cholesterol.
- Exercise increases high density lipoproteins (HDL – Good cholesterol)
  - Breaks down triglycerides which are then converted to HDL's.
    - HDLs clean out the arteries and decrease the plaque.
- Inactivity decreases HDL cholesterol.

## Exercise and Gall Bladder Function

- By decreasing glucose tolerance, raising bad cholesterol levels, increasing blood triglycerides, slowing digestion, among other dysfunctions, inactivity has been shown to be a risk factor for gall stones.
- On the other hand, exercise increases glucose tolerance, lowers LDL, decreases triglycerides, and normalizes digestion time, all helping to prevent the formation of gall stones.

## Exercise and Joint Health

- **Joints are made to move. They have evolved to expect and even to benefit by movement and stress. Arthritis is due more to poor diet and lack of movement, and not from overuse.**
  - **Injury, indeed, can lead to arthritis, but rehabilitation of injuries incorporates movement and joint stress to stimulate healing.**
  - **It is those who are injured and overreact by not using the joints that lead to degenerative changes.**
- **Inactivity promotes:**
  - **Disorganization of the cartilage lining leading to cartilage damage.**
  - **Ligament thickening and subsequent decreased range of motion.**
  - **Vertebral disc narrowing.**
  - **Calcium buildup within the bone along borders of the joint.**
  - **Decrease in synovial fluid secretion which decreases lubrication and nutrients.**
- **Exercise promotes healthy joint structure stability, encourages lubrication of the cartilage, allows normal nutrient access, and prevents ligament thickening, thus guarding against arthritis.**



## Exercise and Brain Function (I saved the best for last)

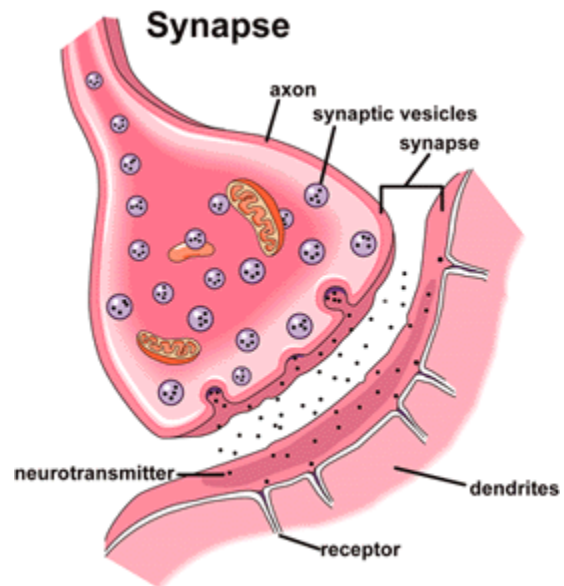
- **Simply put, exercise makes the brain function at its best.**
  - **Healthy heart, artery, and lung function are essentially side-effects.**
    - **The point of exercise is to build and condition the brain. (Spark by J. Ratey, MD)**
- **Learning is all about developing new connections in the brain to allow the relay of information.**
  - **Everything we do, say, feel, think depends on how our brain cells (neurons) connect to one another.**
  - **The brain is not static, but is flexible (plastic) and new connections are constantly being formed (or not!).**



- Exercise supports the development of these new pathways, preparing ourselves for the absorption of information!!
- Here's a few examples how:

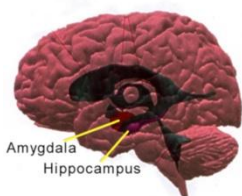
- **Neurotransmitters**

- Chemical links between nerve cells that transfer “information” to another nerve cell. Information either stops or continues on depending on the action of the neurotransmitter.
- Glutamate
  - Excites by stirring up activity.
- GABA
  - Balances hyperactivity by decreasing activity.
- Serotonin, Dopamine and Norepinephrine.
  - These are regulators or “fine tuners” and are essential in controlling mood.
    - Aerobic exercise elevates these neurotransmitters, helping to balance brain activity.
      - Exercise is literally like a shot of Prozac!



