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Getting active I

Physical Activity for Weight Management

Most people believe physical activity is good for their health, but find it hard to put theory into practice. This program emphasizes activity as a critical component of successful, long-term weight management.

Studies show people who lose weight by dieting alone gain most of it back after a year; however, people who increase their physical activity, either alone or in combination with cutting calories, are more likely to maintain their weight loss long-term. This finding is especially true for people who have lost very large amounts of weight through medically monitored weight loss programs.

Regular physical activity is a key factor in achieving and maintaining a health body weight and contributing to mental health and well-being. To reduce risk of chronic disease, adults should engage in at least 30 minutes on most days of the week. In addition, to prevent the gradual accumulation of excess weight and sustain weight loss, 30-60 additional minutes per day may be required to stabilize weight. It is important to keep this guideline in perspective. Much of this activity can be met while going about your daily routine. Be active during leisure time; consider replacing sedentary activities such as TV or computer time with an activity. Physical activity can be done in short bouts, 10-15 minutes and accumulated throughout the day, since it can be hard to set aside longer time periods. Vigorous physical activity, such as jogging or aerobic activity, generally provides greater health benefits.

The list of other health benefits associated with physical activity is truly impressive. These benefits are listed later in this module. Earlier modules in this program have emphasized lifestyle activities—taking the stairs, walking while doing errands, gardening, and walking the dog.

It's important that you continue to accumulate activity through a variety of ways—at work, at home, and during your leisure time.

What specific benefits have you noticed as a result of becoming more physically active?

tools for success

- Recognize how exercise can help you manage your weight, reduce the risk of many common chronic diseases, and improve your overall sense of well being.
- Learn how walking can help you achieve these benefits, and how to fit more activity into your daily routine by taking mini-walks whenever possible throughout the day.
- Identify various styles of walking and walking techniques.
- Use the F.I.T. (Frequency, Intensity, Time) formula to plan a walking program.
- Recognize the benefits of using a pedometer to monitor your activity and motivate you to stay on track.

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Health Benefits of Physical Activity

Strengthens the heart — Like any other muscle, the heart becomes stronger and more efficient with use. The stroke volume increases (the heart pumps more blood with each beat) and the pulse rate decreases.

Improves oxygen uptake — Activity increases the exchange of oxygen between the blood and all other parts of the body.

Reduces blood pressure — Activity decreases the stress on the walls of the arteries, allowing the blood flow to increase and pressure to decrease. Increased blood pressure allows plaque to build up on the arterial walls, causing a chronic condition that contributes to coronary heart disease.

Reduces LDL (bad) cholesterol — LDL forms the harmful plaque on the walls of arteries.

Increases HDL (good) cholesterol — HDL breaks down LDL cholesterol so that it can't cling to the arterial walls.

Reduces the risk of premature death — Deaths from all causes (heart disease, stroke, even cancer) are higher for people with low physical fitness. Nearly everybody can participate in the minimum amount of physical activity needed to achieve a moderate fitness level and greatly reduce the risk of premature death.

Controls blood sugar — Activity improves the body's ability to regulate blood sugar, thus it may prevent type 2 diabetes. Improvements in blood sugar control for people who have type 2 diabetes is also likely with activity.

Slows bone loss — Bone strength is linked to physical activity. Bone, like muscle, gets stronger and thicker the more it is exercised. As individuals age, bones lose calcium and become more prone to fractures. Activity counteracts this trend.

Decreases appetite — Vigorous activity causes the brain to release a natural appetite suppressant. Although this effect only lasts a short time, you can use it to your advantage in

weight management. When you have a craving for food, engage in a short bout of vigorous activity.

Builds and firms muscles — Muscle is metabolically active tissue. The more muscle you have, the more calories you burn while at rest. Activity also strengthens the muscles, joints, tendons, and ligaments. Maintaining strength and flexibility of the legs, lower back, and abdomen can help prevent the development of back problems.

Reduces stress — Activity can dissipate the hormonal products of stress. Other psychological benefits of physical activity include improved self-esteem (feeling and looking good), less depression, more energy, better sleep, and improved satisfaction with life in general.

set goals

Start with simple goals and then progress to longer term goals. Remember to make your goals achievable and realistic. Track your progress by keep an exercise log of your activity and reward yourself when you reach your goals with a new pair of shoes or music to enjoy while you exercise.

Improves your mood — Exercise contributes to your overall sense of well being by increasing blood and oxygen to all your tissues. Exercise can also release endorphins, chemicals that block pain signals from reaching your brain and help alleviate anxiety and depression.

Encourages other health-promoting habits — An active lifestyle seems to be associated with avoidance of tobacco, alcohol, and other drugs, and healthful eating habits.

What Type Of Activity Is Best?

