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Walking for fitness

by Julie McNeney

For the past decade, walking has topped the list of sporting activities in which Americans participate, according to the National Sporting Goods Association (NSGA). The organization's annual survey of sports participation reveals that 79.5 million people walked for exercise six or more times in 2003.

In another survey, SGMA International (the Sporting Goods Manufacturers Association) breaks down walking participation into three categories: fitness walking, recreational walking and treadmill exercise. According to SGMA, the percentage of people who participate in fitness walking has risen 40% in the past 16 years to about 38,000,000 Americans, or 14.6% of the nation's population. Furthermore, based on frequent participation, fitness walking is the number one activity among adults ages 55 and older. SGMA's figures show that almost 6,300,000 55-plus adults walked for exercise more than 100 times last year, while close to 3,060,000 individuals in this age group exercised on treadmills in the same period. Among Baby Boomers, walking also comes first. Del Webb's 2003 Baby Boomer Report shows that 87% of Boomers consider walking for exercise their favorite form of physical activity.

So what exactly is fitness walking? This form of exercise consists of moderate to brisk walking that challenges the cardiorespiratory system. This activity is inexpensive, convenient, simple to perform, and carries a low risk for injury, making it an ideal activity choice for older adults. Furthermore, scientific studies have shown that individuals who walk at a moderate to brisk pace enjoy improved cardiovascular fitness and numerous health benefits, including improved function. In fact, walking at even a mild to moderate intensity can have positive health effects, according to researchers at the Washington University School of Medicine.

Healthcare providers frequently recommend walking to older patients as a way to become active, lose weight, and prevent or manage conditions such as hypertension, diabetes and high cholesterol. But health and wellness professionals must take care to ensure a walking program

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accommodates an older client's particular fitness and functional levels, as well as his or her health issues and needs. To do so, a routine must start slowly and build gradually on exercise frequency, intensity and duration (see "Getting started: a sample 10-week walking program" on page 8).

The following pointers for health and wellness professionals are adapted from Walk Reebok, a program created to educate fitness instructors and consumers about the benefits and techniques of walking. This program was geared towards the basically healthy older adult. As such, this information may need to be modified for individuals with functional limitations, disabilities, specific health conditions, and poor fitness levels. (Readers can check out the next issue of Functional U for a walking program designed especially for older clients with lower levels of function.)

Level one: health walking

Health walking involves walking at a normal, leisurely pace. Generally, participants in this kind of walking complete one mile in approximately 16–30 minutes. Health walking is particularly appropriate for older clients who are deconditioned and/or obese, as well as those who have arthritis or heart disease. This type of walking suits beginning exercisers or individuals who want to "smell the roses" along the way.

Good posture is critical to all forms of walking. Proper body alignment forms the mechanical foundation for safe, effective walking and allows a person to function and perform efficiently. The health walking techniques outlined below focus primarily on helping participants learn and master correct posture:

I. Head: hold the head in neutral position, meaning centered and in line with the spine, rather than inclined towards either shoulder. Ensure the chin is parallel to the ground. Check that the head is comfortably balanced and the neck muscles have minimal activity. Rather than flexing the neck to see the path ahead, focus the eyes downward without lowering the chin.

Instructor's tip: ask clients to imagine they are balancing books on their heads to practice head placement.

2. Shoulders: keep shoulders down, back and relaxed.

Instructor's tip: advise clients that they may experience neck pain if they keep their shoulders in an elevated position for an extended period. In addition, shoulder tightness can impair their arm swing.

3. Chest: lift or expand the chest to ensure proper spinal alignment.

Instructor's tip: ask individuals to imagine they are being pulled up by a string attached to the sternum.

- 4. Abdominals and buttocks: gently contract the abdominal muscles throughout the walk and keep the buttocks tucked under the hips to maintain proper alignment of the lumbar spine.
- 5. Arm action: relax elbows and keep arms close to the sides of the body as the arms swing in opposition to the legs. Ensure the forward swing never crosses the body's centerline.

