Gardening *for* Good Health

BY PAMELA BAXTER

Research validates what many us of already know: Getting out in the garden is great exercise for body and mind.

OVER THE PAST three decades, a number of health studies have challenged the perception of gardening as a "lightweight" hobby and elevated it to the status of a moderately strenuous exercise. Other research has revealed that gardening on a regular basis relieves stress, improves cognitive function, and may help people who suffer from certain psychological disorders.

It turns out that gardening may well be the perfect exercise. It provides a good, all-around workout that can be as easy or as vigorous as you desire—burning calories, strengthening and toning muscles, exercising your heart and lungs, and enhancing flexibility. Having a garden is like having your own outdoor fitness center with a variety of "stations" through which you can rotate for a balanced program.

If you've spent any time actively gardening, you know exactly what I'm talking about. There are plenty of activities in the garden that can get your heart pounding. Digging, edging, pushing a manual or power mower, roto-tilling, and turning compost are the heavy hitters. But even pruning and weeding provide exercise, along with walking and picking up branches and other yard debris. Throughout a "workout," which might last from a half hour to several hours, gardeners are bending, stretching, kneeling—keeping in almost constant motion.

So let's say you've spent a few hours in your garden and your muscles tell you you've been working. But just how much exercise did you get? Does it "count?" Or do you still need to do some "real" exercise like weight lifting, jogging, or aerobics? What are the tangible health benefits of gardening, and how do you know if you are getting them?

Whether you prefer growing vegetables, left, or roses, above, regularly working in the garden is an important component of a healthy lifestyle.

TOP: RICK WETHERBEE. BOTTOM: MICHAEL S. THOMPSON

WHAT STUDIES SHOW

It was a Harvard study, initiated in 1960, that began to change how the medical profession perceives gardening. The study has tracked nearly 40,000 alumni from Harvard University and the University of Pennsylvania.

That study, and others since, have led to reports from the Surgeon General and the National Institutes of Health recommending the now-familiar minimum exercise amounts: 30 minutes of moderate exercise, at least three days a week. The list of specific health benefits that such an exercise program yields is enough to make almost anyone get off the couch and start digging.

Moderate to moderately strenuous gardening on a regular basis:

- Helps prevent heart disease, diabetes, colon cancer, high blood pressure, obesity, and osteoporosis
- Helps manage existing conditions such as diabetes, high blood pressure, and high cholesterol
- Builds muscle strength, improves balance, and reduces the risk of falling
- Enhances and maintains overall flexibility and helps with arthritis
- Reduces stress, counteracts depression, and improves sleep
- Adds to lifespan and improves the ability to enjoy one's "mature" years

Another influential study, published in 2002 in the *Journal of Women and Aging* (see "Resources," page 27), linked regular yard work with a reduced risk of osteoporosis, a degenerative bone disease. In the study, women age 50 and older who gardened at least once a week showed higher bone density readings than those who participated in a variety of more conventional exercise programs, such as jogging, aerobics, and bicycling. The only exercise that showed as much benefit as gardening was weight-training. "The important thing about yard work is that so many people are willing to do it. They don't dread it as exercise," says the study's lead author Lori Turner, a professor of health science at the University of Alabama.

Researchers have found that even relatively simple garden tasks such as gathering debris and pushing a loaded wheel barrow exercise a variety of muscle groups.

Turner acknowledges that the study's findings initially took even the researchers by surprise. "We hadn't expected yard work to be so significant," Turner says. "But there's a lot of weight-bearing motion going on in the garden—digging holes, pulling weeds, pushing a mower."

WEEDING OUT OLD THINKING

Despite these studies, the health benefits of gardening still have not been fully recognized by the medical profession. Karen Peters of Portland, Oregon, recalls, "When we first moved here back in 1985 and I had my intake visit with my new GP, she asked me what I did for exercise. I told her, hiking, sailing, swimming, and gardening. She glared at me, like I was some kind of slacker, and said, 'Gardening isn't exercise!' I remember retorting, 'It is, the way I do it!'" Says Peters, "I knew I was right, but it's nice to have my experience backed up by science now."