- **Brain cell growth**

- Healthy brain cells are required for new pathway development, learning and memory.
  - BDNF (Brain Derived Neurotrophic Factor)
    - A building block protein that is present in the hippocampus, the brain's learning center.
      - When you take in information there is an interaction between neurons. Repeat stimulation of the same pathway causes the “receiving” neuron to produce more of this building material, increasing the ease of nerve transmission.



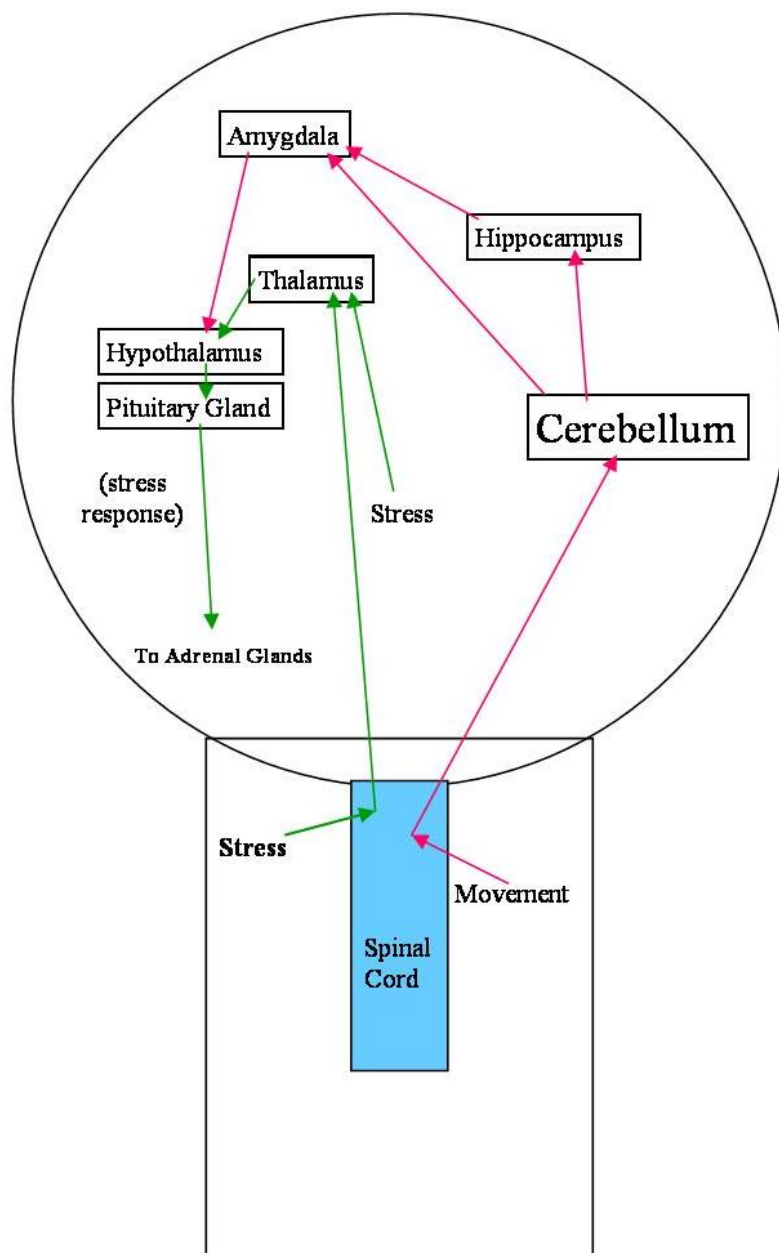


- **Control of the Hypothalamic-Pituitary-Adrenal Axis.**
  - We know exercise will help use up the sugar and stress hormones dumped into the system during the fight or flight mechanism.
  - Exercise also stimulates the cerebellum which is responsible for coordination of movement and overall balance.
  - The cerebellum is intimately involved with the same pathways that stimulate the stress response, but with the opposite effect.
    - Aerobic exercise produces a calming affect by turning off the stress response, which is why runners experience the “runner’s high”.

