Special Health Report

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Gentle Core Exercises

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Contents

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Dear Reader,

You know core work is important, but you might not realize just how much it matters. As your core muscles get stronger, on-the-job tasks and everyday acts will become easier. So will pleasurable pursuits like golfing, tennis, biking, and quite possibly even sex. No less important, many core exercises help your posture and improve balance, which makes debilitating falls less likely at any age.

Still, you may be cautious about trying core exercises—perhaps because you've been unwell, you're afraid you'll hurt yourself, or you're concerned that you might make an existing injury worse. Indeed, there are a lot of vigorous core exercises and programs that may cause problems if you dive in too quickly and attempt advanced moves when you're not ready for them. But there are just as many alternative, safer ways to strengthen your core that almost anyone can do.

That's why we've designed this program of gentle core exercises. It enables you to get started in a safe, easy way and progress at your own pace. While it incorporates much of the same basic information as our regular *Core Exercises* Special Health Report, this one provides gentler exercises, along with tips for tailoring the program to your needs. As we say, start low and go slow. That means taking your time and listening to your body. Do only as much as you can while maintaining good posture and alignment. Even if you do half the number of the exercises in one of our workouts, you'll benefit, because any exercise is better than none.

Beyond those who need to start slowly, there is a second group of people who might be interested in gentle core exercise: people who work at desk jobs. You may not have enough time to go to the gym during lunch. But you can easily slip the simple, inconspicuous moves in our Office Workout (page 22) and Office Stretch (page 25) into your day. If motivation is more your problem, make sure you don't miss the Special Section on page 42. If you have concerns about safety, note that many of these exercises are used in physical therapy. Still, you should get clearance from your doctor before trying them if you have a health issue. And remember: if something hurts, don't do it. As you gain proficiency, you can add more repetitions of exercises or move up to harder variations.

With all of that in mind, we hope you're now thinking, "Yes, I can do this," because you have so much to gain from core exercises. So here's our promise: No fancy exercise clothes. No pricey equipment. Just a small investment of time, and you'll be on your way to a stronger, healthier you.

Sincerely,

Lauren E. Elson, M.D.
Medical Editor

Michele Stanten
Fitness Consultant

The importance of your core

Many people think of the core solely in terms of their abdominal muscles. But the core reaches well beyond the abs, extending to muscles in your back, sides, pelvis, hips, and buttocks—muscles that are essential to most of the movements you make. A surprising number of everyday actions—such as bending, twisting, and rotating your body, as well as maintaining good posture—are ruled by your core. So whether your priority is having a firmer belly, easing pain, preventing injuries, or just getting through the day more easily, it's worth paying attention to your core muscles.

Of course, many strenuous workouts enhance core strength. But not everyone is able to do those—and, frankly, some of them can cause injury if you don't do them properly. That's why we've compiled this program of gentle core exercises as an easier alternative to our standard *Core Exercises* report—because people of all ages and fitness levels can benefit from core strengthening. Maybe you have an illness or injury that prevents heavy-duty core work. Maybe your age makes you reluctant to try some of the more challenging exercises. Maybe you have a desk job that keeps you sitting all day, but you have five minutes here and there to "work out at work."

If any of these apply to you, these lighter core workouts may be exactly what you need. Gentle core work is much better than no core work at all. And as you get stronger, you may find that you want to work up to the more challenging *Core Exercises* report.

This chapter delves into why having a strong, flexible core matters in daily life and spotlights important core muscles, bones, and joints.

How a strong core benefits you

Think of your core muscles as the sturdy central link connecting your upper and lower body. The forces that propel your movement either originate in your core or transfer through it on the way from one part of the body to another.

When you toss a ball to a dog, for example, the complete arc of the movement—known as the kinetic chain—should ideally run from the ground through your legs, hips, trunk and back, shoulder, elbow, and wrist in an even transfer of force. If a kink—such as a weak hip muscle—is in the chain, it undercuts the strength of the movement and may start a chain of misalignments in joints and limbs that can lay the groundwork for injuries over time.

A strong core helps you stay stable as you transfer force from one body part to another.

No matter where a motion starts, it ripples upward and downward to adjoining links of the chain. Thus, weak, tight, or inflexible core muscles can impair how well your arms and legs function—and can sap power from many of the moves you make. Conversely, properly building up your core cranks up the power as you move

Got back pain?

Sadly, no magic cure is available for low back pain, a scourge that causes wincing and far worse in an estimated four out of five Americans at some point in their lives. Low back pain is a major reason cited for limited activity in adults, and it's among the top ailments prompting visits to the doctor. And even though nearly half of people reporting low back pain feel better within a week, others may still be struggling with it a year or two later or have recurring episodes.

If you find yourself afflicted, call your doctor for advice. Muscle or bone conditions—a muscle spasm, perhaps, or osteoarthritis—are most often at fault, but severe or new-onset back pain sometimes signals an illness, such as a urinary tract infection, appendicitis, or even cancer. What's more, trying to compensate for the pain by shifting your posture or gait to ease discomfort may end up worsening your pain and causing additional problems.

Can core exercises help?

Yes. When done regularly, our gentle core stretches and exercises may help you avoid low back pain entirely. If you have chronic low back pain, they might also help you ease it—and put a stop to future recurrences. Because no one muscle is dedicated to supporting the lower back, a program addressing a variety of core muscles is best. Before you jump in, though, be sure to read "Tailoring core exercises to your abilities," page 9.

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Merely making muscles strong isn't enough. One goal of our exercises is enhancing core stability—that is, your control over the position and movement of the center of your body. When researchers crunched data from 118 studies of people who had chronic lower back pain, they found that core-based exercises done for three to nine weeks were among the most effective strategies for easing pain and reducing disability, according to a 2022 study in the *Journal of Orthopaedic & Sports Physical Therapy*.

Flexibility matters, too. Tight muscles contribute to sore backs. They limit your range of motion, shortening your stride or reach, for example, and making it hard to sit or stand with good posture. Poor posture can cause backaches as well. Stretching regularly helps counter these problems, so don't neglect the stretches in this report.

Other ways to help ease your pain include yoga, tai chi, and Pilates. Pilates, in particular, can help strengthen your core. You can amp up the benefits even more by adding walking to your routine. One trial compared a program of muscle strengthening for the back with the same program combined with walking and found that the combined program was more effective for reducing pain levels than strength training alone.

and enables you to go longer before fatiguing. Strong abs alone won't suffice. In fact, overtraining abdominal muscles while ignoring muscles in the back and hips can set you up for injuries and a sore back.

A strong core also enhances balance and stability. Thus, it can help prevent falls that may lead to bruises and fractures. In fact, a strong, flexible, and well-balanced core underpins almost everything you do, from rising out of a chair to strolling down the block or engaging in sports or any number of other activities. Here are some of the variety of ways a stronger core can help you throughout your day:

Everyday acts. Bending to put on shoes or scoop up a package, turning to look behind you, climbing stairs, sitting in a chair, or simply standing still—these are just a few of many mundane actions that rely on your core and that you might not notice until they become difficult or painful. Even basic activities of daily living—bathing or dressing, for example—call on your core.

On-the-job tasks. Jobs that involve lifting, twisting, and standing all rely on core muscles. But less strenuous tasks—like sitting at your desk for hours—engage your core as well. Phone calls, typing, computer use, and similar work can make back muscles surprisingly stiff and sore, particularly if you're not strong enough to practice good posture and aren't taking enough breaks.

A healthy back. Low back pain—a debilitating, sometimes excruciating problem affecting about four out of five Americans at some point in their lives—may be prevented in many cases by exercises that promote well-balanced, resilient core muscles (see "Got back pain?" above).

Sports and other pleasurable activities. Golfing, tennis, pickleball, biking, playing Frisbee, walking, swimming, and many other athletic activities are powered by a strong core. Even getting up and down from the floor when playing with your kids or grandchildren engages your core muscles. Less often mentioned are sexual activities, which call for core power and flexibility, too.

Housework, fix-it work, and gardening. Bending, lifting, twisting, carrying, hammering, reaching overhead—even vacuuming, mopping, and dusting—are acts that spring from, or pass through, the core.

Balance and stability. Your core stabilizes your body, enabling you to move in any direction, even on the bumpiest terrain, or stand in one spot without losing your balance. As a result, core exercises can lessen your risk of falling.

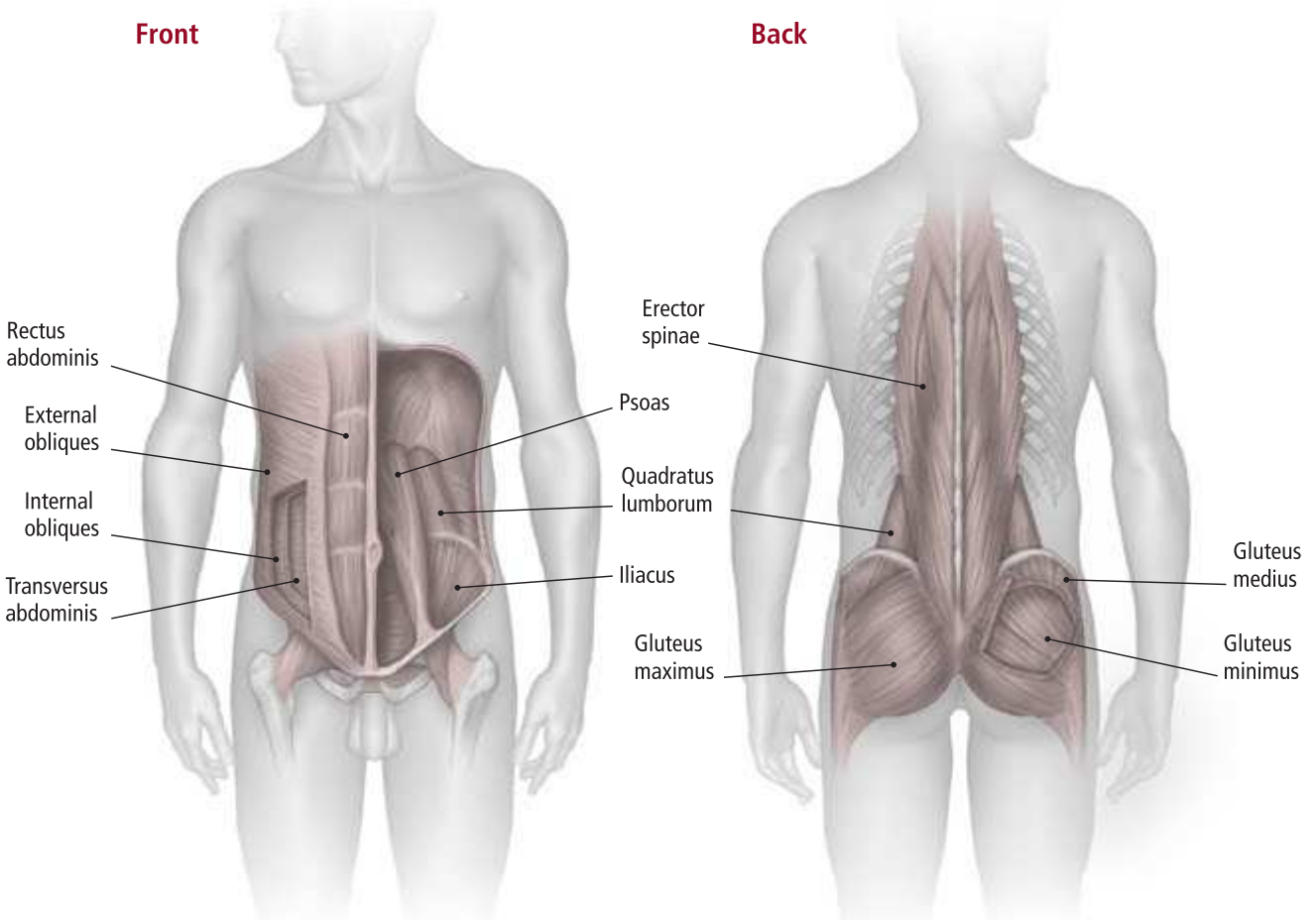
Good posture. Weak core muscles contribute to slouching. Good posture trims your silhouette and projects confidence. More importantly, it lessens wear and tear on your spine, allows you to breathe deeply, and prevents the progression of spinal problems such as kyphosis (hunching of the back) and scoliosis (curvature of the spine). Good posture helps you gain full benefits from the effort you put into exercising, too.

