

## University of Missouri Extension

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# Exercise for the Older Adult

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America is experiencing a health-fitness revolution. Exercise clinics, health spas, "natural food" stores, diets of every kind and "do-it-yourself" exercise programs are very popular. Those taking part include people from all walks of life, both sexes and all ages.

Regular physical activity improves your physical and emotional well-being whether you are young or old. Improved physical capacity resulting from properly conducted exercise programs can help older adults do regular daily activities as well as recreation or sports. Activity programs are usually socially rewarding as well.

Exercise brings additional health benefits — better vigor, improved eating, sleep and rest habits, reduced risk of a variety of disorders including low back pain and cardiovascular disease, reduced reaction to stress, and the like. Getting into the "habit" of a regular physical activity program improves the quality of life, especially for the older adult.

Older adults who are thinking about starting a personal physical activity program need to understand some essential facts so as to get the most and safest benefits from it.

## What is physical fitness?

Physical fitness is the ability to carry out daily tasks with vigor and alertness, without undue fatigue. It also means having ample energy to engage in leisure time pursuits and to handle the stresses encountered in emergency situations. The average older adult is capable of reacting to normal daily activities such as dressing, shopping or walking. However, most steer away from "vigorous" activity.

Brisk walking, riding a bike, swimming, golfing, aerobic dancing, square and social dancing, and playing tennis, racquetball and volleyball are fun and within your capabilities if you are physically fit. They enrich your life, give physical and social variety and stimulation. Being in good physical condition also reduces the stress and effort required to do daily activities.

## Stressors

The things in life that cause stress are called "stressors" and are either positive or negative. They cause the body to undergo a variety of physical and mental reactions in an attempt to adapt to the changes. Physical activity is a stress factor that — if your body has adapted to it through proper conditioning — can have a highly positive effect upon your overall health.

For example, regular physical activity has been shown to slow some negative effects of the normal aging process and has even produced reversals in some of those factors. A few positive examples of regular physical activity programming include improved strength, flexibility, balance, agility and endurance.

## Types of physical fitness

The two main types of physical fitness are

- Performance-related fitness
- Health-related fitness. Performance-related fitness components are those necessary to perform well in sports activities. They include such components as coordination, speed, power, muscular strength, endurance, flexibility, body composition and agility.

Health-related components are important to your overall health and general well-being. They include cardiorespiratory (cardio meaning heart, respiratory meaning lungs) endurance, muscular strength (ability to repeat contractions), body composition (fat per lean composition), cardiovascular (heart and blood vessels) disease risk factor reduction, flexibility (mobility of joints), and relaxation and emotional stability. As you can see by their meanings, the health-related fitness components are also important for many sport activities, daily functioning and physical well-being.

Medical and scientific experts agree that health-related fitness components are major factors in "hypokinetic" disease control. Hypokinetic diseases are those related to, or the result of, a lack of physical exercise. While communicable diseases (such as influenza and tuberculosis) have declined, those related to a lack of physical exercise have increased. They include cardiovascular disease (the nation's number one killer), high blood pressure, low back pain, obesity and others. Even health concerns such as insomnia, mood, being underweight, and arthritis have been improved with a regular physical activity program.

## **How to start; what activities to do**

To start, and especially to stay with any physical activity program, you must be motivated. A mere understanding of the physical health benefits may be enough motivation. However, the motivation to continue in a program comes from the fact that you feel and look better.

The social contacts during your physical activity period may be your motivation; you have the opportunity to meet and visit with others who have similar interests.

## **Kinds of programs**

Programs that people take part in may be categorized into three groups:

- General conditioning programs
- Sports or games programs
- Low-intensity, weight control programs.

For positive health benefits to occur, the heart, lungs and other vital organs must be stimulated enough through exercise to grow stronger and work better. The first two program categories, if conducted properly, will produce those kinds of changes.