**STRESS:** thalamus to the Hypothalamus to the Pituitary Gland to the Adrenals, where stress hormones are released.

**EXERCISE:** stimulates the cerebellum which in turn stimulates the hippocampus and amygdala and then on to the Hypothalamus...

Exercise affects the hypothalamus in a way that minimizes the stress response!!



## AEROBIC vs ANAEROBIC EXERCISE

Your body metabolizes energy while exercising. When oxygen is utilized along with sugar and fats to release this energy **aerobic metabolism** is at work.

When oxygen is not utilized in the production and release of energy then **anaerobic metabolism** is taking place.

It is important to exercise the body utilizing both types of metabolism in order to prepare us for the variety of demands required by daily living; both short bursts of energy (anaerobic) and the longer, more sustained endurance activities (aerobic).

Have you ever started a run or exercise class and became fatigued rather quickly? That is the anaerobic stage of metabolism. With quick bursts of activity the body utilizes stored energy without the complicated procedure of involving oxygen. This can be quite taxing on the body, however, causing you to breath heavily in order to “get the oxygen flowing”.



Weight lifters promote *anaerobic metabolism* in their short bursts of muscle contractions when lifting the barbells. Muscles will fatigue rather quickly due to the lack of oxygen involved in energy metabolism and the subsequent buildup of lactic acid associated with non-oxygen aided breakdown of glucose.

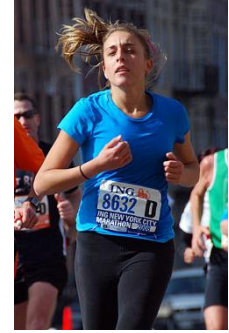
However, this type of exercise does promote strength, speed and power! It also promotes the “chiseled” look and the “six pack” stomach. But ask these “brutes” to run more than a quarter mile and they may collapse.

Now, during that run or exercise class where you found yourself fatiguing quickly you may also have found that if you just hung in there you began to settle down, easing into the rhythm of the exercise. This is where your *aerobic metabolism* began to take over. Your body began efficiently utilizing oxygen, and the fatigue factor, associated with lactic acid buildup caused by non-oxygen aided energy metabolism, lessened.



## Second Wind vs. Hitting the Wall:

During a marathon a runner may experience immediate fatigue (anaerobic exhaustion) as the excitement of the race and the competitive atmosphere causes her to burst from the starting line. But eventually the “second wind” kicks in and the runner settles into a rhythm. This is aerobic metabolism over-influencing the anaerobic metabolism.



But let’s say a runner’s goal is to run the race in four hours, and at the 22 mile mark realizes he needs to run the remaining 4 miles at an 8 minute mile pace. If he quickens the pace he falls susceptible to the anaerobic stage of metabolism kicking in because of the quick burst. Remember, this can be quite fatiguing and the runner may “hit the wall”, causing cramps to develop and requiring a much slower pace in order to recover.

**We do not need to be taking our bodies to such extremes!!**

**Health Care Self Care is about promoting HOMEOSTASIS**

Promoting homeostasis is the key and is achieved through a reasonable balance between stretching, strength, and aerobic exercise. Stretch and strength help in easing our activities of daily living (ADLs), while aerobically fit individuals think more clearly, are more apt to accomplish goals, recover quicker, and live longer!