Instructor's tip: check that participants have a natural and comfortable arm swing.

6. Leg action: aim for a comfortable stride. Stride length can vary, as it is determined by a person's leg length, hamstring tightness and pelvic rotation (Meyers, 1992).

Instructor's tip: encourage clients to find a comfortable, efficient stride length.

It's possible older participants will need to start a health walking program with even shorter bouts than suggested in the first few weeks of the sample walking program on page 8. With beginning walkers, the most

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important thing for health and wellness professionals to remember is to ensure safety by tailoring the program to meet people's specific needs. For instance, 58.8% of adults ages 65 and older have arthritis, according to the Centers for Disease Control and Prevention. The National Arthritis Foundation advises individuals with this condition to walk on flat, firm, level surfaces, as climbing steep grades or stairs and walking on uneven ground may lead to hip, knee or foot pain. (See "Resources" on page 5 for information on the foundation's 12-week multilevel walking plan.)

Level two: fitness walking

Older participants who engage in fitness walking are rewarded with increased cardiorespiratory fitness and caloric expenditure. To achieve these benefits, however, most individuals must walk one mile in about 13–15 minutes (4–4.6 miles per hour). Health and wellness professionals should discourage clients from attempting a fitness walking program until these individuals have succeeded and feel comfortable with health walking.

Fitness walking techniques build on those learned for health walking, but place more emphasis on arm swing and foot placement. Participants in a fitness walking program should incorporate the following techniques:

I. Posture: keep the head up, shoulders down and back, chest lifted, abdominals contracted and buttocks tucked under the hips.

Instructor's tip: remind clients occasionally to check their posture.

2. Arm-action: maintain a 90° angle in the elbows throughout the arm swing. Ensure the forward swing never crosses the body's centerline or swings higher than the top of the sternum. Make an arc with the thumbs from the hips to a point in space 6–12" in front of the sternum. Keep the elbows and forearms close to the body, and avoid swinging

The top 10 excuses not to walk

- I. I'm too tired.
- 2. My walking clothes are dirty.
- 3. I can't tie/reach my shoes.
- 4. I might sweat.
- 5. Why walk when I can drive.
- 6. "American Idol" is on.
- 7. I don't have a dog.
- 8. I might get lost.
- 9. I just got TiVo.
- 10. My feet hurt.

Source: American Podiatric

Medical Association

the arms side to side or as though rocking a baby. Make the hands into loose fists, which align with the forearms. Move arms naturally in opposition to the legs.

Note: the elbows automatically start to flex at about 4 miles per hour (or a 15-minute mile). This flexion creates a shorter pendulum, resulting in a faster arm swing and, consequently, an increase in leg speed (or stride frequency).

Instructor's tip: advise clients that the shoulders produce arm movements, not the elbows. Ask clients to locate the top of the sternum and practice the forward swing to this point.

3. Leg action: ensure the knee of the right leg stays soft (or unlocked) when almost completely extended as the left foot is placed on the ground. Aim for a smooth, fluid gait.

Instructor's tip: advise clients to avoid bending the knee prematurely, which results in bobbing or bouncing movements.

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4. Hip action: note the slight rotation in the pelvis while walking, meaning one hip is forward while the other is backward. Hip rotation should increase naturally with walking speed, so avoid forcing this motion.

Instructor's tip: monitor individuals and remind them when necessary to allow hip rotation to happen naturally.

5. Foot placement: raise the forefoot and toes toward the shins when the heel touches the ground. Maintain control when lowering the forefoot to the ground. Roll through the foot from heel to toe.

Instructor's tip: advise clients that they can increase their speed by bringing the rear leg forward faster. Encourage individuals to avoid slapping or pounding the ground when they lower the forefoot.