The third can change your body composition and produce weight loss by merely expending more calories than are taken in. The third also requires more time but will not necessarily be of sufficient intensity to enhance some of the other important fitness and health changes of the first two programs. Therefore, your activity program should be fitted to your personal needs and interest and can be done by following the suggestions given below.

## **Knowing your capabilities**

To determine if you are capable of undertaking a vigorous physical activity program, two people are important. The first is you! You know what you like to do, your present capabilities, and you can "read" yourself better on a day-to-day basis than anyone. After all, who knows you better?

The second person is your physician. Your physician is aware of your general health and knows the medications that have been prescribed for you and other health factors that will help you design your own activity program. The more information you can provide your doctor regarding what your physical activity program will include, the more helpful

his or her advice should be. Knowing that you understand what you will be doing should help your doctor to relate specifically to the considerations of your program.

## General conditioning

The general conditioning programs usually include whole-body activities such as walking, jogging, bicycling, swimming and dancing (aerobic and social), which involve the large muscle groups of the body. These are desirable because most of the body is active. Sports and games programs will often include individual sports such as racquetball, tennis and golf and perhaps a team sport such as volleyball. These types of programs require proper dress for the activity and the conditions at the time.

Include effective warm-up and cool-down procedures as part of your total activity period. Start your program gradually and progress slowly over weeks and months to allow your body time to adapt to the stress of exercise. Let your own body "tell" you how rapidly you can progress. A feeling of fatigue is normal following an exercise period, but pain is neither necessary nor desirable.

## Proper clothing

Proper clothing for an activity not only provides a reasonable comfort level to make the experience more enjoyable, but also adds to the safety of it. For most activities, loose-fitting clothes such as slacks and sweatshirts or warm-up outfits are appropriate for cooler weather, with shorts and light shirts acceptable for warmer weather. Supportive undergarments, athletic supporters for men and brassieres for women, generally add to the safety and enjoyment of the participant, but depend upon your preference.

Some authorities suggest that it is better to underdress than overdress for an activity because the body heat generated during the activity will warm you. Others say that it is easier to take layered clothing off, especially while exercising away from home, than to try to find something additional to keep you warm. Extremes of being either too warm or too cold present health hazards that should be avoided if possible.

## Shoes

Shoes are probably the most important articles of activity wear. You can save money by "making do" in other clothing areas, but to do so with foot comfort and support is unwise. A good deal of stress is placed upon the feet during activity, especially if it involves rapid direction changes, starting and stopping, as in many sports. Proper support for the feet also provides cushions for the knees and the back, both of which may be jarred in physical activity.

It is generally wise to buy good quality shoes that you can afford from a reputable dealer who caters to physically active people. Shoes are specialized for the specific activity, but often a good quality shoe will serve a variety of purposes. In making your choice, consider factors such as ankle support, width, heel height, and arch and heel support. Buy the shoe that fits you the best, not necessarily the most popular model, and consider the kind of activity that you most often take part in, such as walking or racket sports.

## Warm-up and cool-down

Warm-up and cool-down periods are important safety components of the overall conditioning process. A warm-up period of 10-30 minutes prepares the body for activity by increasing metabolism, warming muscles and loosening joints. It helps prevent injury, prepares the individual psychologically, and may take the form of walking, stretching and other moderate exercise. The cool-down, again 10-30 minutes, may be similar to the warm-up, and acts to gradually lower the body temperature and metabolism without the shock associated with abruptly stopping activity. The onset and cessation of perspiration will help illustrate the effectiveness of the warm-up and cool-down, respectively.

## **Evaluation and motivation, their importance and relationship**

When you take part in a personal physical activity program, you can actually see and feel many of the positive adaptations your body is making to exercise. Seeing the improvement helps motivate you to continue the program. The following are some ways to evaluate your progress in the health-related fitness areas.