Major core muscles

Your core reaches from your thighs to the bottom of your breastbone, spanning muscles, bones, and joints in your abdomen, back, sides, pelvis, buttocks, and hips (see Figure 1 below). In addition, a few muscles higher up on the back—the trapezius and latissimus dorsi—are supporting players that contribute to core

Figure 1: Front and back core muscles

Your core includes many different muscles in the abdomen, back, sides, pelvis, hips, and buttocks. These muscles work together to support the spine and allow you to bend, twist, rotate, and stand upright.



Don't ignore your pelvic floor: Exercises to prevent or treat stress incontinence

One essential set of core muscles is often ignored even by exercise mavens. Called the pelvic floor, this sling of muscles and ligaments stretches from the pubic bone to the tailbone. It helps support the bladder and other pelvic organs.

When you urinate, your body relaxes the pelvic floor muscles and the two sphincter muscles that cinch the neck of the bladder. If pregnancy, childbirth, aging, or excess weight weaken the pelvic floor muscles, one set of roadblocks that helps prevent urine leaks is compromised. In women, the bladder may slip downward into the vagina, causing pain, discomfort, incontinence, and sexual problems. This misalignment is a type of pelvic organ prolapse (which may also occur if the uterus or rectum slips downward).

Strengthening pelvic floor muscles helps reduce symptoms of pelvic organ prolapse in many women. It can also ease stress incontinence—the leaks that can occur when you jump, cough, laugh, or exert yourself in ways that put pressure on your abdomen.

In men, strengthening the pelvic floor muscles and employing other behavioral strategies, such as avoiding caffeine and alcohol, help cut urine leaks after prostate surgery by half, according to research.

Whether or not you experience incontinence, pelvic floor exercises can help improve sexual fitness by enhancing the rigidity of the penis during intercourse and also tightening the vagina. And if you have low back pain, adding pelvic floor exercises to your core workouts may provide greater pain relief.

Find the right muscles

Kegel exercises can help tune up pelvic floor muscles, if done regularly. First, pinpoint the right muscles by following these directions:

- Empty your bladder.
- Tighten the muscles you would use to avoid passing gas. (An older tip—engaging the muscles you use to stop a stream of urine—has been discredited.) Generally, you should feel like you are pulling in the anal area.
- Now practice tightening, holding, and releasing the muscles. As you do this, try not to contract abdominal or leg muscles—or, indeed, any other muscles. It may help to put your hand on your belly so you can sense whether you're tightening your abs. If you're still not sure you have the right set of muscles, biofeedback can help you learn to do Kegels correctly. Talk to your doctor about this.

A simple pelvic floor exercise

Step 1. Pull in the pelvic floor muscles.

Step 2. Hold for a count of three to five.

Step 3. Release and relax for a count of three to five.

Repeat 10 to 15 times.

Practice pelvic floor exercises three times a day, preferably once while lying down, once while sitting, and once while standing.

While pelvic floor exercises may take up to 12 weeks to work, you may notice improvements in symptoms of incontinence sooner.

Need more help?

Talk to your doctor about other options if these exercises aren't enough. Reasons for urinary incontinence vary, and more than one problem may be involved. Often, a doctor can suggest behavioral changes to help curb urine leaks, possibly in combination with medications, surgery, or other strategies.

stability. The following sections introduce the major muscles that our gentle core exercises focus on.

In the abdomen

When exercise enthusiasts refer to the "abs," what they often mean is the rectus abdominis, the muscle group that creates the "six-pack" or even "eight-pack" abs sported by lean, chiseled athletes and actors. But the abs are actually a quartet of abdominal muscle groups, explored below—all of which are important.

Rectus abdominis (front): a pair of long, vertical straps of muscle running from your sternum (breastbone) and ribs to your pubic bone, the rectus abdominis enables you to flex your trunk—for example, when you're getting out of bed in the morning.

External obliques (both sides): two large, flat muscles that enable you to twist your torso.

Internal obliques (both sides, underneath the external obliques): two smaller, flat muscles that enable you to twist your torso.

Together, they allow you to rotate as you reach for something behind you, vacuum, or buckle your seatbelt. The internal and external obliques work in opposing pairs, with the internal obliques handling rotation in the direction you're turning, supported by the external obliques on the opposite side of the

body. For example, when passing food to the left at the dinner table, you would use your left internal oblique muscles and your right external obliques.

Transversus abdominis (front and sides, underneath the internal obliques): a wide, flat girdle of muscle wrapping around the torso that is a key stabilizer. It is the deepest layer of muscle and attaches to the spine, ribs, and pelvis. It holds you up when you're sitting or standing, so it's working even when you're not moving.

In the back

Groups of vertical muscles stretch along the entire back.

Erector spinae: three groups of muscles that extend the back so you can straighten up when lifting something. They also enable you to bend laterally and help maintain good posture.

Multifidus: this deep muscle lies beneath the erector spinae and connects to vertebrae. Its primary function is to stabilize the spine whether you're moving or standing still.

In the pelvis, buttocks, and hips

The muscles in this region straddle the realm from the hip joints to the back and include the muscles of the buttocks.

Gluteus maximus (buttocks): two bulky muscles that permit you to powerfully extend the hip and rotate the thigh, providing power for walking and climbing stairs.

Gluteus medius and gluteus minimus (buttocks): four fan-shaped muscles that let you rotate the hip, push your thigh away from the centerline of your body, and stabilize your pelvis while standing, especially when balancing on one leg. Strengthening these muscles can also prevent or help with knee and back issues. Together with the gluteus maximus, they are often referred to collectively as your "glutes" or "gluteals."

Iliopsoas (pelvis and hips): This muscle group is made up of two muscles, the iliacus and the psoas, that reach down from the mid-spine and wrap around the hip joint to the thighbone, allowing you to lift your legs and stabilize your body when you stand. These muscles help you pick up your legs when you go up steps.

Quadratus lumborum (pelvis and back): either of two straps of muscle (one on each side of the body) that stabilize the pelvis and lower spine and permit you to bend to the sides and slightly backward, as well as hike up each hip. They also stabilize you during activities like vacuuming.

A cure for "sitting disease"

"Sitting disease" is a not-quite-medical phrase that refers to the problems associated with sedentary habits. If exercise is linked to an ever-lengthening list of benefits, prolonged sitting—an apt description of work and home lives for many people—represents the flip side of the equation. A sedentary lifestyle is now associated with 34 chronic diseases or conditions—everything from heart disease, stroke, and type 2 diabetes to weight gain and cognitive decline. It may even increase your risk of premature death.

Why does prolonged sitting have such negative health consequences? The human body is designed for activity. When muscles are inactive,

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they don't take up glucose from the bloodstream as efficiently. Blood pressure rises. Sleep suffers. There are even changes on the cellular level. Research has found that a key gene (which encodes for an enzyme called lipid phosphate phosphatase-1, or LPP1) helps prevent blood clotting and chronic, low-grade inflammation. This gene functions optimally when you engage in regular exercise.

Given such findings, breaking up long blocks of sitting to flex your muscles seems like a wise move for all of us. Take your phone calls standing up. Use a standing desk. Hold walking meetings. Sit on a stability ball to work or watch TV. Cut back on TV in favor of more brisk strolls or bike rides. Find excuses to run up and down the stairs more. And, yes, do core exercises.

Beyond muscles

While core muscles are essential to full-body movement, they can't do all the work by themselves. The spine, pelvis, and hip joints, plus other structures in your body's core, are equally essential to standing, sitting, and moving.

Thirty-three interlocked vertebrae form the spine, a bony column that flexes along nearly all of its length. Vertebrae are divided into five regions. The top three regions are the cervical spine (neck), thoracic spine (upper and mid-back), and lumbar spine (lower back). The cervical and lumbar regions are hot spots for injuries and pain (see Figure 2, right). Sandwiched between the vertebrae in these regions are shock-absorbing discs that enable mobility. The bottom two regions form the sacrum, a triangular bone that connects to the pelvic girdle and the short tail of the coccyx. Both consist of fused vertebrae and no discs, so this part of the spine is not flexible.

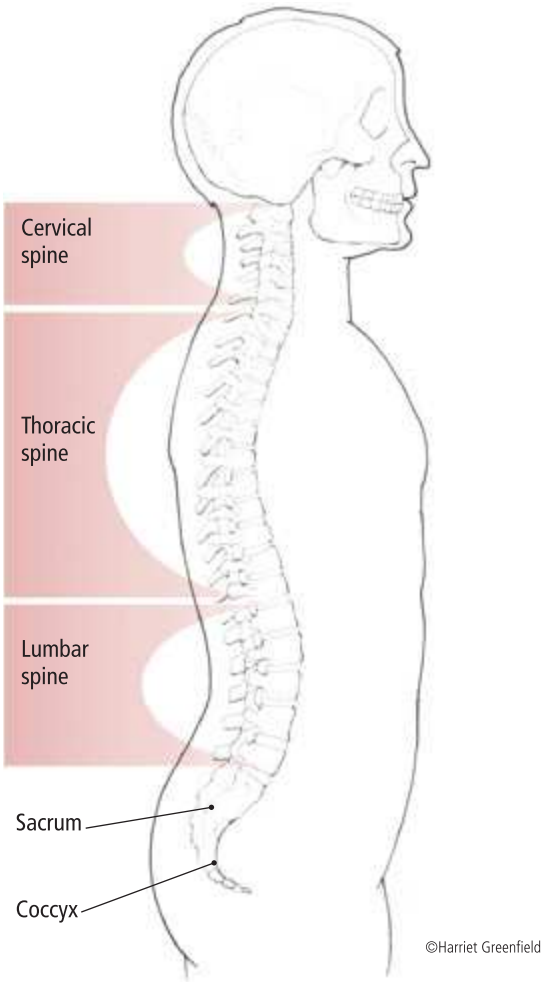
The bony girdle of the pelvis acts as the base of your core. The hip joints—where the balls at the top of each thighbone fit neatly into two sockets—are situated in the lower third of the pelvis, toward the front.