Aerobic activities use large muscle groups (buttocks, thighs, back), and raise the heart rate. Aerobic activities cause you to feel warm, perspire, and breathe heavily without being really out of breath and without feeling any burning sensation in the muscles.

There are many different types of aerobic activities you can do. As you consider the best type of aerobic activity for you, it's important to distinguish between weight-bearing and non-weight-bearing activities. All aerobic activities help you burn calories and strengthen your muscles, including that all-important muscle, your heart. Weight-bearing aerobic activities also strengthen your skeleton.

Weight-bearing activities include jogging, walking, stair climbing, racquet sports, and aerobic dance. These activities may not be appropriate for individuals who have bone or joint problems. A previous sports injury, a chronic disease such as arthritis or osteoporosis, or other physical problems could contribute to pain during physical activity, especially with excess weight. If any of these conditions are a problem for you, select low-impact weight-bearing activities (walking, low-impact aerobic dance, stair climbing) or non-weight-bearing activities.

Non-weight-bearing activities include swimming, cycling, rowing, and water aerobics. You may need to see a physician, exercise physiologist, or physical therapist if you have musculo-skeletal problems that could be a barrier to increasing your physical activity.

Monitoring Exertion

Borg Scale of Perceived Exertion (BSPE)

A popular way to monitor the intensity of your physical activity is to use the Borg Scale of Perceived Exertion. This scale has been used for nearly 40 years by physicians and exercise physiologists to help them communicate with their patients an on-the-spot description of one's sense of effort.

For example, if you're exercising at a level that you perceive as being fairly strenuous, you might assign a Rating of Perceived Exertion (RPE) of 13. If you're huffing and puffing, you would probably choose an RPE of 17.

During the first few weeks of your walking program, don't exceed an RPE of 13. After that period, you can walk (after appropriate warm-up and stretching) at a level of 13 to 15. Do not go beyond 17.

The Talk Test—Another Measure of Exertion Level

A simple way to evaluate exercise intensity is the "talk test." It is particularly easy to use while walking. You should be able to breathe comfortably, deeply, and rhythmically at all times during physical activity. You should be able to carry on a conversation. If you're breathing so hard that you can't easily talk, your activity is too intense. (On the other hand, if you are so comfortable that you can sing, you could probably work a bit harder.)

Rate	Description
6	
7	Very, very light
8	
9	Very light
10	
11	Fairly light
12	
13	Somewhat hard
14	
15	Hard
16	
17	Very hard
18	
19	Very, very hard
20	

Warning Signs

Stop activity immediately if any of these symptoms occur, and see your physician before resuming activity:

- Abnormal heart activity—irregular beats, flutters, or palpitations in the chest or throat, sudden bursts of rapid heartbeats, a sudden slowing of a rapid pulse.
- Pain or pressure in the chest, the arm, or the throat during or immediately after exercise.
- Dizziness, light-headedness, sudden lack of coordination, confusion, cold sweating, or fainting.
- Avoid strenuous activity immediately after an illness, particularly when a fever has been present. Some illnesses, especially viral infections, can lead to myocarditis, a viral infection of the heart muscle.

Adjust your routine and take precautions if you notice any of these symptoms. Consult your physician if symptoms persist:

- Persistent rapid pulse rate (more than 100 beats per minute) after 5 to 10 minutes of rest or longer. Reduce the intensity of the activity and progress to a longer period of activity at lower intensities.
- Nausea or vomiting after activity. Reduce the intensity of the activity and prolong the cool-down period. Avoid eating for at least one hour before activity.
- Extreme breathlessness lasting for more than 10 minutes after you stop an activity.
- Prolonged fatigue up to 24 hours after activity. Reduce the intensity and duration of the activity.

The remainder of this module is designed to help you start a healthful walking program. The companion module, *Getting Active II*, covers non-weight-bearing activities.

Advantages Of Walking

If you've been relatively inactive and aren't interested in, or ready for, aerobic dance or jogging, seriously consider the benefits of a walking program. Walking is the activity of choice for the majority of adults because it's easy to stick with. In fact, you can walk for activity for the rest of your life and enjoy the numerous health benefits. Or, you can use walking as a transition to help you get ready for other types of physical activity that you would like to do.

Recently the health benefits of walking have been confirmed in the laboratory and scientific literature.

For women, walking is associated with lowering the risk for coronary heart disease. This was accomplished by brisk walking for 45-150 minutes per week in the **Women's Health Initiative** and the **Nurses Health Study**, very much in line with current exercise recommendations of a minimum of 30 minutes of walking 5 days per week.¹

Also, research considering shorter periods of exercise time to accumulate that desired total of 30 minutes of activity shows us that when physical activity is done at moderate intensity—typically lasting at least 10 minutes at 3 different times of the day—the result is much the same as exercise done continually for 30 minutes.¹

Reference: 1. Haskell WL, Lee IM, Pate RR. Physical Activity and Public Health: Updated Recommendation for Adults From the American College of Sports Medicine and the American Heart Association. *Circulation*. 2007;116:1081-1093.