6. Forward lean: note the increase in forward lean from the ankles as speed picks up. Around 4 miles per hour, the sensation of "falling forward" into the step should occur.

Instructor's tip: monitor individuals to ensure the forward lean does not take place from the waist. Excessive and prolonged forward flexion from the hips can cause pain and discomfort in the lumbar spine.

In time, clients in a fitness walking program may gradually progress to the point where they seek greater physical challenges and greater caloric expenditure. Speed walking may prove an attractive option for these individuals.

Level three: speed walking

Speed walking requires a high level of conditioning. Using this highly stylize d type of walking, speed walkers can complete one mile in 12 minutes (5 miles per hour) or less. In fact, individuals who compete in speed walking events may achieve speeds of even 9–10 miles per hour, completing one mile in 6–7 minutes.

To walk at speeds of 5 miles per hour or greater, individuals must master speed walking skills, especially techniques that increase stride frequency. The techniques outlined below will help speed walking participants become proficient at this style of walking:

 Posture: keep head up, shoulders down and back, chest lifted, abdominals contracted and buttocks tucked under the hips.

Instructor's tip: remind clients occasionally to check their posture.

2. Arm-action: maintain an angle of about 90° in the elbows throughout the arm swing. Cross the arm closer to the body's centerline as it swings forward—again, going no higher than the sternum. During the back swing, the hand should reach no farther than the back of the buttocks. Drive the elbows back and keep them close to the body.

Instructor's tip: inform clients that the correct arm position for speed walking is the same as that described for fitness walking. Advise individuals they can increase their stride frequency (or leg speed) by increasing the speed of their arm swing.

3. Leg action: Bring legs forward more quickly to increase stride rate. Concentrate on increasing stride frequency, rather than stride length. Use the abdominal muscles and hip flexors to initiate the leg's quick forward pull when rolling off the toes. Keep the supporting leg straight as the other leg swings forward.

Instructor's tip: suggest that clients picture increases in stride length coming from behind the body as they push backward, rather than from reaching forward with the heel.

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4. Hip action: ensure the hips move forward and backward with minimal side-to-side motion. Notice how the hip tilts down as the advancing leg reaches maximum forward rotation.

Instructor's tip: emphasize to your clients the crucial role hip rotation plays in speed walking.rm position for speed walking is the same as that described for fitness walking. Advise individuals they can increase their stride frequency (or leg speed) by increasing the speed of their arm swing.

5. Foot placement: keep the ball of the rear foot on the ground until the heel of the forward leg contacts the ground. Flex the ankle towards the shins to about 90° as the heel of the advancing leg makes contact with the ground. Strongly push off the ball of the foot to ensure a continuous rolling motion. Foot placement at higher walking speeds forms a continuous straight line, with the inner edge of one foot landing in front of the inner edge of the other foot.

Instructor's tip: realize that the "angle of gait" varies between individuals. Usually, the toes turn outward from the heels approximately 10°, although this angle may grow smaller as walking speed increases. Recommend that clients with extreme variations in their angle of gait seek advice from qualified medical specialists.

6. Forward lean: lean slightly forward from the ankles to feel as though you can push harder against the ground and avoid overstriding.

Instructor's tip: advise clients that leaning too far forward will lead to their landing flat-footed steps or lifting the rear foot off the ground prematurely. However, if they lean too far back, they may overstride, which places excessive pressure on the supporting leg.