Inside each hip joint, tough, flexible tissue called cartilage cushions the junction between bones and helps protect against the wear and tear of friction. Ligaments made of strong, usually inelastic, tissue bind and stabilize the joint. In addition, throughout your core, flexible cords of tissue called tendons tether muscle to bone. Your brain coordinates lightning-quick signals passing along nerve pathways that instruct muscles to contract and relax. The muscles tug on tendons attached to bones, enabling you to walk and jump, dance and run, twist and bend.

Beyond the core—why exercise?

Having a stronger core helps facilitate almost all your movements. But there are additional reasons to lace up your shoes and get moving. Regular exercise will help you feel, think, and look better. Strong evidence from thousands of studies shows that engaging in regular exercise, including but not limited to core work, offers benefits for virtually every part of your body, from your heart to your bones. Among other things, it

Figure 2: Regions of the spine



Core work supports the spine, especially the thoracic and the lumbar regions. Low back pain often originates in the lumbar area, which extends from the bottom of your rib cage to your sacrum (the triangular bone found between your hip bones) and includes the five lowest mobile vertebrae.

- lowers your risks for early death, heart disease, stroke, type 2 diabetes, high blood pressure, and high cholesterol
- reduces your risk of developing certain types of cancer, including those of the colon, breast, bladder, esophagus, kidney, lung, and stomach
- strengthens your muscles, lungs, and heart
- eases depression, stress, and anxiety and improves your mood
- boosts your energy
- helps prevent falls that can lead to debilitating fractures and loss of independence

Strong core muscles can help with every aspect of your daily life—from gardening to lifting groceries—and help you remain independent as you get older.

- may prevent weight gain and help you keep off pounds you've lost
- takes a load off aching hips and knees by strengthening supporting muscles
- boosts mental sharpness in older adults
- enables some people to cut back on medications they take, thereby easing unwanted side effects and saving money
- helps older adults to remain functional, being able to walk up stairs or through a store, heft groceries, rise from a chair without help, and perform a multitude of other activities that permit independence
- helps shrink abdominal fat, which plays a role in many serious ailments, including heart disease, diabetes, and stroke
- maintains or boosts bone density (provided the exercises are weight-bearing, meaning they work against gravity)
- reduces your risk for hip fractures
- leads to better sleep.

The Physical Activity Guidelines for Americans from the U.S. Department of Health and Human Services recommend 150 to 300 minutes of moderate-intensity aerobic activity a week or 75 to 150 minutes of vigorous exercise (or an equivalent mix of the two). It also recommends two or three muscle-strengthening workouts a week, as well as balance exercises for those who need them.

If getting this much exercise sounds impossible, remember that the guidelines also say that any amount of physical activity is better than none and that simply moving more and sitting less will deliver some degree of health benefits (see "A cure for 'sitting disease,'" page 6).

Tailoring core exercises to your abilities

While it's tempting to skip right to the workouts, it's best to think about safety first. In this chapter, you'll find information on when you should talk to your doctor before beginning a new routine. You'll also find a list of warning signs that should prompt a call to a doctor and tips on adapting the workouts to your needs and abilities.

Should you consult your doctor first?

Almost anyone can safely and comfortably do the simple exercises we've selected for our gentle core workouts. But you might find certain exercises especially challenging if you are very out of shape because of illness, a recent hospitalization, or just too much couch time. Similarly, if arthritis or inactivity has left your muscles and joints especially stiff, you may find it hard to do certain exercises or stretches. Depending on health issues, you may need to check with a doctor to see if you need to modify any of the exercises or avoid them altogether.

If you are healthy and at least moderately active, odds are good you can undertake the exercises we've chosen without difficulty, particularly if you start with the Office Workout (page 22) or the Level 1 exercises in the Home Workout (page 27). Then work up gradually to the more challenging Level 2 exercises provided in the Home Workout.

You should speak with your doctor before embarking on a program of core exercises if you've had hip surgery or pain, or if you have a chronic or unstable health condition, such as heart disease.

If you're in doubt, the Get Active Questionnaire (GAQ), a tool developed by the Canadian Society for Exercise Physiology, can help you determine whether you should talk to your doctor before embarking on, or ramping up, any exercise program, including the ones in this report. You can find the questionnaire at www.health.harvard.edu/GAQ.

Whether or not you use the GAQ, we recommend talking to a doctor about whether you should observe any limitations if any of the following apply:

- You've had hip surgery.
- You've been experiencing pain in your hip joints or back.
- You have a chronic or unstable health condition,

Warning signs

Signs that indicate an emergency

If you experience any of these symptoms during or after exercise, call 911 or see a doctor immediately:

- chest pain, pressure, heaviness, or tightness
- faintness or loss of consciousness
- significant or persistent shortness of breath or dizziness.

Ask your doctor whether there are any other warning signs specific to your health history.

Signs that should prompt a call to your doctor

Persistent or intense muscle pain that starts during a session or right afterward, or muscle soreness that persists more than one to two weeks: both merit a call to your doctor for advice. (This is in contrast to the normal muscle soreness that starts 12 to 48 hours after an exercise session and gradually abates.) You should also call your doctor if a routine you've been doing for a while without discomfort starts to cause you pain.

such as heart disease or several risk factors for heart disease, a respiratory ailment, high blood pressure, osteoporosis, or diabetes.

If you do need to speak to a doctor, we suggest that you share the core workout shown in the following chapters with your doctor and ask if you can safely follow the program described. Your doctor may feel that the exercises are fine, or may modify certain exercises to make them safer for you. If necessary, your doctor can refer you to a physiatrist, a physical therapist, or another health care specialist for further evaluation. Occasionally, a doctor may recommend

Exercise professionals

In case you need extra help adapting the program, here is a brief explanation of the skills offered by, and training required of, various health and exercise professionals.

Physiatrists, also known as rehabilitation physicians, are board-certified medical doctors who specialize in treating nerve, muscle, and bone conditions that affect movement. Back problems, knee or shoulder injuries, debilitating arthritis or obesity, and stroke are a few examples. A physiatrist can tailor an exercise prescription to your needs—for example, if you're recovering from surgery or injuries, or if you have chronic problems that limit movement. He or she can also tell you whether certain types of exercise will be helpful or harmful given your specific health history.

Physical therapists help restore abilities to people with health conditions or injuries affecting muscles, joints, bones, or nerves. Their expertise can be valuable if, for instance, you have suffered a lingering sprain or are recovering from a heart attack or hip replacement. After receiving a bachelor's degree, physical therapists must graduate from an accredited physical therapy program. Additionally, physical therapists must pass a national exam given by the Federation of State Boards of Physical Therapy and be licensed by their state. Some specialize in cardiopulmonary rehabilitation, orthopedics, sports medicine, geriatrics, or other areas. Specialists complete advanced training and additional national exams to become board-certified. Most accredited programs in the United States also offer doctoral degrees.

Physical therapy assistants provide physical therapy services under the supervision of a physical therapist. They must complete a two-year associate's degree, pass a national exam, and, in most states, be licensed.

Clinical exercise physiologists work with people who have chronic diseases, such as cardiovascular disease, lung ailments, and metabolic disorders. They work in a medically supervised environment under the direction of a licensed physician. To qualify, they must hold a bachelor's degree in exercise science and have 1,200 hours of hands-on experience in the clinic or a master's degree in clinical exercise physiology and 600 hours of hands-on clinical experience. They must also either be licensed under state law or hold a national certification title, such as the American College of Sports Medicine's Certified Exercise Physiologist or Certified Clinical Exercise Physiologist.

Physical therapists are trained to help restore function in people with various types of injuries and can help you adapt any exercises that are causing you trouble.

Personal trainers are fitness specialists who can help ensure you're doing exercises properly. While encouraging and motivating you, they can fine-tune your form, especially helpful in core work because subtle movements can make an exercise effective or ineffective. Personal trainers teach new skills, change up routines to beat boredom, and safely push you to the next level.

No national licensing requirements exist for personal trainers, although standards for the accrediting fitness organizations that train them have been set by the National Commission for Certifying Agencies. Two well-respected organizations that offer certification and programs of study for personal trainers are the American College of Sports Medicine and the American Council on Exercise. Others include the National Council on Strength and Fitness, the National Strength and Conditioning Association, and the National Academy of Sports Medicine. All these organizations have different requirements for training and expertise. Some trainers specialize in working with particular populations—for example, athletes or older adults—and may have taken courses and possibly certifying exams in those areas.

working out under the supervision of an experienced personal trainer or health professional (see "Exercise professionals," page 10).

How to adapt the routines

Assuming you've gotten the green light from your doctor to start exercising, monitor yourself as you go along to make sure you don't run into trouble. Use the strategies below if you encounter difficulties with the exercises or stretches. If you have very significant limitations from illness or disability, consider working with a physical therapist or personal trainer to further modify this gentle core program.

Fatigue and mild discomfort during exercise is normal; intense pain is not. If you have sharp or severe pain during a particular exercise, stop and move on to another one.

Does a medical condition cause you pain?

- Take a warm shower before doing the exercises or stretches to make your muscles more pliable.
- If you are doing floor work, make sure your mat is well padded.
- If a particular exercise is very painful, or if pain progressively worsens while you're performing it, stop and move on to another exercise.
- If your pain results from arthritis, try the two-hour pain rule recommended by the Arthritis Foundation. Accept that some short-lived discomfort is likely when you exercise, especially if you haven't been active. However, if you feel more pain two hours after you finish exercising than before starting, you probably overdid it. Pare back to the point where this is no longer true (for example, by doing fewer reps or a less challenging exercise). Then step up your level of exercise very gradually, keeping the two-hour rule in mind. Remember, staying active lessens arthritis (as well as low back pain) in the long run.
- Work with your doctor to better control pain. Be aware of any dizziness or drowsiness from medications that might lead to falls, however, and report these to your doctor. Choosing the right type and level of pain relief may require tinkering.
- Seek ways to reduce pain that do not involve medication. Acupuncture shows promise in easing chronic low back pain and osteoarthritis of the knee. Gentle self-massage and applications of cold or heat may help, though this depends on the underlying problem causing your pain. Explore these and other options with your doctor to be sure they fit your situation.

Are you finding it hard to do core exercises?

- Start with the easier exercises, such as the Office Workout (page 22), as well as the stretches in both the Office Stretch (page 25) and the Home Stretch (page 38). In the Home Workout (page 27), begin with the Level 1 exercises, and become confident with them before you move on to Level 2.
- Choose just two core exercises to do instead of aiming for an entire workout. For the simplest exercises, see the Office Workout (page 22) and "Easiest abdominal exercises" (page 21). Once you've mastered those, add on another one or two exercises until you're doing a full workout.

Are you feeling very stiff?

- For the first two weeks, until your body begins to feel more limber, focus on stretches (see the Office Stretch, page 25, and the Home Stretch, page 38). Then you can start folding in easy exercises from the Office Workout (page 22).
- Normally, it's best to do stretches during or after a workout. But if stiffness is an issue, you can try stretching after a warm shower or bath that loosens up your muscles.

Are you struggling to do all the repetitions (reps) that make up one set?

- When an exercise feels especially hard, perform fewer reps, stopping when you can no longer maintain good form. (For definitions of terms like "reps" and "sets," see "What does the terminology in the instructions mean?" on page 15). Build strength by adding one more rep of the exercise during each session of core work—or every other session if you need more time to build up—until you can do the full number of reps comfortably. Only then should you add another set, if called for in the instructions.