## **Cardiorespiratory and cardiovascular endurance and disease risk factor reduction**

Some benefits of this area are easily felt, while others are not as apparent, although equally important. The term "cardio" refers to the heart, "vascular" to the blood vessels and "respiratory" to the lungs. Combined, the systems function to take in oxygen and dispose of carbon dioxide, both processes necessary to body functioning.

An observable cardiorespiratory improvement is the ability to perform daily tasks with ease. As this component improves, any tasks that require endurance are more easily performed. For example, walking, stair climbing, housework, even lifting and carrying things, will require less effort and, therefore, allow more available energy to do other things. For most people, the improvement becomes more apparent as they progress in their fitness program.

A more direct method of evaluating cardiovascular improvement is through heart rate (pulse) measurement. Because heart rate is closely related to work output, the rate that is measured immediately following work indicates how hard you were working. The speed with which you recover from activity and even your resting pulse rate are also indicators of the ability of your cardiorespiratory system's endurance.

As your fitness improves, the heart rate necessary for the same task will decrease. For example, let's say your exercise program includes walking a mile in 12 minutes. As your fitness level improves, you can walk the same amount with a lower end heart rate, and you will recover to your resting level more rapidly. This shows that your body can now perform the same work with less effort required of your heart and blood vessels as well as other systems of your body. After a while your heart rate at rest will probably decline, indicating that the body needs to expend less effort to maintain itself.

Several of the risk factors associated with cardiovascular disease (diseases of the heart and blood vessels) are often improved through regular physical activity. Improvements include reduced blood pressure, reduced blood serum triglyceride and cholesterol (fatty components of the blood), reduced weight, reduced emotional stress reaction, and the like. Improvements in these areas will decrease the individual's likelihood of developing cardiovascular disorders.

## **Flexibility and muscular strength and endurance**

It was once thought that as you gained strength using weight training or other techniques, you would lose body flexibility at the joints. That is not the case. For example, gymnasts have high muscular strength and endurance as well as flexibility. Older adults can maintain good levels of these components by incorporating mild strength and flexibility exercises in activity programs. Such exercises are part of the warm-up and cool-down phases of the program. As with cardiorespiratory improvements, increases in muscular strength, endurance and flexibility will make most tasks easier to do with less fatigue at their completion.

## **Body composition**

After young adulthood, the body loses about three percent of its active cells each decade of life. This is due to reductions in muscle and bone mass as well as other areas. Therefore, you should actually weigh less than when younger if your overall body composition is to remain unchanged. Roughly one-quarter of the body weight is fat in older adults, with women having slightly more than men. Regular exercise can alter this percentage and actually decrease the fat content while increasing the muscle mass — a change that is good for the body.

Many active people change their body composition without altering their body weight very much, if at all. They will often be able to wear clothes that are smaller, even though they weigh about the same. The reason is that they have actually altered their composition of fat and muscle (lean mass). Not only is the change observable, but it can be measured quite easily. The simplest method has been popularized in television commercials that illustrate the "pinch" test.

The amount of fat that you can pinch between two layers of skin will give you an estimate of your body fat. For women the best three sites to pinch are the back of the upper arm, the side of the hip and the middle front of the thigh. For men the best sites are the chest between the nipple and the arm pit, the abdomen just to the side of the naval, and the front of the thigh. Simple, inexpensive devices and tables are available to measure body fat. Standard height tables are usually not very accurate for this purpose.

## Summary

Your body is a complex intricate organism that responds positively to properly conducted physical activity. Remember that there are different types of physical activity, and you need to find the one best suited to your needs and interest. As you begin, you should learn your own capabilities for exercise, properly condition your body, wear proper clothing and shoes, and always allow for a period of warm-up and cool-down when you exercise.

The positive effects of your exercise program can be measured in a number of ways, including improvements in your cardiorespiratory and cardiovascular endurance; decreased risk of certain diseases; increased joint flexibility, muscular strength and endurance; and positive changes in the relationship of fat to muscle in your body. What better time than now to take advantage of the benefits you can provide yourself through physical activity.

## References

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