Another popular program, 10,000 Steps A Day is a guideline that helps people reach the national public health goal of incorporating 30 minutes of purposeful activity into their daily routine and burn about 150 more calories every day.

Participants used pedometers to motivate and monitor their activity level while working toward their 10,000 step goal. Pedometers, or step counters, are portable electronic devices, usually worn on a belt, that count every step a person makes. They were originally designed for sports enthusiasts but now many people wear them just for everyday step counting and to monitor their low-impact aerobic fitness activities.

Pedometers have become so popular that they are now being integrated into such electronic devices as portable media players and cellphones. Pedometers can help motivate you on a daily basis to reach your walking goal.

Walking is easy on the budget and the body. Walking requires no special clothing or equipment other than comfortable shoes, so its the least

make a plan

Find a convenient time and place to do your walking or exercise. Try to make it a habit, but be flexible. If you miss an opportunity to exercise when planned, work activity into your day another way. Vary your activity to keep boredom at bay.

expensive of all physical activities. And, because it can be done almost anywhere in all but the most severe kinds of weather, it is very convenient. Its simple, requiring no special skills or level of fitness to perform. And because it is inexpensive, convenient, and simple, people are more apt to continue walking throughout life, an important consideration since staying active is a lifetime job. The dropout rate for walking is 25 percent, compared with a 50- to 60-percent dropout rate for other exercise activities.

Other advantages of walking for weight management include:

- There is minimal risk of injury.
- Its low impact (1/5 the force of jogging or aerobic dance).
- Its a weight-bearing activity, increasing bone and muscle strength.
- Its sustainable for longer periods of time, resulting in longer periods of higher metabolism (more calories are burned).
- It elevates the heart rate in most overweight people enough to achieve a training effect.

Walking Styles

- **Standing and intermittent walking** in such activities as cooking, office work, and grooming tasks provide little cardiovascular benefit but add to your daily activity level. Try to stay on your feet for at least one hour a day in addition to the more moderate activity that you do.
- **Strolling and casual walking** (2 m.p.h.) such as shopping or walking with small children are considered "low intensity."
- **Purposeful or functional walking** (2 to 3 m.p.h.) gets you where you're going, burns some calories and can provide a needed break in stressful situations.
- **Brisk walking** (3 to 5 m.p.h.) provides significant health benefits when done often, intensely, and for long stretches.
- **Intermittent or interval walking** (2 to 3 m.p.h. and 3 to 5 m.p.h.) employs a variety of speeds, e.g., one minute of striding or fast walking alternated with one minute of regular walking. This technique adds variety and helps increase your overall walking pace.
- **Striding or aerobic walking** (4 to 6 m.p.h.) requires an increased length of stride and swinging the arms a full 90 degrees. The extra effort of the arms and legs increases intensity and burns more calories.

Your Walking Program (F.I.T.)

A common way to outline a walking program (or any physical activity program) is to follow the F.I.T. formula:

F — Frequency refers to how often the activity is done.

I — Intensity refers to the level of exertion at which the activity is performed.

T — Time refers to how long the exercise is performed.

The three elements can be varied to accommodate any level of fitness, and as fitness improves, the F.I.T. formula can be changed to ensure a safe and effective program.

An introductory walking program is provided below. The objective of the program is to gradually increase the total time of activity. Time and intensity are inversely related: when you increase the time (duration) of your walk, you reduce the intensity (pace).

Introductory Walking

Walking is safe for just about everybody. But before you increase your activity level, you may want to review the Physical Activity Readiness Questionnaire (PARQ) in the Becoming More Active module. Also, be aware of the warning signs that may indicate heart attack or other medical problems.

Walking should be brisk and uninterrupted. Maintain good posture while walking, and concentrate on pacing yourself to meet your time and distance goals. Begin slowly and gradually increase your time and speed. Wear shoes that fit properly. If this program seems too easy for you, progress to the next week's program.

Week	Frequency (Per Week)	Intensity (Dist. in Miles)	Time (Min.)	Week	Frequency (Per Week)	Intensity (Dist. in Miles)	Time (Min.)
1	3 - 4	1/2	13:00	9	5	2	28:45
2	3 - 4	3/4	20:00	10	5	2	28:30
3	3 - 4	1	26:00	11	5	2	28:00
4	3 - 4	1	25:00	12	5	2 1/2	35:00
5	4	1	24:00	13	5	2 1/2	34:45
6	4	1	22:00	14	5	2 1/2	34:30
7	4	1	20:00	15	5	3	42:00
8	4 - 5	1 1/2	30:00	16	5	3	42:00

key goals

Using the tips in this module, develop 2 – 3 goals to work towards.