Are you having trouble holding a position for the full number of seconds recommended?

- If even one plank knocks you out, dial down the number of seconds you hold it: aim for 10 seconds one week, then try to bump up to 15 seconds the following week. Use the same rule for stretches. Again, good form always beats length of time held.

Do you need to modify a movement or position?

- While good form requires closely adhering to exercise instructions, you should take a movement only as far as is comfortable. For example, when doing the standing knee lift (page 22), lift your knee only six inches if that's all you can manage at first.
- Sometimes small adjustments help. For example, the front plank on desk (page 24) will be easier if the surface you lean on is high; it's more challenging if you're leaning on a lower table, desk, or countertop.
- Take stretches only to the point of mild tension, never pain. The child's pose (page 38) and butterfly pose (page 40) stretches can be made easier with a rolled towel or pillows, as explained in the instructions for those stretches.

Are your muscles sore after exercise?

- Whenever you start doing a new set of exercises, you may feel a bit sore the next day or two. Delayed-onset muscle soreness is a normal response to taxing muscles. Usually, it peaks 24 to 48 hours after a workout before gradually easing, then disappearing entirely in another day or so. By contrast, sudden, sharp, or long-lasting pain should prompt you to call a doctor (see "Warning signs," page 9).
- If your muscles feel really sore a day or two after a core workout, you probably overdid it. Dial down your core work next time by using Level 1 exercises, performing fewer reps, or holding a position for fewer seconds.

12 tips for doing gentle core work safely and effectively

To get the best results from our exercises and stretches, follow these 12 tips:

1. **Warm up.** Before a full core workout, march in place for several minutes while swinging your arms, or dance to a few songs. It's safe to skip this if you've already warmed up through other activities.
2. **Brace yourself.** Tighten your core muscles before starting the "Movement" in each exercise to stabilize your spine and protect your back from injury. Here's how: while sitting, standing, or lying on your back, gently but firmly tighten your abdominal muscles. Once you're braced, a gentle push from any direction should not cause you to lose your balance. Some trainers suggest imagining that you're pulling in your muscles to zip up a tight pair of jeans and fasten a tight jacket. Either way, practice makes perfect. Try bracing or zipping up for 10 seconds at a time while breathing normally.

It's important to warm up your muscles before you work out. Try marching in place for several minutes while swinging your arms or dancing to a favorite tune.

3. **Form first.** Good form means aligning your body as described in the exercise instructions and moving smoothly through an exercise. Read the "Tips and techniques" section of each exercise carefully for helpful cues on correct form. Also see "Posture and alignment," page 19.
4. **Reps second.** More isn't necessarily better. Do only as many repetitions (reps) as you can manage with excellent form. Likewise, hold a position only for as long as you can manage with proper form. Work up to the full number of reps or seconds gradually.
5. **Go slowly.** As you perform each rep, move slowly in a controlled manner. You don't want to rush or use jerky motions. Keep your movements smooth. Taking your time instead of rushing through your reps will help you get stronger and more toned while avoiding injury.
6. **Feel no pain.** Core work shouldn't hurt. Some discomfort from muscle fatigue is normal when exercising, but stop if you feel any sharp or intense pain, especially in your lower back or joints (see "Warning signs," page 9). Check your form and try again. If pain persists, check with a doctor or physical therapist before repeating that exercise.
7. **Realize that photos tell only part of the story.** Photos can make core work look easier than it actually is. Carefully read the instructions and the "Tips and techniques" section of each exercise. Also, check out "The right (and wrong) way to do two gentle core moves," page 19.
8. **If it's too easy, step it up.** As it feels easier to do exercises with good form, there are several ways you can step it up. First, add reps to complete a full set, or add seconds if the exercise calls for you to hold a position. Next, you can add another set (up to two total, if called for in the instructions). Then try the "Make it harder" variations. In the Home Workout, you also have the option to move on to Level 2 exercises. As you move up to more challenging exercises, leave the simpler ones behind to make the most efficient use of your exercise time.
9. **Be balanced.** When possible, do a pair of exercises with opposing movements, such as the standing hamstring curl (page 23) and the standing knee lift (page 22), or the ball squeeze (page 33) and the standing side leg lift (page 22). This helps create balance in muscle groups. It also aids in injury prevention and is often used in rehabilitation. As you'll find, the exercises in the Office Workout (page 22) and Home Workout (page 27) strengthen the front, back, inner, and outer leg muscles, in addition to working hip, buttock, abdominal, and back muscles. Looking for single exercises that work several muscle groups at once? Try front planks (pages 36) and the opposite arm and leg raise (page 29).
10. **Be flexible.** Core flexibility is as important as core strength. In fact, too much strength without flexibility can make your back throb and interfere with movements like swinging a golf club. So don't skimp on stretches when you're shoehorning core work into your day. Do a full Office Stretch (page 25) or Home Stretch (page 38) at least twice a week.
11. **Move before stretching.** Muscles are a bit like taffy—you'll get a better stretch if your body is warmed up. You'll be less likely to injure yourself, too. If you stretch after doing core exercises or another activity like walking for at least five minutes, you're all set.
12. **Practice often.** You'll notice real gains if you practice core exercises three or more times a week. One helpful strategy is to sprinkle core work throughout the day—for example, a set each of side-lying inner-thigh leg raises (page 33) and clams (page 34) before dressing, a set of chair stands (page 28) after lunch, an Office Workout (page 22) or Office Stretch (page 25) during a short break, or a calming Home Stretch (page 38) before bed.

Structuring your workout: Four commonly asked questions

Before you begin, it helps to know how core work should fit into your overall exercise routine, what equipment you need, how to interpret the directions for the exercises, and how to gauge your progress.

1. How should core work fit into your overall exercise plans?

Fitting core work into a broader exercise plan will give you the biggest bang for your buck in terms of health benefits (see "Beyond the core—why exercise?" on page 7). A well-rounded exercise plan has several facets, according to the Physical Activity Guidelines for Americans from the U.S. Department of Health and Human Services, which recommends the following:

- Accumulate at least two-and-a-half hours (150 minutes) of moderate aerobic activity per week; one-and-a-quarter hours (75 minutes) of vigorous activity per week; or an equivalent combination of the two. If you can increase the total to 300 minutes of moderate activity or 150 minutes of vigorous activity, it will boost the health benefits you derive. During moderate activity, such as a brisk walk, you can talk, but not sing; during vigorous activity, such as running, you can't say more than a few words without catching your breath (see Table 1, page 15). Walking, running, biking, swimming, cross-country skiing, pickleball, tennis, rowing, and many additional activities offer aerobic benefits.
- Do strength training sessions at least two times a week for all major muscle groups, including your core. (While there are no guidelines on rest days, many experts recommend allowing at least 48 hours between strength workouts for recovery.)
- Add balance exercises if you're an older adult who is at risk for falling.
- Move more, and sit less.

Since core exercises are primarily strength-based, you should also aim for at least 150 minutes of moderate aerobic exercise per week to keep your cardiovascular system healthy.

Core work falls under the second and third categories (strength training and balance exercises). Many of the exercises we've selected tone more than just core muscles: for example, chair stands strengthen muscles throughout your legs, while planks work some arm, shoulder, and leg muscles as well as abdominal muscles. However, gentle core exercises cannot fulfill all your strength training needs. To meet the recommendations, you'll need to add some strength training exercises to ensure that you're working all major muscle groups at least twice a week. Another report from Harvard Medical School, *Strength and Power Training for Older Adults*, can help you embark on a gentle introductory program (see "Resources," page 48).

When deciding how to fit in core work, consider which of the following options best fit your schedule and goals. Core work doesn't have to take a lot of time. Slipping in exercises and stretches during the day or adding a few core exercises to your usual routine requires just a few minutes.

Do a short workout. On days when you don't have enough time to do an entire routine, don't skip work-

ing out entirely. You can do a quick, effective workout by following one of the Quick Workouts on page 21.

Perform a complete workout. Aim to do a core workout two or three times a week. Start with Level 1 exercises, taking as long as you need to work up to the recommended number of reps and sets. When this becomes easy, substitute Level 2 exercises. Changing workouts can help keep you motivated.

Sprinkle in core work. Add short bursts of core work throughout the day by choosing exercises or stretches to do a few times a day. You can do this daily, or you can start more slowly by writing a reminder on your calendar to do core work a few days a week—then gradually fold core exercise into additional days.

Tack core work onto strength sessions. If you're already following the standard exercise recommendations, try adding two core exercises to each of your strength training sessions. This option is an excellent fallback position during especially busy weeks. During less busy weeks, consider stepping it up again by doing a core workout or sprinkling bursts of core work throughout your day.

Table 1: How hard are you working?

INTENSITY	IT FEELS...	YOU ARE...
Light	Easy	• Breathing easily • Warming up, but not yet sweating • Able to talk—or even sing
Light to moderate	You're working, but not too hard	• Breathing easily • Sweating lightly • Still finding it easy to talk or sing
Moderate	You're working	• Breathing faster • Starting to sweat more • Able to talk, but not able to sing
Moderate to high	You're really working	• Huffing and puffing • Sweating • Able to talk in short sentences, but concentrating more on exercise than conversation
High	You're working very hard, almost out of steam	• Breathing hard • Sweating hard • Finding talking difficult

2. What equipment will you need?

Almost all of our gentle core exercises rely on body weight and gravity alone. Practically no equipment is needed, with these exceptions:

Ball. For the ball squeeze exercise (page 33), you'll need a rubber or plastic ball about the size of a child's soccer ball. Many supermarkets and big-box stores carry these inexpensive balls in a toy section.

Chair. Many of our exercises call for a sturdy chair that won't tip over easily. A plain wooden dining chair without arms or heavy padding works well. Do not use a desk chair with wheels! A countertop or desk can substitute for a chair when it's used to help you balance.

Mat. Choose a nonslip, well-padded mat for floor exercises and stretches. Yoga mats are readily available, though these mats tend to be thin. A thick carpet or towels will do in a pinch. Mats are available online or wherever fitness products are sold.

Yoga strap (optional). A yoga strap—a cotton or nylon strap of six feet or longer—can be used to help you position your body properly during certain stretches, such as the hamstring stretch lying down (page 39). Choose a strap with a D-ring or buckle fastener on one end. This allows you to put a loop around a foot or leg and then grasp the other end of the strap. You can also use a belt or strap from a bathrobe.

3. What does the terminology in the instructions mean?

The instructions for every exercise and stretch in this report use certain terms, which are explained below.

Repetitions (reps). Each rep is a single, complete movement for one exercise. If you cannot do all the reps at first, just do as many as you can manage with good form. Gradually increase reps as you get stronger.

Why not just do a few sit-ups?

Once, sit-ups ruled in dusty school gyms, and planks were merely flooring. Now exercises known as planks have claimed the spotlight as core workout stars, while old standards such as sit-ups and crunches have fallen out of favor. Why the shift?

First, sit-ups may injure your back by pushing your curved spine against the floor, as well as by overworking the hip flexor muscles, which run from the thighs to the lumbar spine of the lower back. When these muscles are too strong or overly tight, they tug on lumbar vertebrae, which can be a source of lower back discomfort.