Dr. Kenneth Frank, who practices at

THE THIGHS HAVE IT

"The most important muscle for the gardener is the quadriceps (thigh muscle)," says Jane Reinsch, a physical therapist in Windsor, Connecticut, "what we call the lifters. They're the muscles that allow you to get down on your knees and, more importantly, to get back up. If the quads are weak, this puts more strain on the knee joints, and also on the back."

For strengthening the quads, Reinsch recommends doing leg lifts—either sitting or lying down—lifting from the hips, not the knees. If necessary, stabilize your back while doing this exercise. Over time, strengthening one part of the body will strengthen the others, since quads, back, and joints all work together. —P.B.

TOP: RICK WETHERBEE. BOTTOM: DAVID ELLIS

the Philadelphia Veteran's Association Medical Center in Philadelphia, Pennsylvania, says that people may still get this kind of response from their physicians. "Common wisdom—what's still published in medical texts—is that you have to get your heart rate way up for exercise to be worth anything." He adds, "This is why the studies are important. They show that less vigorous exercise, even done in small amounts, is beneficial. And this specifically includes gardening."

Even more, gardening is an activity that Frank can "prescribe" for his older patients, who he knows won't go to a gym. "Unlike jogging, or even working out on a machine, gardening uses every muscle," he says. "Plus, while you're stretching and getting good cardiovascular exercise, you're also getting the psychological benefits of being outside and of being productive."

PERSONAL EXPERIENCE TELLS THE STORY

Eric Cole of Cochranville, Pennsylvania, didn't realize how much he relied on gardening for staying in shape until a major work project kept him away from his usual outdoor work. "2006 was the first year I've missed gardening in 15 years," he says. "I noticed that without that physical activity, I wasn't sleeping very well and I put on weight. Overall, I just felt terrible."

According to Cole, he wasn't aware how much he'd lost until he got back to gardening. "I noticed, for instance, that mulching one large area used to take me one day. This year, it took two, and I was sore for days after that."

Mary and Alan Sargeant garden in the challenging climate of Jamestown, North Dakota. In the past decade, Alan has planted 7,000 trees on their 25-acre property, all by hand. "Gardening as good exercise? You bet!" he says. "That's one of the reasons we enjoy it." Sargeant, 69, says he has no physical complaints. "If you keep in good shape, you tend to stay in good shape."

For those who rebel against the idea of formal exercise, gardening can literally be a lifesaver. "I had heart trouble six years ago and my cardiologist credits my continued success to a lot of outdoor activity," says gardener Bill Renner of Mead, Colorado. Renner, who is 68, appreciates the fact that his gardening activities keep him in shape so he doesn't have to "waste time running or exercising on machines."

STRENGTHENING THE BODY, CALMING THE MIND

Some gardeners, like Betty Smalley of Alexandria, Virginia, don't think of their outdoor work as exercise, but notice a benefit nonetheless. Smalley, a volunteer at the American Horticultural Society's River Farm headquarters, puts in about four hours of gardening four days a week. "I just like being outdoors, seeing what's surrounding me in nature," she says. "I feel refreshed, and better overall."

Dr. Benjamin Rush, the "father of American psychiatry," noticed this beneficial effect in his work with psychiatric patients at Friends Hospital in Philadelphia, Pennsylvania, in the early 1800s. Says Karin Fleming, a horticultural therapist at the Bryn Mawr Rehab Hospital in Malvern, Pennsylvania, "Rush assigned various chores to his patients—gardening, working in the kitchen, maintenance projects. Over time, he noticed that those patients who worked in the garden were calmer and less agitated." Despite that insight, Fleming notes that horticultural therapy did not gain popularity until after the return of veterans from World War II.

For Betty Smalley, a volunteer at the AHS's River Farm headquarters, gardening provides a satisfying encounter with the natural world and an overall feeling of wellness.