1

2

3

Outdoor Safety Tips

If you are going to be increasing your physical activity outdoors, here are a few helpful hints to keep in mind:

- Carry identification, and medical information where appropriate. Or, write your name, phone number, and blood type on the inside sole of your shoe.
- Leave your jewelry at home.
- Carry a cell phone, or change for phoning.
- Walk with a partner when possible. If walking alone, tell someone your route and expected time of return.

- Walk in a familiar area and alter your routes regularly.
- Stay alert to dangerous situations. Avoid unpopulated areas, deserted streets, over-grown trails, poorly lighted areas, parked cars, and bushes. Call police immediately if something happens or if you suspect danger.
- Recognize the limitations of wearing headphones and your ability to hear potential dangers.
- Ignore verbal harassment. Look directly at strangers, but keep your distance and keep moving.
- Walk against traffic to see oncoming autos, and wear reflective material if out before dawn or after dusk.
- Respect your intuition. If a person or an area feels unsafe, honor that feeling and move toward a secure area.

Appendix A

Choosing Shoes

A comfortable, well-fitted shoe is important for daily activity, especially walking. You won't want to get up and get moving if the result is persistent sore feet!

You may already own a pair of suitable shoes for physical activity. If you don't, consider purchasing a pair of walking shoes, or possibly two pairs of walking shoes to wear on alternate days, allowing your shoes to air and dry properly. Shoes will last more than twice as long if they are worn three days a week rather than five days a week.

When shopping for walking shoes, the following tips will help you make a good choice:

- Shop for shoes in the afternoon after moderate walking.
- Try shoes on with the type of socks that you expect to wear when walking.

- Walk around the store for several minutes in the shoes, preferably on a firm surface, to test comfort and "bounce."

Some questions to ask when checking the fit of the shoe:

- Can you wiggle your toes freely?
- Can you pinch a thumb's width in front of your big toe?
- Is there a thumb's width between the lace holes on either side of the shoe when the shoe is snugly laced?
- Is there enough room in the toe box (the area in the front of the foot above and around the toes)?
- Is there enough height in the instep (the area on the top of the foot above the arch)?
- Does the heel fit snugly?
- Is the shoe's arch positioned correctly under the arch of your foot?

Select a shoe with the following features:

- Comfortable and lightweight
- Cushioned rubber sole
- Breathable and flexible upper material, such as leather
- Firm heel counter with good arch support
- Removable insole to allow an orthotic device to be inserted, if necessary
- Absorbent lining to keep feet dry

Do you need orthotics?

If you have pain in the lower leg (knee pain or shin splints) that is increased by weight-bearing activity (like walking), you may benefit from orthotics. Orthotics are in-shoe inserts capable of minimizing problems caused by abnormal foot positions. People with fallen arches (flat feet) are most likely to need orthotics.

There are many different types of orthotics, ranging from extremely rigid devices to molds and arch supports. Orthotics are fabricated based on specific measurements of the foot, as well as by casting the arch height, to meet the needs of the individual. They can also accommodate specific types of sport and fitness activities. These devices are usually created by podiatrists and physical therapists who specialize in ankle- and foot-related dysfunctions and abnormalities.

Shoe And Foot Care

Taking Care of Your Shoes

- Air shoes once a week, outside in the sun if possible.
- There are many good brands of appropriate walking socks on the market that cushion the foot and wick away moisture. Also, use foot powder to protect the inside of the shoe from the corrosive effect of the salt and acid in perspiration.
- If your shoes are made of leather, periodically

condition your shoes by first cleaning with saddle soap and then restoring with a leather preservative.

- Check your shoes for irregular wear on the soles.

Taking Care of Your Feet

Many adults have some kind of foot problem. If you notice any unusual wear pattern, or abnormal shoe breakdown, or experience foot pain, you should see a podiatrist for a professional evaluation before increasing physical activity. Corns, calluses, and ingrown nails should also be treated by a medical professional. If you suspect athlete's foot, you can start treatment immediately with one of many over-the-counter products made for this purpose. Consult with your pharmacist for suggestions.

Foot Care Suggestions

- Dry your feet thoroughly after washing and massage them briskly with a towel.
- Keep the skin on the feet soft and supple by using lotion after a bath or before bed.
- Use foot powder liberally in socks and shoes to keep your feet dry and comfortable. Use an antifungal powder if athlete's foot is a problem.
- Always wear clean socks when walking for exercise. Avoid wearing hosiery with a binding that can impair circulation.
- Keep toenails trimmed.
- If your feet become swollen, elevate your feet while sitting to reduce discomfort.

A Treat for Your Feet

Give yourself a special treat after walking: a hot/cold footbath. Fill two basins, one with very cold water and one with very hot water, and alternately place your feet in the cold and then the hot bath 5 or 10 times for one minute each. Another popular treatment is the whirlpool footbath, a special item that can be purchased for \$25 and up.

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