Second, planks recruit a better balance of muscles on the front, sides, and back of the body than sit-ups, which target just a few muscles.

Third, daily activities and sports call on your muscles to work together, not in isolation. Sit-ups or crunches cherry-pick a few muscle groups to strengthen. Our core workouts stress dynamic patterns of movement used in many activities that build up your entire core.

Planks are the new sit-ups—the go-to exercise for your core. They work a broader group of core muscles than sit-ups. Start by holding them for 10 seconds, and work up over time.

Set. One set is a specific number of repetitions. In our gentle core exercises, a set is usually eight to 10 reps. Generally, we suggest doing one to two sets. Just as with reps, do only the number of sets you can manage with good form and work your way up over time.

Hold. Hold tells you the number of seconds to pause while holding a pose during an exercise. You'll see this in stretches, which are held for 10 to 30 seconds, for example, and in plank exercises. Start with a comfortable number of seconds, then work up. Holding for the full recommended time will give you the best results from the stretch or exercise.

Rest. A rest is recommended between sets of certain exercises to give your muscles a chance to recharge, which helps you maintain good form. We specify a range of time to rest between sets. The amount of time you need will differ depending on your level of fitness and how challenging the exercise is. No rest is needed during warm-ups and stretches, or when you are not doing a second set of exercises.

Starting position. This describes how to position your body before starting the movement of the exercise.

Movement. This explains how to perform one complete repetition of an exercise correctly.

Tips and techniques. We offer two or three pointers to help you maintain good form and reap the greatest gains from the exercise.

4. How can you measure gains?

Time can pass awfully slowly when you're hoping to see results after embarking on a new exercise regimen. But if you do gentle core work consistently, you can start to see progress in as little as two to four weeks; if you start more slowly or exercise less consistently, progress will take longer. Best results are obtained when you do workouts or exercises several times a week and step up to more challenging exercises when you've mastered the easier ones.

To monitor your progress, we suggest doing baseline tests of endurance, strength, flexibility, and balance before you start gentle core exercises. Then retest yourself every two to four weeks. Celebrating even small successes will help to fuel your motivation.

When performing the tests, do only as many reps or hold for as many seconds as you can manage with good form and control. If these exercises are too easy for you, step up to the Level 2 variations (see Table 2, page 27). Jot down your results in the spaces provided on pages 17 and 18. Then measure again every two to four weeks.

Of course, you can measure gains more informally, too, in any number of ways. Are you closer to success in the goal you set? Does your back hurt less? What tasks are you finding easier to perform? How much easier is it to bend and tie a shoelace or pick something up?

Challenging yourself and maintaining gains

Are you wondering when and how to progress? Or do you feel you've gone far enough and just want to maintain gains you've made? Either way, our tips below will help.

When to progress

Repeatedly challenging muscles makes them stronger. As you get stronger, exercises in your routine will become easier to do. You're ready to progress if you can manage all three of these tasks throughout each exercise:

- maintain good form and control
- use a full, or comfortable, range of motion
- complete the suggested number of reps and sets, or hold the position for the suggested number of seconds.

How to progress

You can continue to challenge your muscles by making one of these choices:

- adding sets (up to two, if specified in the instructions)
- trying the Level 2 variation of the exercise
- moving up to a more challenging core regimen, such as the six workouts provided in the *Core Exercises* Special Health Report (see "Resources," page 48).

How to maintain gains

At some point, you may be satisfied with the gains you've made. To maintain gains, continue your routine, sticking to the highest level of challenge you've achieved.

If you get sick or take time off for other reasons, you may need to drop down a level or do fewer reps and sets before building up again.

What if you begin to feel bored?

Go over your goals again. Then vary your core work by trying a new workout or selecting new exercises to do throughout the day. For options, see Table 2 (page 27) and the workouts themselves.

Endurance

Perform a front plank on desk (page 24), holding it for as long as you can.

Date of baseline: _____ How many seconds _____

Date of test 1: _____ How many seconds _____

Date of test 2: _____ How many seconds _____

Date of test 3: _____ How many seconds _____

Date of test 4: _____ How many seconds _____

Strength

Perform the chair stand (page 24), doing as many reps as you can.

Date of baseline: _____ How many seconds _____

Date of test 1: _____ How many seconds _____

Date of test 2: _____ How many seconds _____

Date of test 3: _____ How many seconds _____

Date of test 4: _____ How many seconds _____

Flexibility

The YMCA sit-and-reach test is a good way to measure gains in flexibility. Ask your doctor if it's okay for you to do this test if you have low back pain. If it's safe for you to proceed, warm up for at least five minutes (for example, walk in place, or dance to a few songs) and then do either the Home Stretch (page 38) or Office Stretch (page 25) before testing yourself to make sure you're limber. When you're done, perform the sit-and-reach test three times, noting the best measurement. Here's how to do the test.

Starting position. Fasten a measuring tape or yardstick to the floor by running a strip of tape across the 15-inch mark. Take off your shoes and sit on the floor with your feet about 10 to 12 inches apart. The yardstick should be between your calves, with the zero mark pointing toward you and your heels at the 15-inch mark. Make sure your legs stay straight as you reach, though without interfering with your movement. It may help to have a friend check measurements, but if you don't have a measuring tape or yardstick, or someone readily available, simply notice how far the tips of your fingers extend beyond your knees, ankles, or toes.

Movement. Put one hand on top of the other, middle fingers touching. Exhale as you slowly

stretch forward with arms extended, sliding your fingertips lightly along the measuring tape, yardstick, or floor. Don't bounce, jerk, or strain. Return to the starting position. Rest a few seconds and repeat. Do three sit-and-reach stretches, noting the farthest measurement.

Date of baseline: _____ How far did you stretch? _____

Date of test 1: _____ How far did you stretch? _____

Date of test 2: _____ How far did you stretch? _____

Date of test 3: _____ How far did you stretch? _____

Date of test 4: _____ How far did you stretch? _____

Balance

Core work should help improve your balance. One of the best tests for measuring gains is the single-leg stance. Here's how to do it: Stand comfortably near a wall, with your arms in any position you choose. Lift one foot an inch or two off the floor so that you are balancing on the other foot. Time how long you can do this before having to put the raised foot down or touch the wall for support. Repeat the measurement standing on the other leg.

If you can't stand on one leg unassisted, lightly touch the wall or hold the back of a chair with one or both hands for support. Use less support as you improve your balance.

Date of baseline: _____ Seconds: (left) _____ (right) _____

Date of test 1: _____ Seconds: (left) _____ (right) _____

Date of test 2: _____ Seconds: (left) _____ (right) _____

Date of test 3: _____ Seconds: (left) _____ (right) _____

Date of test 4: _____ Seconds: (left) _____ (right) _____

If you can hold a single-leg stance for 60 seconds or more, you have excellent balance. If you can't hold it for more than 10 seconds, you are at risk for a fall. In this case, talk to your doctor about ways to improve your balance and reduce your chances of falling.

Posture and alignment

Posture counts a lot when you're exercising. Aligning your body properly and bracing your core muscles (see "Brace yourself," page 12) are key to good form, which nets you greater gains and fewer injuries. In fact, good posture and body alignment help anytime you're moving. If one foot is always turned slightly inward, for example, it impedes power whether you're walking, going up stairs, jogging, or playing sports. Worse, poor alignment paves the way for injuries to the ankle, knee, hip, and beyond, since the effects of such physical quirks can zigzag their way up your body. Similarly, hours of computer and desk work tend to make your shoulders hunch and your head and neck jut forward uncomfortably. Sitting up straight and comfortably aligned in a chair can make desk work feel less tiresome.

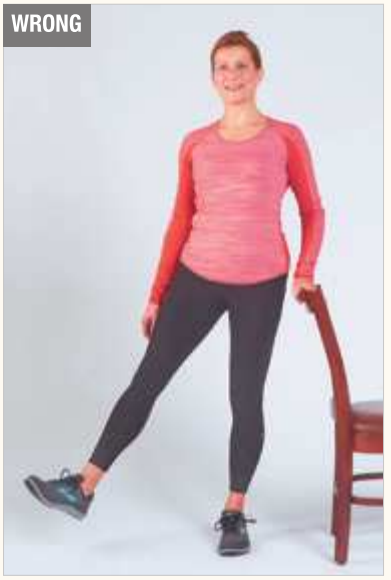
Committing to core work will do much to improve your posture, whether you're sitting, standing, or moving. A well-rounded set of core exercises, such as those in the workouts in the following chapters, is best. If you pour your efforts into strengthening only the most obvious set of core muscles—your abs—your back muscles will end up weaker by comparison. Then, instead of standing up straight, you will tend to hunch your back. Likewise, your posture is thrown off kilter when muscles lose flexibility. As muscles become less

The right (and wrong) way to do two gentle core moves

Good form is crucial to protecting against injury and getting the most benefit from an exercise. The plank, described on pages 24 and 36, is a classic core exercise that is often done the wrong way. Even in the gentle version at left, it's important to maintain good form, with your body aligned and your core muscles tight, to reduce risk of injury and gradually build strength over time. In the side leg lift, shown below and on page 22, avoid rotating the hip and foot and keep your core muscles engaged so you don't throw the rest of your body out of alignment.

▼ Plank

▼ Side leg lift



Standing up straight doesn't mean sucking in your stomach and thrusting out your chest. Simply stand with shoulders back and down, core tight, hips even, and body weight evenly distributed.

flexible, they tighten and eventually shorten so that your range of motion becomes increasingly limited. Among other problems, this can cause lower back pain. That's why core stretches are so important.

Our exercises build strength and flexibility in all your major core muscles. Doing our gentle workouts, or sprinkling several core exercises and stretches throughout your day, can help you avoid such problems.

Posture checks

Quick posture checks before and during exercise help you avoid injury and squeeze the most benefit from your workout. If possible, look in a mirror when exercising until you get the hang of it. Try to take a few moments each day to practice better posture.

When you see instructions in an exercise to *stand up straight*, that means

- chin parallel to the floor
- shoulders even (roll them up, back, and down to help achieve this)
- arms at your sides, elbows relaxed
- core muscles engaged (see "Brace yourself," page 12)
- hips even and straight, allowing the lower back its natural curve without jutting out the buttocks
- knees even, not locked
- big toes pointing straight ahead
- body weight evenly distributed on both feet.

Alignment: Stay neutral

Most of the exercises here call for neutral alignment, which places the least amount of stress on the body. A *neutral wrist* is firm and straight, not bent upward or downward. A *neutral spine* is straight, except for the gentle, natural curves of the spine—it's not flexed or arched to overemphasize the curves of the upper or lower back. *Neutral alignment of the body* means keeping your entire body in a straight line from head to toe, except for the natural curves of the spine.

One way to find the neutral position for your spine is to tip your pelvis forward as far as is comfortable—you might feel a mildly uncomfortable arch at your lower back. Next, tuck your tailbone under to flatten your back. The spot approximately in the middle of these two motions should be neutral. If you're not used to standing or sitting up straight, it may take a while for this to feel natural. (When you do this, the upper back usually comes into alignment, too, with your shoulders naturally falling down and back and your spine straightening. To be sure, check that your ribs are lined up with your hips and that your shoulders are even.) Maintaining a neutral spine is important because it minimizes stress on the internal organs and allows the lungs to expand fully, so your body functions better.

