



THE EFFECTS OF EXERCISE ON HEALTH AND WEIGHT MANAGEMENT

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Summary: Numerous medical studies have demonstrated the benefits of exercise in improving cardiac health, reducing risk of cancer, stroke depression and type II diabetes. Weight loss programs that include exercise have also demonstrated significantly better outcomes than programs that do not include exercise. Regular exercise is an important factor in weight loss and maintaining optimal health. Exercise programs can be introduced with minimal effort and expense and are a viable option able bodied and disabled individuals.

Can you lose weight without exercise? The simple answer is yes, but in reality, regular exercise makes losing weight and keeping it off a lot easier. This is well supported by research that has shown that weight loss programs that include exercise are much more likely to succeed[1-4]. Before we address how exercise helps you lose weight we should talk about the other benefits of exercise. Exercise can reduce the risk of developing cardiovascular disease, hypertension, colon cancer, stroke, depression and type II diabetes[5, 6]. As you may have already guessed, physically active people are not only healthier but they also feel better and live longer than people who don't exercise[7, 8]. Whether you are losing weight or not, exercise is extremely beneficial to your health.

EXERCISE AND CARDIAC HEALTH

How does exercise improve cardiac health? One important way is that exercise increases levels of high-density lipoprotein, the good cholesterol, and lowers blood levels of low-density lipoprotein, the bad cholesterol[6]. Serum triglycerides, another

predictor of cardiac disease also typically goes down when HDL levels go up. Lower serum LDL and triglycerides, and increased serum HDL reduces the chances of plaque formation in



arteries, thus lowering the risk of developing heart disease. Exercise when combined with a low fat diet not only prevent heart disease but can even reverse it[9]. How much does exercise help us? A Recent Harvard study showed that running for an hour or more

a week reduces the risk of coronary heart disease by a whopping 42%[10]! Even brisk walking for ½ hour per day reduced the risk of heart disease by 18%. Exercise that is 50% of maximal effort has also been shown to lower blood pressure thus reducing another cardiac risk factor[6].

PREDIABETES, DIABETES AND EXERCISE

It's more than just your cardiac health that's at stake. Numerous studies have shown that Type II

diabetes develops less frequently in individuals who exercise regularly compared to those that don't[6] [7]. One theory to explain this is that exercise improves insulin sensitivity, thus lowering the need for insulin, insulin secretion, and the risk of developing diabetes itself[11]. Glycosylated hemoglobin, a marker for chronically elevated blood glucose levels, is reduced in those who exercise regularly[3]. Physical activity also reduces the tendency towards hypoglycemia, a condition of low serum glucose[12]. Can exercise help prevent adult onset diabetes? Based on numerous scientific studies, yes, it absolutely can and does!

CANCER AND EXERCISE

If lowering your risk of heart disease and diabetes isn't enough, then consider the fact that clinical and observational studies indicate that physically active people have a lower incidence colon cancer[6, 13, 14]. There is also a firm belief among medical practitioners that surviving cancer is more likely in individuals who are fit.

DEPRESSION AND EXERCISE

How do people feel that exercise regularly? A number of studies have examined how exercise affects mood. Not only do individuals that exercise regularly have less depression but, those *with* depression have improvements in their symptoms after several weeks of regular exercise[14]. A study published in the Archives of Internal Medicine studied 150 men and women suffering from major depressive disorder (MDD)[15]. Exercise and medications were compared in their effectiveness in treating MDD. Initially, medication appeared to be more effective but by 16 weeks, exercise was as effective as prescription medications in relieving symptoms of major depressive disorder. We all know from personal experience that exercise helps us manage stress. There is also a growing body of medical knowledge that shows that regular exercise provides an enduring resilience to stress[16]. Because starting a weight loss program can add stress to one's life, adding exercise can greatly

increase the likelihood of achieving your weight loss goals[6, 14].

EXERCISE AND WEIGHT LOSS

Is exercise absolutely needed in order to lose weight? No, one can lose weight without exercise. Imagine what would happen if you ate nothing and did nothing. You would lose weight because even at rest you are burning calories. So even though it is possible to lose weight without exercise, the dietary restrictions imposed in the absence of exercise are severe. This makes it more difficult for most people to succeed in losing weight and maintaining weight loss without a regular exercise program. Most individuals have greater success and find that it's easier to modify their diet *and exercise* than to severely restrict their caloric intake.

