

# The Exercise & Aging I.Q. Test

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Who would like a simple way to increase energy, confidence and optimism? A way to lower BP, cholesterol, cancer risk. Something that can help build and maintain healthy bones, joints and muscles. A fun way to lose weight while lowering your risk of heart disease and diabetes.

- infomercial?
- miracle?
- Fountain of Youth?

Well it's not. But, it is the closest thing we have to it...EXERCISE!!!

First, we will discuss some general exercise facts and how response varies in children, and adult men and women. Finally, we will discuss diet and nutrition since aging gracefully requires integration of both.

## General

T/F Only strenuous exercise provides health benefits.

*False. Moderate exercise three times per week for 30 minutes is recommended by the surgeon general to improve cardiovascular health. This can include walking, dancing, gardening or doubles tennis. Additional health benefits can be achieved by increasing the duration, frequency or intensity of physical activity.*

Aerobic exercise requires \_\_\_\_\_ hours of rest between workouts to allow adequate recovery.

*Answer: 48 hours. Aerobic exercise involves use of large muscles in a rhythmic manner that can be sustained for a long period of time. A typical workout usually involves maintaining one's heart rate at 60 to 80% of maximum (maximum heart rate = 220 - age). As long as one does not push to exhaustion these workouts can be repeated every other day.*

Strength training requires \_\_\_\_\_ hours of rest between workouts to allow adequate recovery.

*Answer: 7 days. Anaerobic or strength training involves short bursts of activity that lead to muscular fatigue. Activities include weight lifting, pushups, isometrics, or lifting heavy rocks or small children. Recovery can take 7 to 14 days but can be facilitated by workouts involving submaximal efforts in between.*

Muscle mass declines by 1/ 5/ 10% per decade in sedentary individuals.

*Answer: 10%. The cumulative effects of inactivity are such that an active 65 year old can be as fit as a 30 year old sedentary individual.*

T/F Exercise increases the risk of arthritis.

*Answer: False. While sports related injuries to joints may increase the risk of arthritis, physical activity in the range recommended for health is not associated with joint damage and can help relieve arthritis pain and stiffness.*

## **Children**

What are the top two reasons children under 12 give for playing sports?

*Answer: To have fun and make new friends. Unfortunately, after age 12 participation drops off dramatically for a host of reasons – burnout, lack of support, inadequate skills, peer pressure. It's important for parents and coaches to encourage participation and make participation a fun and rewarding experience.*

T/F Children respond physiologically to exercise the same way as adults.

*False. The adaptive changes to stressing the heart, lungs and skeletal muscles are different in children than adults due to lack of circulating androgens. The effects on cardiac and pulmonary function are minimal compared to their postpubescent counterparts. Children do demonstrate a response to strength training but without the associated muscle hypertrophy seen in older athletes.*

T/F Children should not lift weights.

*False. Studies show that properly supervised weight training in prepubescent athletes can produce increased strength without significant injury risk. Nonetheless, it is advisable to wait until after age 15 to lift maximal amounts of weight to avoid potential growth plate injuries.*

## **Women**

T/F Women's muscle fibers are different than that of men and they therefore respond differently to training.

*False. The fibers are identical, however circulating androgens in men allow for greater muscle hypertrophy.*

## **Elderly**

T/F People over 65 should not lift weights.

*Answer: False. Studies have shown skeletal muscle to retain its ability to hypertrophy with resulting increased strength throughout life. Mother nature is forgiving. Even in those who were never active it is never too late to benefit from exercise.*

T/F Falls in the elderly are due to poor balance.

*Answer: False. Many changes occur including poor vision, loss of flexibility, muscle strength and coordination. Those over 65 years are the fastest growing segment of our society. Thanks to an emphasis on staying active the overall percentage of the elderly affected by chronic disease and disability is decreasing. A comprehensive exercise program should include attention to flexibility, strength, endurance as well as balance.*

Age related sports performance decreases due to

- a. loss of nerve fibers
- b. loss of muscle fibers
- c. loss of cardiac function
- d. loss of pulmonary function
- e. loss of desire

*Answer: All of the above. Unfortunately with time there is loss of nerve cells, reduced rate of muscular contractions, lower heart rate and cardiac output as well as diminished efficiency of oxygen exchange in the lungs. Nonetheless, the ability to respond to training remains. One's best defense against age related losses is to stay motivated.*

Which of the following provides the best opportunity for increased longevity?

- a. pharmaceuticals
- b. advanced medical procedures
- c. lifestyle changes

*Answer: c. While up to 15% of individuals can benefit from medical interventions to increase their longevity, it is estimated that 75% of Americans could do so with improved lifestyle choices. These include eating a balanced diet, regular exercise, not smoking, drinking in moderation and getting routine checkups. More important than increased longevity, however, all of these will improve one's quality of life.*

Problem:

One-third of the population is overweight.

60% of adults do not engage in regular physical activity.

Surprisingly, many people don't realize what efficient machines their bodies are and become easily discouraged when they don't achieve the desired results. Therefore, it is tantamount to integrate good food choices with exercise to maintain a healthy lifestyle.

## **Diet and Nutrition**

What is a calorie?

*Answer: A calorie is a unit of energy. Specifically, it is defined as the energy required to raise the temperature of 1 gram of water one degree Celsius.*

What are the majority of our ingested calories used for?

*Answer: Our body has a resting need for energy called the basal metabolic rate. This varies depending on height, weight and age. On average, it is approximately 1800 calories per day.*

T/F The only way to lose weight is to ingest fewer calories per day than you burn.

*Answer: True. There is no magic formula. While exercise increases energy needs, it is important to realize that the human body is an incredibly efficient machine. Jogging one mile burns approximately 100 calories. Therefore, if an individual were to run 2 miles per day, their energy needs would increase to 2000 calories per day. Surprisingly, that amount can be easily met with one meal at a fast food restaurant.*

Which diet is proven to be the healthiest?

- a. Intermittent fasting
- b. Atkins
- c. South Beach
- d. Zone
- e. Vegetarian

*Answer: Actually, none of the above. Each has its pro's and con's. The healthiest diet is one that involves eating normal foods in a normal way, with attention to variety and moderation.*

T/F It is normal to gain weight with aging.

*Answer: False. Basal metabolic rate decreases 2% per decade, therefore one's intake or activity level must be adjusted.*

T/F Nutritional supplements are natural, safe and effective.

*Answer: False. Supplements are a big business The FDA does not check them before they get to market. One should therefore be wary which they use and discuss them with your physician before mixing them with other medications.*

T/F Vitamins provide energy and make people feel more energetic

*Answer: Vitamins have no "calories" and therefore provide no energy. They do serve a vital function in facilitating many bodily processes. A well balanced diet provides all the necessary vitamins without the need for supplementation.*

T/F There is a new "fountain of youth pill" awaiting FDA approval.

*Answer: False. It is unlikely there ever will be. The best and most reliable investment you can make is in your health. The risks of chronic disease and disability are minimized, not so much by modern medical science, but by your attention to your own well being. Our greatest potential for healthy aging resides in remaining physically active. Successful long term exercise programs entail – fun, simplicity, socialization and the setting of realistic long and short term goals. Remember, you are in it for the long haul!*

*"We do not stop playing because we are old; we grow old because we stop playing."*