Choosing which gentle core exercises to do

You can do core work anywhere—well, almost anywhere, as you'll see in our two gentle core routines.

Two workouts and sets of stretches

Our first workout is called the Office Workout. It contains simple exercises that are easy to do in an office setting and are great for building some movement into your workday. That doesn't mean you can't do them at home, too: instead of doing the front plank while leaning on your desk, for example, you might use your kitchen counter to support your weight while performing this exercise.

Because you should always stretch after exercising, we follow the Office Workout (page 22) with the Office Stretch (page 25)—a group of five simple stretches that will help counter stiffness from too many hours spent sitting.

Our second gentle core routine is called the Home Workout (page 27). Again, though we put the word "home" in the title, you don't have to limit yourself to doing it at home. These exercises are appropriate for the gym as well. To conclude, we offer you the Home Stretch (page 38)—six stretches to help you stay flexible through your core.

Two levels of difficulty

While all of our gentle core exercises are relatively easy, we also want you to be able to step up to greater challenges as you become stronger. That's why our Home Workout includes exercises with two levels of difficulty—an easier version (Level 1) and a harder version (Level 2). The Level 2 exercises work the same muscles as the corresponding Level 1 exercises, but they pose a slightly greater challenge. You can move through them in the order we suggest or mix and match to build your own routine. Here are several suggestions for creating routines to suit your needs.

Easiest abdominal exercises

This trio represents the simplest, easiest exercises you'll find anywhere to work your abs. This is a good way to start tuning up your core if you're very out of shape. The movements are subtle, so read the instructions carefully before you start, paying attention to our tips and techniques.

- Standing knee lift (page 22)
- Pelvic tilt (page 30)
- Abdominal contraction (page 29).

Equipment needed: Exercise mat and chair or wall to hold for balance.

Quick Workout: Level 1

Here's an abbreviated workout if you want to ease into core training or if you're too busy on certain days for a full workout. Just remember that you should do the entire routine rather than a short workout as often as possible for the best results.

- Chair stand (page 24)
- Front plank on knees (page 36)
- Bridge (page 32)
- Abdominal contraction (page 29).

Equipment needed: Exercise mat and sturdy chair that won't roll away.

Quick Workout: Level 2

This abbreviated routine can be a great stepping stone to doing the full Level 2 workout. Or use it on those days when fitting in a workout is a challenge. If any of these exercises are too challenging, you can do the Level 1 counterparts instead (see Table 2, page 27). For best results, aim to do the entire routine.

- Staggered chair stand (page 28)
- Front plank (page 36)
- Bridge with knee to chest (page 32)
- Opposite arm and leg raise (page 29).

Equipment needed: Exercise mat and sturdy chair that won't roll away.

OFFICE WORKOUT

For true beginners and those pressed for time

Here are six exercises you can do at your desk while dressed to impress, or at home in a T-shirt and shorts. Consider this sextet your first line of defense against "sitting disease" (see "A cure for 'sitting disease,'" page 6). This workout is perfect for long phone calls—unless you're on Zoom! Breathe comfortably as you perform each move. These moves are extra gentle, so a warmup isn't required, but if you have time, simply walk in place for a few minutes before you dive in. If an exercise is too easy but you're not quite ready to advance to the Home Workout, try the "make it harder" variation.

Equipment needed: Desk (or table or countertop) and sturdy chair that won't tilt or roll away.

1 Standing knee lift

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Stand up straight with your feet together. Hold the back of a chair with your left hand for support. Tighten your abdominal muscles.

Movement: Exhale as you slowly lift your right knee to hip height. Hold for a count of one, then slowly lower the foot to the floor. This is one rep. Finish all reps, then repeat with the left leg. This completes one set.

Tips and techniques:

- Keep your chest lifted and your shoulders down and back.
- Don't lean forward.
- Tighten the buttock of your standing leg for stability.

Make it harder: Hold the knee lift for two to four counts. Or try the move without holding on to the chair; you can extend your arms out to your sides for balance.

2 Standing side leg lift

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Stand up straight next to a chair, holding the back of it with your left hand. Put your feet together and evenly distribute your weight on both feet.

Movement: Slowly lift your right leg straight out to the side until your foot is about six inches off the floor. Hold for a count of one. Slowly return to the starting position. This is one rep. Finish all reps, then repeat with the left leg. This completes one set.

Tips and techniques:

- Keep your shoulders, hips, and knees aligned throughout the movement.
- Keep the toes and knee of your lifting leg facing forward.
- Tighten the buttock of your standing leg for stability throughout the leg lift.

Make it harder: Hold the leg lift for two to four counts.

3 Standing hamstring curl


Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Stand up straight behind a chair, holding the back of it with both hands. Extend your right leg behind you with your knee bent and toes touching the floor.

Movement: Without moving your thigh, slowly bend your right knee, bringing your heel toward your right buttock as far as is comfortable. Hold for a count of one. Slowly lower your foot to the floor. This is one rep. Finish all reps, then repeat with the left leg. This completes one set.

Tips and techniques:

- Keep your hips even and facing forward.
- Tighten the buttock of the standing leg to help you balance.
- Keep your thigh stationary and knees aligned.

Make it harder: Hold the leg lift for two to four counts.

4 Soccer kick


Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Stand up straight with your feet together and your left hand holding the top of a chair.

Movement: Tighten your abdominal muscles. Slowly lift your right leg out to the side. Next, keeping the foot flexed, slowly sweep your leg diagonally in front of you as if kicking a soccer ball with the inside of your foot. Hold for a count of one. Slowly bring your foot back to the right side. This is one rep. Finish all reps, then repeat with the left leg. This completes one set.

Tips and techniques:

- Keep your hips even and maintain neutral alignment throughout.
- Tighten your abdominal muscles and the buttock of the standing leg.
- Don't twist your body as you swing your leg.

Make it harder: Hold the leg lift for two to four counts.

Special thanks to Michele Stanten, the fitness consultant on this report, for serving as the model for these exercises.

5 Chair stand

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Sit in a chair with your feet hip-width apart. Place your hands on your thighs.

Movement: Tighten your abdominal muscles. Exhale as you slowly stand up. Slowly sit down with control. This is one rep.

Tips and techniques:

- Press your heels against the floor and tighten your buttocks as you stand to help you balance.
- Steady yourself before you sit down.
- Exhale as you stand, inhale as you sit.

Make it harder: Cross your arms over your chest.

6 Front plank on desk

Reps: 1–6

Sets: 1

Hold: 10–60 seconds

Rest: 30–90 seconds between reps

Starting position: Stand facing a desk or counter with your feet together.

Movement: Tighten your abdominal muscles and place your forearms on the desk or countertop. Clasp your hands together and align your shoulders directly over your elbows. Step back on the balls of your feet until you are balancing your body in a line like a plank. Hold. This is one rep. Aim to hold for a total of 60 seconds, doing as many reps as needed to reach that total. For example, if you can hold a plank for 15 seconds, you would do four reps.

Tips and techniques:

- Keep your head and spine neutral when you're in plank position.
- Keep your shoulders down and back.
- Keep your body in a line from head to toes; don't bend at your hips or waist.

Make it harder: Raise one foot off the floor and hold it for up to 30 seconds. Repeat, lifting the opposite leg.

OFFICE STRETCH

Flexibility moves to follow the Office Workout or for anytime you're feeling stiff

Slip these five seated or standing stretches into your work day, or do them at home. The office stretches help ease back pain and counter the stiffness that creeps up as you sit for long periods, particularly in front of a computer or television. What's more, they'll help you build a well-balanced, flexible core. You'll be amazed at how good regularly stretching can make your body feel.

Aim to do two reps of each stretch, spending 30 seconds in each "hold" position. If you can't hold a stretch for 30 seconds, hold it as long as is comfortable and then do more reps to reach a total of 60 seconds for each "hold" position. For example, if you can hold a stretch for only 15 seconds, do four reps.

Remember to breathe comfortably rather than holding your breath during all of these stretches, and stretch only to the point of mild tension, not pain.

Equipment needed: Sturdy chair.

1

Seated hamstring stretch

Starting position: Sit up straight toward the front of a chair with your left foot flat on the floor and your right leg extended in front of you with your heel on the floor and toes pointing to the ceiling.

Movement: Hinge forward from the hips, placing your hands on your left thigh for support, until you feel a gentle stretch at the back of your extended leg. Keep your spine neutral. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position. Then repeat with the other leg.

Where you'll feel it: Back of thigh

Tips and techniques:

- Don't lock your knee. You should not feel any pressure behind the knee.
- Keep your shoulders down and back.
- Keep your head and chest lifted.

2

Seated torso rotation

Starting position: Sit up straight in a chair with your feet flat on the floor and your arms at your sides.

Movement: Slowly rotate your head and torso to the right side, placing your left hand on the outside of your right knee and your right hand next to your right hip. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position. Then repeat on the left side, this time with your right hand on the outside of your left knee and your left hand next to your left hip.

Where you'll feel it: Back and sides of torso

Tips and techniques:

- Sit up straight with chest lifted and abdominals braced.
- Keep your shoulders down and back.
- Keep your knees pointing straight ahead.

3 Seated figure-4 stretch

Starting position: Sit up straight in a chair and rest your left ankle across your right thigh. Place your hands on your ankle and knee.

Movement: Keeping your spine neutral, slowly hinge forward from your hips until you feel mild tension in your left hip and buttock. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position. Then repeat with your right ankle on your left knee.

Where you'll feel it: Hip and buttock

Tips and techniques:

- Keep your chest lifted.
- Keep your shoulders down and back.
- Press down gently on your bent leg for a greater stretch.

4 Seated inner-thigh stretch

Starting position: Sit up straight in a chair and open your legs as far apart as you can with knees and toes pointed out. Put your hands on the insides of your knees.

Movement: Keeping your spine neutral, hinge forward from the hips and gently press your legs apart to the point of mild tension. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position.

Where you'll feel it: Inner thighs

Tips and techniques:

- Keep your head and chest lifted.
- Keep your spine neutral and your shoulders down and back.
- Don't bend forward from your waist—instead, focus on leaning from the hip joint.

5 Standing quad stretch

Starting position: Stand up straight, feet together, holding the back of a chair with both hands.

Movement: Bend your right knee and reach back with your right hand to grasp your foot, lifting it toward your right buttock. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position. Then repeat with the other leg.

Where you'll feel it: Front of thigh

Tips and techniques:

- If you have trouble grasping your foot, place a yoga strap or a towel around it to assist with the stretch.
- Keep your bent knee pointing toward the floor.
- Tuck your tailbone and straighten your spine, rolling your shoulders back and down, to feel more of a stretch.

HOME WORKOUT

For those who have more time and are comfortable exercising on the floor

At home (or the gym), you have more leeway than in an office. You can lie on the carpet or on an exercise mat, and no one will give you strange looks. Here's a routine to work all your core muscle groups in the abs, back, sides, pelvis, and buttocks.