Exercise helps individuals lose weight and manage weight through several mechanisms. First, exercise consumes calories. Even without dieting, some individuals will lose weight just with regular exercise. The second way that exercise helps us lose weight is by changing the body's metabolism to favor weight loss through *glycemic response inhibition*. Remember that glycemia (elevated blood glucose) causes the release of insulin. And insulin promotes fat storage and blocks fat breakdown [17, 18]. Exercise reduces the tendency towards glycemia and improves insulin sensitivity[3]. This reduces insulin secretion so the body can *metabolize* fat instead of *store* fat. The third way that exercise helps us lose weight is by helping to relieve stress. Many people complain that they eat carbohydrates more when they are under stress. Recent animal studies have shown that eating carbohydrates releases stress-hormone like substances into the circulation[13, 19]. The implication of this research is that eating carbohydrates relieves stress through hormonal pathways involving the brain and adrenal glands.



This helps explain why snacking helps us deal with deadlines and other pressures. Obviously using exercise as a means of managing stress is going to work better for us than snacking if we are trying to manage our weight.

GETTING STARTED WITH EXERCISE

Are you convinced that exercise can be an important part of a successful weight loss program? If your answer is 'yes' then we can move forward. If your answer is no then you should probably suspend your skepticism and try it anyway! Let's get started then with your exercise program. First, remember that any amount of exercise is better than no exercise at all. So don't worry about starting low and going slow. For many people it's simply a matter of resuming some type of exercise they have enjoyed in the past. For those that don't know where to start, a walk around the block is a good start. Put on some comfortable shoes and take off at a pace that you find comfortable. Don't be afraid to rest as needed.



After a few weeks you will be surprised at how far you can walk at a brisk pace. Try to get in the habit of exercising daily but remember that once a week is still better than nothing. Check out our section on "The President's Council on Walking" for more tips and suggestions on a walking program. Many people seem to benefit from keeping track of how many steps they take each day. A pedometer, available at any sporting goods store is an inexpensive device that will allow you to do this.

What are some other options? Swimming pools are a great place to get exercise. If you are able to lap swim then go for it. Most public pools have exercise classes where you can do low impact water aerobic activities with a friendly group. A jogging vest can keep you upright in the water so that you can exercise without putting your head or face in the water. Most pools have these types of devices for your use or you can buy them at almost any sporting goods store. Don't worry about how you

look in a bathing suit at any pool that offers exercise classes. You will be amazed at how many people have overcome their body-image issues in order to get exercise. Community pools are full of people who are overweight and getting exercise in a safe, friendly and therapeutic environment. The staff at the pools will help accommodate your needs.

Your neighborhood gym is another great place to go for exercise. Virtually all gyms are staffed with friendly people who will show you how to use their equipment and help you set up an individual training program. Like any other place, you are likely to see all types of people and body shapes at the gym. So, check your modesty, self-image, shyness and vanity at the door so you can realize the benefits of regular exercise.

DISABILITY AND EXERCISE

Having a disability can offer some challenges to getting regular exercise. However, for most people with disability, exercise can help improve overall health and lessen the effects of disability[20-22]. A recent study of individuals suffering from mild multiple sclerosis showed that a significant amount of their disability was due to lack of fitness not the underlying disease itself[23]. Many local organizations for conditions such as arthritis, fibromyalgia, multiple sclerosis, muscular dystrophy, spinal cord injury and brain injury can make recommendations for exercise and fitness providers in your community.



Don't forget about your city! Most cities have recreational facilities that are accessible and staffed with knowledgeable people who can and will assist you. San Diego, California (by example) has about a dozen accessible city pools and another dozen accessible pools available through the YMCA, Jewish Community Center, and Boys and Girls Clubs. These facilities are typically very inexpensive to use and often offer

discounts to the disabled. If you prefer to exercise in your own home then you may want to obtain videos available for home exercise programs. These specialized videos can be found over the internet or through your local agency serving the needs of individuals with your particular disability.

TAKING THE FIRST STEP

Well, what are you waiting for? All of these exercise opportunities are there for you! Pick up the phone and call a friend who can take a walk with you, or call a gym in your area for an appointment or just get in the car and go to your nearest pool or other facility. If you do nothing else but start exercising today you will be on your way to feeling better and living healthier.

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