"One of the main benefits of gardening as therapy," says Fleming, "is there is a purpose to it. Patients can either be in a room, putting pegs into holes, or they can be planting seedlings. The motor skills are the same, but one activity is productive while the other is meaningless."

NO PAIN, NO GAIN?

From a distance, gardening is like sailboat racing: it looks effortless. But as any gardener knows, this "leisure" activity

Resources

Activity Calorie Counter (allows you to estimate calories burned doing different kinds of exercises and garden tasks). *www.primusweb.com/fitnesspartner/jumpsite/calculat.htm.*

Circuit Training In The Garden—an Online Guide to a Garden Workout by Vicki Pierson. *www.primusweb.com/fitnesspartner/library/activity/garden.htm.*

Feldenkrais: Bodywork and Movement and the **Effortless Gardening** video and audio cassette. *www.feldenkrais.com* and *www.effortlessgardening.com.*

Fitness the Dynamic Gardening Way by Jeffrey P. Restuccio, Publishers Distribution Service, Traverse City, Michigan. 1992. *www.ritecode.com/aerobicgardening.*

"Influence of Yard Work and Weight Training on Bone Mineral Density Among Older U.S. Women" by Turner, L.W., Bass, M.A., Ting, L., & Brown, B., *Journal of Women and Aging,* 14, 139–148, 2002.

"Gardening is Really Good Exercise." Virginia Tech Cooperative Extension publication. *www.ext.vt.edu/departments/envirohort/articles/misc/exercise.html.*

Stretching by Bob Anderson. Shelter Publications, Bolinas, California, 1975. (A DVD and video of the same name is also available.)

CAROLE OTTESEN / AHS ARCHIVES

can be quite strenuous, especially when digging, turning compost, or operating a roto-tiller. Even raking—where the body remains relatively stationary—can elevate one's heart rate. The flip side of this is that even less strenuous activities can cause discomfort or injury if done improperly or for too long. The key is to work slowly and steadily, and avoid overusing any one muscle group.

The term "no pain, no gain" may be relevant for athletes, but muscle soreness should not be seen as a good benchmark for a garden workout. Instead, it probably indicates that you did not stretch adequately or that you spent too long working one particular muscle group. "Each fall, we get a lot of people in our office from raking leaves," says Jane T. Reinsch, a physical therapist based in Windsor, Connecticut. "Instead of doing their lawn a portion at a time, they'll rake for eight hours, then come to see me because they're hurting."

Vigorous garden tasks such as spreading mulch, top right, and pushing a lawn mower, bottom right, can provide an aerobic workout, but be sure to stretch beforehand and take regular breaks, especially during hot weather.

Acknowledging gardening as a "legitimate" form of healthful exercise may offer the side benefit of making gardeners aware that proper warm-up and stretching—as well as pacing themselves and not trying to do too much at one time—are important to protecting themselves from injury and will keep them "in the game" much longer. The goal is to feel pleasantly fatigued but not sore or overly stiff.

To protect muscles, health professionals recommend starting off with some basic stretches that address the main muscles you'll be using. To get the maximum benefits of fresh air and exposure to the calming influence of plants, take a yoga mat or old blanket outside and do the stretching in your garden, advises Jeffrey Restuccio of Cordova, Tennessee, who is author of *Fitness the Dynamic Gardening Way* (see "Resources," page 27). "You should also stretch again at the end, just before a 'cool down' session," Restuccio says. It doesn't have to take long. Just five minutes or so of good stretching before

TOP: SAXON HOLT. BOTTOM: SUSAN A. ROTH

and after engaging in gardening will make a difference.

It also helps to start slowly once you go out to your garden. For example, begin by walking around your property and taking a mental inventory of the chores that need attention. By stopping to pick up sticks or other debris as you go, you can add stretching to your warm-up walk. This is Alan Sargeant's approach. "I don't do any specific warm-up," he says, "but I'll walk around first, get inspired, and then get working."