Throughout this workout, we've paired an easier Level 1 exercise with a more challenging Level 2 exercise that works the same muscles (see Table 2, right). Start with Level 1 exercises, focusing on the quality of your repetitions rather than the quantity. Maintaining good form, posture, and alignment for fewer reps is preferable to doing a greater number of reps with poor form (see "Posture and alignment," page 19). When you master a Level 1 exercise and can do the recommended number of reps and sets fairly easily, you can move on to the Level 2 variation. You may progress faster on some exercises than others, so you're doing a mix of Level 1 and Level 2 exercises. That's perfectly fine. Remember to take a few minutes to warm up before doing the exercises.

If completing the Home Workout seems overwhelming—as it may if you're recovering from an injury—divide it into smaller chunks and give yourself the option of stopping at the end of each one. Or do one of the Quick Workouts described on page 21.

Table 2: Home Workout levels at a glance

The following exercises come in pairs, each with an easier and harder version. Level 1 exercises are the easier ones. Level 2 exercises are more challenging.

LEVEL 1	LEVEL 2
Chair stand	Staggered chair stand
Abdominal contraction	Opposite arm and leg raise
Pelvic tilt	Alternating knee lift lying down
Crunch with one leg extended	Alternating toe taps
Bridge	Bridge with knee to chest
Ball squeeze	Side-lying inner-thigh leg raise
Side-lying leg lift	Clam
Seated knee extension	Single-leg raise
Front plank on knees	Front plank

Equipment needed: Exercise mat, sturdy chair that won't tilt or roll away, and 12-inch ball.

1

Level 1: Chair stand

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Sit in a chair with your feet hip-width apart. Place your hands on your thighs.

Movement: Tighten your abdominal muscles. Exhale as you slowly stand up. Slowly sit down with control. This is one rep.

Tips and techniques:

- Press your heels against the floor and tighten your buttocks as you stand to help you balance.
- Steady yourself before you sit down.
- Exhale as you stand, inhale as you sit.

Level 2: Staggered chair stand

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Sit in a chair with your feet about hip-width apart and staggered so that your left heel is next to the toes of your right foot. Place your hands on your thighs.

Movement: Tighten your abdominal muscles. Exhale as you slowly stand up. Slowly sit down with control. This is one rep. Finish all reps, then repeat with your right heel next to the toes of your left foot. This completes one set.

Tips and techniques:

- To help you balance, press your heels against the floor and tighten your buttocks as you stand.
- Steady yourself before you sit down.
- Exhale as you stand, inhale as you sit.

2

Level 1: Abdominal contraction

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Kneel on all fours with your hands and knees directly aligned under your shoulders and hips. Keep your head and spine neutral.

Movement: Exhale as you slowly tighten your abdominal muscles by pulling them up toward your spine. Keep your spine neutral (no arching your back!). Hold for a count of four. Slowly release your abdominal muscles. This is one rep.

Tips and techniques:

- This is a very subtle movement, and your spine should stay still throughout the exercise.
- Breathe comfortably, exhaling as you pull your abdominal muscles in and up like a zipper.

Level 2: Opposite arm and leg raise

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Kneel on all fours with your hands and knees directly aligned under your shoulders and hips. Keep your head and spine neutral.

Movement: Slowly extend your left leg off the floor behind you while reaching out in front of you with your right arm. Keeping your hips and shoulders squared, try to bring the extended leg and arm parallel to the floor. Hold for a count of two. Slowly return to the starting position, then repeat with your right leg and left arm. This is one rep.

Tips and techniques:

- Keep your shoulders and hips squared to maintain alignment throughout.
- Keep your head and spine neutral.
- Think of pulling your hand and leg in opposite directions, lengthening your torso.

3

Level 1: Pelvic tilt

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your back with your knees bent, feet flat on the floor and hip-width apart. Place your arms on the floor by your sides.

Movement: Slowly exhale as you gently tighten your abdominal muscles as if pulling your navel toward your spine, and slightly tilt your pelvis, flattening your lower back on the floor. Hold for a count of two. Slowly return to the starting position. This is one rep.

Tips and techniques:

- This is a subtle movement. Try it once with your hands on your pelvis so you feel the pelvic tilt as you do it.
- Keep your shoulders down and back, relaxing them against the floor.
- Breathe comfortably.

Level 2: Alternating knee lift lying down

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your back with your knees bent, feet flat on the floor. Place your arms on the floor by your sides.

Movement: Tighten your abdominal muscles. Slowly lift your right knee up toward your chest, keeping the knee bent. Next, follow it with your left knee, lifting up toward your chest. Then slowly lower your right foot to the floor, lower your left foot to the floor, and return to the starting position. This is one rep. Start with your left leg for the next rep. Alternate the starting leg with each rep.

Tips and techniques:

- Keep your spine neutral.
- Tighten your core muscles to help keep your pelvis steady as you move your legs.
- Breathe comfortably, exhaling as you lift your legs and inhaling as you lower them.

4

Level 1: Crunch with one leg extended

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your back with your left knee bent and foot flat on the floor. Extend your right leg. Place both hands under your head on the floor.

Movement: Exhale as you tighten your abdominal muscles and slowly lift your head and shoulders slightly off the floor. Hold for two counts. Slowly lower to the starting position. This is one rep. Finish all reps before repeating with leg positions reversed. This completes one set.

Tips and techniques:

- Breathe comfortably, exhaling as you lift your head and shoulders off the floor.
- Focus your eyes on the ceiling.
- Lift only to your comfortable range of motion.

Level 2: Alternating toe taps

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your back, then raise your knees so that they are aligned over your hips with your legs forming a 90° angle at the knees. This is called a tabletop position. Your calves should be parallel to the floor. Rest your hands at your sides.

Movement: Tighten your abdominal muscles. Keeping your knees bent and your spine neutral, slowly lower your right foot until your toes tap the floor and then slowly bring your foot back up to the starting position. Repeat with your left foot. This is one rep.

Tips and techniques:

- Don't arch your back.
- Tighten your core muscles to help keep your abdomen and ribcage steady.
- Breathe comfortably, exhaling as you lower each foot down toward the floor.

5

Level 1: Bridge

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your back with your knees bent and feet flat on the floor, hip-width apart. Place your arms at your sides. Relax your shoulders against the floor.

Movement: Tighten your abdominal muscles and your buttocks, then slowly lift your hips up off the floor as high as is comfortable. Keep your hips even and spine neutral. Hold for a count of four. Slowly lower to the starting position.

Tips and techniques:

- Tighten your buttocks before lifting.
- Keep your shoulders, hips, knees, and feet evenly aligned.
- Keep your shoulders down and back, relaxing them against the floor.

Level 2: Bridge with knee to chest

Reps: 8–10

Sets: 1

Starting position: Lie on your back with your knees bent and feet flat on the floor, hip-width apart. Place your arms at your sides. Relax your shoulders against the floor.

Movement: Tighten your abdominal muscles and your buttocks, then slowly lift your hips up off the floor as high as is comfortable. Keeping your hips even and spine neutral, slowly pull in your right knee toward your chest as far as is comfortable. Slowly lower your right foot to the floor. Next, pull in your left knee toward your chest as far as is comfortable. Slowly lower your left foot to the floor. Then lower your hips to the starting position. This is one rep.

Tips and techniques:

- Tighten your buttocks before lifting your hips.
- Keep your hips even and spine neutral as you pull each knee toward your chest.
- Breathe comfortably.

6

Level 1: Ball squeeze

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your back with your knees bent and feet flat on the floor. Put a small ball (roughly 12 inches, or the size of a child's playground ball) between your knees. Place your arms at your sides.

Movement: Tighten your abdominal muscles. Squeeze your knees together against the ball. Hold for a count of two, then release. This is one rep.

Tips and techniques:

- Exhale as you squeeze, inhale as you release.
- Keep your spine neutral.
- Don't tilt your pelvis or lift your hips off the floor as you squeeze the ball.

Level 2: Side-lying inner-thigh leg raise

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your right side with your right leg extended and your head resting on your right arm. Bend your left leg at the knee and put your left foot on the floor in front of your right thigh. Place your left hand on the floor in front of you.

Movement: Tighten your abdominal muscles. Exhale as you slowly lift your right leg up toward the ceiling. Slowly lower your leg to the starting position. This is one rep. Finish all reps, then repeat on the left side. This completes one set.

Tips and techniques:

- Don't roll back onto your buttocks; stay on your hip.
- Contract your inner thigh as you lift your leg.
- Exhale as you lift your leg; inhale as you lower it.

7

Level 1: Side-lying leg lift

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your right side with both legs extended and your head resting on your right arm. Place your left hand on the floor in front of you. Align your shoulders and hips evenly, keeping your spine neutral.

Movement: Tighten your abdominal muscles. Slowly raise your left leg toward the ceiling, keeping your hips stacked and facing forward. Hold for a count of one. Slowly lower to the starting position. This is one rep. Finish all reps before repeating on the opposite side. This completes one set.

Tips and techniques:

- Don't roll back onto your buttocks; stay on your hip.
- Don't rotate the leg, so the knee points up. Instead, keep the knee pointed forward.
- Keep your shoulders and hips stacked.
- Tighten your buttocks as you lift your leg.

Level 2: Clam

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your right side, knees bent and heels in line with your buttocks. Rest your head on your right arm and place your left hand on the floor in front of you.

Movement: Keep your heels together as you slowly rotate your left knee up toward the ceiling while keeping your pelvis stable. Hold for a count of one, then slowly return to the starting position. This is one rep. Finish all reps before repeating on the opposite side. This completes one set.

Tips and techniques:

- Keep your hips stacked and still during the movement.
- Lift the top knee up as high as possible without letting the top hip move backward.
- Keep your feet together.

8

Level 1: Seated knee extension

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Sit straight up in a chair with your hands resting on your legs and your feet flat on the floor.

Movement: Exhale as you slowly lift your left foot up toward the ceiling as high as is comfortable. Hold for a count of one, then slowly lower to the starting position. This is one rep. Finish all reps before repeating on the opposite side. This completes one set.

Tips and techniques:

- Keep your spine neutral and your shoulders down and back.
- Contract your thigh muscles before you lift your foot off the ground.
- Keep your abs tight.

Level 2: Single-leg raise

Reps: 8–10 per side

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Lie on your back with your knees bent and feet flat on the floor. Place your hands at your sides.

Movement: Tighten your abdominal muscles. Keeping your feet flexed and knees even, slowly lift your left foot up toward the ceiling until your left leg is straight. Hold for a count of one. Slowly lower to the starting position. This is one rep. Finish all reps before repeating on the opposite side. This completes one set.

Tips and techniques:

- Flex your foot and tighten the quadriceps muscle on the front of your thigh before you extend your leg.
- Keep your spine neutral; don't arch your back as you lower your leg.
- Breathe comfortably, exhaling as you lift.

9

Level 1: Front plank on knees

Reps: 1-6

Sets: 1

Hold: 10–60 seconds

Rest: 30–90 seconds between reps

Starting position: Kneel on all fours with your hands and knees directly aligned under your shoulders and hips.

Movement: Tighten your abdominal muscles and walk your hands forward. Lower your upper body onto your forearms and drop your hips so your body is in line from your head to your knees, like a plank. Clasp your hands and align your shoulders directly over your elbows. Hold. This is one rep. Aim to hold for a total of 60 seconds, doing as many reps as needed to reach that total. For example, if you can hold a plank for 15 seconds, you would do four reps.