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Resources

AARP

"Health and Wellness-Walking" pages www.aarp.org/health-active/walking/

About.com

"About-Walking" pages www.walking.about.com

Active Aging Week

www.icaa.cc/aaw.htm

America on the Move

www.americaonthemove.org

American Podiatric Medical Association

"Podiatrists Keep America Walking" 2004 Foot Health Awareness Month campaign materials www.apma.org/footmonth04.htm

National Arthritis Foundation

Arthritis Today's Stepping Out: 2004 Walking Guide www.arthritis.org/resources/arthrits today/2004_archives/2004_03_04_walking_guide_intro.asp

Arthritis Today's Just-Right
Walking Plan
www.arthritis.org/resources/arthritis
today/2004_archives/2004_03_04_
walking_guide_plan.asp

Walking the way to Health http://www.whi.org.uk



To walk at the speeds people achieve with this style of walking demands skill and great technique. Why? In running, the length of each step contributes greatly to how fast a person runs. In walking, stride length is always limited, because one foot stays in contact with the ground at all times. So speed walking provides both technically demanding and efficient cardiovascular workouts, which older adults can progress all the way to competitive levels, if desired.

Walking: an ideal program for older adults

For many seniors, walking is the most accessible way to become and stay physically active. This form of exercise is easy, inexpensive, convenient and safe for most individuals. Walking improves aerobic conditioning and function; promotes relaxation and stress and weight reduction; and enhances sleep, joint flexibility, muscle tone, mood, energy levels, and stamina. Furthermore, older adults can enjoy the social benefits of participating in group walking programs.

In the United States, almost 6,300,000 adults ages 55 and older have discovered the joys of walking for exercise. According to year 2000 estimates by the U.S. Census Bureau, about 35 million adults ages 65 or older dwell in the United States. With Americans living longer and leading-edge Baby Boomers approaching their 60th birthdays, walking programs represent agreat opportunity for savvy health and wellness organizations to build their business, while improving this population's health, longevity and quality of life.

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A step towards fitness

By the time most people celebrate their 50th birthday, they will have walked 75,000 miles on their feet, according to the American Podiatric Medical Association. In fact, individuals may reach that milestone much sooner if their work or lifestyle includes using their feet more than normal.

What's the norm among midlife and older adults? According to the Active Living Coalition for Older Adults, relatively healthy middle-aged adults take approximately 7,000–13,000 steps per day, although women generally accrue less steps than men. Healthy older adults manage about 6,000–7,000 steps daily. And people who have disabilities and chronic health conditions walk 3,500–5,500 steps each day.

The goal with clients beginning a walking program is to increase both the number of steps they take daily and their walking speed. By picking up the pace to that all-important moderate-to-brisk walking level, older adults can enjoy many health benefits associated with aerobic exercise. For instance, just 30 minutes of walking briskly burns 150 calories and helps people control their weight, according to the Harvard Heart Letter (July 2004).

Together with proper nutrition, walking offers adults ages 50 and older a safe, effective way to improve their health and quality of life.



Getting started: a sample 10-week walking program

Week	Day of the week	Length of walk	Options
Week I	Monday Wednesday Friday	20 minutes 20 minutes 20 minutes	
Week 2	Monday Wednesday Friday	20 minutes 25 minutes 20 minutes	
Week 3	Monday Wednesday Friday	22 minutes 25 minutes 22 minutes	Include a hill Include speed for 8 minutes
Week 4	Monday Wednesday Friday	22 minutes 27 minutes 22 minutes	Include a hill Include speed for 8 minutes
Week 5	Monday Wednesday Friday	24 minutes 30 minutes 45 minutes	Include a hill Long and easy
Week 6	Monday Wednesday Friday Sunday	26 minutes 35 minutes 45 minutes 20 minutes	Include a hill Medium speed Easy
Week 7	Monday Wednesday Friday Saturday	26 minutes 35 minutes 55 minutes 20 minutes	Include 2 hills Include 12 minutes of intervals Long and easy Medium plus

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Getting started: a sample 10-week walking program

Week	Day of the week	Length of walk	Options
Week 8	Monday Wednesday Friday Sunday	26 minutes 38 minutes 55 minutes 25 minutes	Include 2 hills Include speed for 10 minutes Medium plus 1 hill Easy
Week 9	Monday Tuesday Wednesday Friday	28 minutes 28 minutes 38 minutes 60 minutes	Inlcude 2 hills Include 15 minutes of intervals Medium plus 1 hill
Week 10	Monday Tuesday Wednesday Friday Saturday	30 minutes 30 minutes 40 minutes 60 minutes 30 minutes	Include 2 hills Include 15 minutes of intervals Include 1 hill

Note: frequency, intensity, duration and adds-ons may vary depending on a client's other activity, fitness and functional levels, and specific health issues.