PAYING ATTENTION TO THE GARDENER

Just because you stretch before and after gardening doesn't mean you're home free, however. "It's important to be aware of how you are using your body," says Miriam Levenson of Ghent, Belgium. "If something hurts, pay attention!"

Levenson is a practitioner of Feldenkrais, a methodology that analyzes the way movement affects how people function. Her advice is to discontinue the activity or find another way to accomplish the task. For instance, if kneeling on the ground hurts or is uncomfortable, use a garden seat. Rotate among various activities so that you alternate between kneeling and standing and use different muscle groups: pruning, weeding, hoeing, raking, digging, deadheading, refilling bird feeders, applying mulch, turning compost.

Levenson adds, "If people listen to their bodies and pay attention to how they are moving, most aches and pains from gardening can be avoided." She notes that as with any exercise, staying hydrated is also important.

Physical complaints from gardening were so prevalent among her clients that Levenson developed a program titled "Effortless Gardening," which shows specific exercises and practices that help to keep the body healthy and pain-free during and after gardening. One of the first things Levenson has gardeners do is to find their hips.

"Put your hands in your pockets, and then lift up one leg," she instructs. "That's your hip. Right there, where your fingers meet the crease at the top of your leg. And that's where you need to bend." Learning this one proper movement, says Levenson, immediately takes strain off the lower back.

Switching gardening tasks regularly, working both sides of the body, and slightly exaggerating the motion to make the activity more aerobic is also the advice of Restuccio, whose background in martial arts shaped his approach to gardening. "I analyzed the motions you make while gardening and came up with a methodology that everyone can use," he says. "The idea is to alternate your stance when raking or doing other tasks, to bend from your knees rather than using your back, and to switch tasks regularly. From an exercise standpoint, this reduces the stress on your back, balances the muscles used, and reduces the risk of repetitive motion injuries."

To avoid fatigue or burnout, Restuccio advises keeping gardening sessions to no more than a couple of hours at a time. "Even if you have a small garden," he says, "you can work it purposefully for an hour or two at least three times a week." For Restuccio, gardening is a win-win situation, where you can accomplish a needed task while also getting a workout. "You can look at it as exercising to garden, or as gardening to exercise."

Restuccio sees gardening also as a way to get kids more active. "If we can only get this idea of aerobic gardening into school programs, we've got the solution for obesity," he says.

DO WHAT YOU LOVE. THE HEALTH BENEFITS WILL FOLLOW

For centuries, people have enjoyed a variety of "harvests" from their gardens. In addition to fruits and vegetables, gardeners have reaped beauty, tranquility, optimism, wonder, and feelings of accomplishment. As if this weren't enough, gardeners now know that the activity they already enjoy is good for them in more tangible ways as well—protecting them from a host of medical conditions, and providing a better quality of overall physical health and well-being.

So go ahead—step outside your door and enjoy everything your garden has to offer. Trust me, you won't even know you are exercising!

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BURN CALORIES WHILE YOU GARDEN

The following chart shows calories burned per half-hour of some of the most common gardening activities, along with comparisons with other exercise activities. These are estimates; the actual number of calories burned depends on body weight and the intensity of the activity.

If you want to turn up the octane on your gardening workout to burn additional calories or target muscles such as the abdominals that are not called upon as much in gardening, check out Jeffrey Restuccio's book, *Fitness the Dynamic Gardening Way* (see "Resources" on page 27).

Activity	Calories burned per half-hour
Watering lawn/garden	50–60
Walking while applying fertilizer or seeding lawn; riding mower	85
Gathering garden tools; picking fruits, vegetables, flowers [Home carpentry, bowling]	105
Weeding/cultivating garden; planting seedlings; raking, bagging leaves; trimming trees/shrubs with manual cutter [Doubles tennis, golf (carrying clubs), walking 4 mph]	150–180
Spading; tilling; walking with mower; using chain saw [Jogging, basketball, shoveling snow, swimming]	210–240