### **Minimum Requirements:**

#### **4 Times / Week:**

Stretch - **15 minutes minimum**  
Resistance - **(50 sit-ups / 25 pushups)**  
Walk - **(A brisk 1.5 miles)**

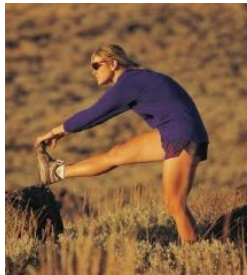
#### **3 Times / Week:**

Aerobic - **Raise heart rate to 120 beats per minute for 20 minute duration.**  
Resistance – **30 minutes with bands, weights or calisthenics.**

# FLEXIBILITY

## Increase Power & Prevent Injuries

**Increasing Power** – Strike a volleyball with half of a wind-up and the ball will travel “X” amount of feet. However, if you strike the same ball at the same rate of acceleration, but having increased the angle of your shoulder and elbow, striking the ball with a full wind-up, the ball will travel considerably further. As you contract the muscles of the shoulder and arms that are involved in striking the ball the arm travels at an accelerating rate of speed. It makes sense then that by the time the fully extended arm strikes the ball it will be traveling at a greater rate of speed than the half wind-up, delivering a more powerful blow.



By increasing your joints’ ranges of motion you will move with much more power and without expending more energy.

Proper posture, which is so important in performing activities of daily living, is much easier attained when the joints of the body enjoy their intended and full ranges of motion.

**Prevention of Injuries** – A muscle remains strong within the range of motion it is exercised. Beyond this range the muscle weakens. Often during the day our momentum may be moving in one direction when we are required to respond to something that causes us to quickly change direction, like when something slips from our grip, or when playing tennis and the ball is hit “behind” you. Also there are times when the joints and muscles are stretched beyond your “normal” range as in reaching for something at an “odd” angle. At these times the joints are susceptible to injury. However, when stretched regularly these joints are then used to moving smoothly through a greater range of motion, thus maintaining their strength and stability during quick reversal of direction or when required to go beyond a normal working range.



### Stretch Resources:

- Dr. Dockery’s Spinal Stretch DVD
- Athletic warm-up exercises
- Yoga type stretches
- Aerobic exercise cool-down stretches
- Develop your own ROUTINE
  - not just before and after exercise.

# RESISTANCE EXERCISES

## Aid in ADLs - Activities of Daily Living

### Options:

#### ▪ Free Weights (or nautilus type machines)

- Overhead Press
- Shoulder Shrugs
- Rows
- Curls
- Triceps Extensions or Dips
- Chest Press on bench
- Squats
- Heel Raises
- Power Cleans (even with light weight)



#### • Resistance Bands

- Shoulder/Chest Flexions (band secured in door jamb - 3 angles - facing away)
- Shoulder/Back Extensions (band secured in door jamb - 3 angles - facing door)
- Chest Press (door jamb - sitting with back to door)
- Shoulder Abductions (band secured under feet – sitting or standing – one arm at a time)
- Overhead Press (band secured under feet – sitting or standing)
- Curls (band secured under feet – sitting or standing)
- Bent over rows (band secured under feet – one arm at a time)

#### • Calisthenics (use of an exercise ball is also recommended)

- Sit-ups (full, crunches, with twist, oblique, bicycle)
- Push-ups (against a wall, on knees, conventional, torpedo)
- Pull-ups
- Squats
- Squat Thrusts (Squat, thrust to plank, return to squat, jump upward)
- Lunges
- Lateral Leg Lifts



**Dr. Dockery will help develop an individual protocol utilizing many of the above options.**

# AEROBIC EXERCISE

## Healthy Cardiovascular, Lung & Brain Function

The minimum requirement for homeostasis is for the heart rate to be increased to 120 beats per minute for 20 minutes, three times per week.

*(This rule is not steadfast. I raise my heart rate to 160 beats during aerobic step class or while on the elliptical machine. But others, due to previous heart conditions or other ailments, may safely max at 80 beats per minute. I will help you establish a safe target heart rate.)*

### Options:

#### Indoor

- Stair climbing
- Elliptical Trainer
- Rowing machine
- Stair climber / Stairmaster
- Stationary Bicycle
- Treadmill



#### Outdoor

- Cross-country skiing
- Cycling
- Inline Skating
- Jogging / Running
- Brisk Walking



#### Indoor / Outdoor

- Step Aerobics Class
- Low-impact Aerobics
- Swimming
- Jumping Rope
- Dancing