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Walking tips for older adults

Tips to start and stay active safely

- Check with your healthcare provider before you begin a program if your doctor has told you that you have any of the following: bone or joint problems that could get worse with physical activity; heart trouble; or high blood pressure. Also see your doctor first if you have pains in your chest or left side when physically active; if you often feel faint or dizzy; if you feel extremely out of breath when physically active; or if you have a health problem that might keep you from starting a walking program.
- Set realistic goals with your trainer and work towards them.
- Choose comfortable, well-fitting and supportive shoes with thick, flexible soles to cushion your feet and absorb shock.
- Wear thick socks and loose, comfortable clothes that remove moisture from the skin and "breathe" with you.
- Consider the weather when you dress for your walks and choose clothes that will keep you dry and either warm or cool, depending on the temperature.
- Dress in layers to help you adjust to temperature changes when walking outdoors.
- Wear either a baseball cap or visor in the summer and a knit cap in the winter.
- Use sunglasses during daylight walks for added protection from glare, if necessary.

- Start your walking program slowly and gradually increase your walking speed, distance and time, so you can avoid stiffness or soreness in your muscles or joints.
- Be sure to warm up at the start of your walk and cool down at the end.
- Try to walk at least three times per week. Increase the faster part of your walk more gradually if you walk less than three times weekly.
- Check your posture from time to time when you walk.
- Carry a water bottle and drink from it regularly, especially on hot days.
- Pay attention to your feet, particularly if you have diabetes. Examine your feet before and after each walk. If you see any abnormal changes or feel pain, numbness, tingling or burning in your feet or ankles, visit your healthcare provider as soon as possible.
- Try to walk on soft, dirt or grass paths as much as possible. Watch for uneven surfaces, rocks, holes, cracks in the sidewalk, and other things that might cause you to trip or fall.
- Make sure you have your watch, stopwatch or pedometer with you during your walk.
- Walk on flat, firm, level surfaces if you have arthritis.
- Avoid walking outdoors when it is very cold or very hot, or when the air quality is poor (often on hot and hazy days). Instead, head for the nearest mall, indoor track or treadmill for your walk. Or try other activities you feel comfortable doing. Some examples may include

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Client handout

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swimming, water aerobics, group fitness classes, yoga, or exercising on a stationary bike.

Tips to keep secure when walking

- Always try to walk with a partner or group.
- Choose a safe place to walk. Stick to familiar neighborhoods with plenty of activity.
- Know your route. While traveling, check with the hotel reception desk for safe walking routes.
- Let a friend or family member know your route and estimated walking time. If there is no one to tell, leave a note inside your home in a visible place.
- Vary your route to keep your walk interesting and safe.
- Try to walk in the daylight, if possible, or along a well-lit path at night.
- Wear light colors or reflective clothing at night or before sunrise to ensure motorists can see you.
- Walk in the middle of sidewalks, rather than close to alleyways, buildings or parked cars.
- Turn around and walk the other way, remaining on the same side of the road, if you think you are being followed by a car.
- Never wear expensive jewelry or carry valuables when walking.
- Be aware of your surroundings at all times. Avoid wearing headphones. If you choose to listen to music, cover one ear only with a headphone or both ears with the volume kept low.

- Trust your instincts. If you feel unsafe, turn around, cross the street, or go for help.
- Stay alert, aware and in control.
 Walk with confidence and a sense of purpose.
- Always carry your identification and some money in case of emergencies.

The following safety tips are adapted from Reebok University's Walk Reebok program and appear here with permission.

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