Tips and techniques:

- Keep your neck and spine neutral during the plank.
- Keep your shoulders down and back.
- Don't bend at your hips.

Level 2: Front plank

Reps: 1–6

Sets: 1

Hold: 10–60 seconds

Rest: 30–60 seconds between reps

Starting position: Kneel on all fours with your hands and knees directly aligned under your shoulders and hips.

Movement: Tighten your abdominal muscles and lower your upper body onto your forearms, clasping your hands together and aligning your shoulders directly over your elbows. Extend both legs with your feet flexed and toes touching the floor so that you balance your body in a line like a plank. Hold. This is one rep. Aim to hold for a total of 60 seconds, doing as many reps as needed to reach that total. For example, if you can hold a plank for 15 seconds, you would do four reps.

Tips and techniques:

- Keep your neck and spine neutral during the plank.
- Keep your shoulders down and back.
- Don't bend at your hips.

Catch your balance: Heel raise

Strictly speaking, the heel raise exercise can't be considered a core exercise because it focuses on strengthening muscles in your calves and ankles. But in order to balance on your toes (especially without holding the chair), you also need to tighten your core muscles. Core exercises in general strengthen several groups of muscles that stabilize your body, allowing you to remain balanced whether standing stock-still or moving swiftly. The better you can balance, the less likely you are to take a spill if you're walking on uneven ground or unexpectedly stumble. That can add up to fewer bruises and fractures, particularly as you grow older and your bones become more brittle.

Try to do heel raises several times a week. They're easy to fit in while waiting in line (or if that's too embarrassing, try it while talking on the phone). Tai chi and yoga are excellent activities for improving balance, too.

Reps: 8–10

Sets: 1–2

Rest: 30–90 seconds between sets

Starting position: Stand up straight behind a chair, holding the back of it lightly with both hands. Position your feet hip-width apart and evenly distribute your weight on both feet.

Movement: Tighten your abdominal muscles. Slowly lift up on your toes, letting your heels rise off the floor until you're standing on the balls of your feet. Try to balance evenly without allowing your ankles to roll inward or outward. Hold for a count of one. Slowly lower your heels to the floor, maintaining good posture as you do. This is one rep.

Tips and techniques:

- Tighten your core muscles.
- Contract your buttocks, squeeze your inner thighs, and balance on the balls of your feet.
- Imagine you have a string at the top of your head pulling you up.

HOME STRETCH

Flexibility moves to follow the Home Workout

Performed on a mat, these six stretches help ease back pain and stiff muscles, while helping you build a well-balanced, flexible core. Stretching regularly not only feels good, but it can also help you prevent falls by improving your flexibility and range of motion.

Aim to do two reps of each stretch, spending 30 seconds in each "hold" position. If you can't hold a stretch for 30 seconds, hold it as long as is comfortable and then do more reps to reach a total of 60 seconds for each "hold" position. For example, if you can hold a stretch for only 15 seconds, do four reps.

Remember to breathe comfortably rather than holding your breath on all of these stretches, and stretch only to the point of mild tension, not pain. Stretches should be done after exercising or after a hot shower, when your muscles are warmed up.

Equipment needed: Exercise mat, yoga strap (optional), and pillow or rolled towel (optional).

1 Child's pose three ways

Starting position: Kneel on all fours with knees hip-width apart and big toes touching. Your head and neck should be in neutral alignment.

Movement: This is a three-part stretch.

1. Slowly lower your buttocks back toward your heels as you extend your hands, palm down, in front of you. Hold.
2. Walk your hands diagonally out to the left. Hold.
3. Walk your hands diagonally out to the right. Hold.

Finally, walk your hands back to the center. Repeat one or more times to reach a total of 60 seconds in each of the "hold" positions.

Where you'll feel it: Back, shoulders, hips, and sides of torso

Tips and techniques:

- Keep your head down, so you are looking at the floor.
- Keep your shoulders away from your ears.
- Don't worry if you can't sit all the way back onto your heels at first. You can place a rolled blanket, pillow, or bolster between your thighs and calves for support. This also helps if the stretch bothers your knees.

2 Hamstring stretch lying down

Starting position: Lie on your back with your knees bent and feet flat on the floor. Loop a strap or belt around your right foot.

Movement: Grasping the ends of the strap, extend your right leg to lift your right foot toward the ceiling. Gently pull your leg toward your chest until you feel a slight stretch. Straighten the leg to your comfort level, without locking the knee, and flex the ankle to stretch the calf muscles. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position. Then repeat with the other leg.

Where you'll feel it: Back of thigh and calf

Tips and techniques:

- Keep your hips on the floor.
- Keep your shoulders down and back, relaxing them against the floor.

3 Figure-4 stretch lying down

Starting position: Lie on your back with your left knee bent and foot on the floor. Rest your right ankle across your left thigh. Your right knee should point toward the right as much as it comfortably can. Grasp the back of your left thigh with both hands.

Movement: Keep your shoulders down and back, relaxing them against the floor. Slowly lift your left foot off the floor until you feel the stretch in your right hip and buttock. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position. Then repeat with your right knee bent and your left ankle across your right thigh.

Where you'll feel it: Outside of the hip and buttocks

Tips and techniques:

- Don't let your hips or legs roll to either side.
- Hold the stretch as still as possible without bouncing.
- If this is too difficult, loop a strap or belt around your thigh and hold the ends—or substitute the seated figure-4 stretch (page 26).

4 Torso rotation stretch lying down

Starting position: Lie on your back with knees bent and feet together, flat on the floor. Put your arms comfortably out to each side just below shoulder level, with your palms facing down.

Movement: Tighten your abdominal muscles as you lower both knees together to the left side on the floor. Keeping your shoulders relaxed and pressed against the floor, gently rotate your upper chest and torso until you're looking in the opposite direction. Feel the stretch across both arms, at your chest, and along your sides. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position. Then repeat in the opposite direction.

Where you'll feel it: Chest and torso

Tips and techniques:

- Keep your knees stacked.
- Place a pillow under your knees if you're unable to lower them all the way to the floor.

5 Butterfly pose stretch

Starting position: Sit on the floor. Bring the soles of your feet together and let your knees fall apart toward the floor.

Movement: Place your hands on your ankles. Hinge forward from your hips until you feel a stretch in your inner thighs. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position.

Where you'll feel it: Inner thighs

Tips and techniques:

- Keep your head and spine neutral and your chest lifted.
- Keep your abdominal muscles tightened, and bend from your hips instead of at the waist.
- Place pillows under your knees for comfort if needed.

6 Kneeling hip flexor stretch

Starting position: Kneel with your hands at your sides.

Movement: Put your left leg in front of you with the knee bent at a 90° angle and foot flat on the floor. Place your hands on your left thigh for support. Lean forward, pressing into the hip of your right leg while keeping the top of your right foot on the floor. Hold. Repeat one or more times to reach a total of 60 seconds in the "hold" position. Then repeat with your right leg forward.

Where you'll feel it: Back hip and thigh

Tips and techniques:

- Keep your front knee directly over your ankle, not jutting forward over your toes.
- Keep your head and spine neutral, your shoulders down and back, and your abdominal muscles tightened.
- Keep your hips squared, facing forward.

Setting goals and motivating yourself

Sticking with exercise isn't always easy. Success is more likely to be yours if you set goals and follow a few tips to boost flagging motivation. If you're spending more time making excuses than doing those planks and bridges, this section will help you identify—and smooth out—common bumps in the road.

When you're busy or tired, it can be tempting to skip your core exercise session. Stay motivated by focusing on a goal, such as staying fit enough to play with your grandchildren.

Choose a goal

Think about it. How will core work benefit you? Check off your long-term goals from the options below. Then write a personalized goal in the space provided in "Now you try" on page 45.

I want to

- ❑ keep my back strong and flexible to help me avoid lower back pain.
- ❑ ease back pain or stiffness so I can move, sit, and sleep comfortably.
- ❑ enhance my balance and stability, which will help prevent falls while making walking and other activities easier.
- ❑ reclaim the strength and flexibility I need for everyday tasks at home like bending, turning, lifting, yanking, reaching items on high shelves, gardening, tackling do-it-yourself projects, doing housework, and playing with children, grandchildren, or pets.
- ❑ build up the strength and flexibility I need for on-the-job tasks like lifting heavy items, twisting, or standing or sitting at a desk for several hours.
- ❑ improve my posture, which can trim my figure visually, make clothes appear more flattering, help ease the stress of desk and computer work, and help prevent back injuries.
- ❑ tone my waistline or slim down.
- ❑ spice up my weekly workouts by adding variation.

Be SMART

As you know by now, fitting core exercises into your life will pay off in everyday activities, sports successes, a stronger lower back, independent living, and all-around fitness. Sounds great, right? Even so, if you're not in the habit of working out, it may not be easy for you to marshal the time and will to do these exercises.

Experts say you're more likely to meet success if you set a series of short-term targets. These goals are more likely to be successful if they're SMART—that is, specific, measurable, achievable, relevant, and time-based. So as you're setting a goal and penciling it in on the calendar we've provided, make sure it passes the SMART test. Here's an example:

S Set a very **specific** goal. *This week, I will do the Level 1 Quick Workout on Monday and Wednesday.* Or, *I will do the Office Workout on Tuesday and Thursday.*

M Find a way to **measure** progress. *I will log my efforts on "My monthly activity calendar," checking off days when I meet my goal.* (See page 46.) Or, *Every week, I'll add five seconds to the length of time I hold the front plank on desk.*

A Make sure it's **achievable**. Choose the exercise goals you're most confident you'll be able to do, not ones you eventually hope to work up to. Focus on sure bets: on a scale of 1 to 10, where 1 equals no confidence and 10 equals 100% certainty, your goal should land in the 7–10 zone. For example, *Instead of doing four or five front planks on desk, I'll start with one and work my way up.*

R Make sure it's **relevant**. The goal needs to matter to you and be connected to things in your life that are important to you. For example, *Doing the Office Workout will help me to be more productive at work.* Or, *Progressing to the Level 2 exercises will make it easier for me to pick up my grandkids.*

T Set **time** commitments. First, pick a date and time to start. Starting today, *I'll take 10 minutes from my lunch hour to do the Office Workout every Monday, Wednesday, and Friday.* Or, *Starting today, I'll do two stretches after my morning shower, when my muscles are warm, every day for a week.*

Second, set one regular weekly check-in time—perhaps every Friday evening—to reflect on your progress and determine whether you've been sticking to the plan. If not, your schedule or goals may need some tweaking.

Motivate yourself

You do your best work when motivated, right? That extends to exercise, too. It's not uncommon to launch a new exercise program raring to go, only to wind up back on the couch with your feet propped up just a few weeks later. If your will wavers, the following tips may help.

Refresh your memory. Think about how the exercises will help you by reaching your goals again (see "Choose a goal," page 42, and "Make your commitment," page 45). Emphasize the positive aspects. Rather than sternly saying, "I *should* do my core exercises," try saying aloud, "My back feels better when I do my core exercises and stretches" or "My balance is better when I do my core exercises consistently." Outside deadlines can

Having a workout buddy can make exercising more fun—plus, you're less likely to cancel on the spur of the moment if you know a friend is waiting for you.

Not getting anywhere?

Brainstorming solutions for likely bumps in the road can start you off on the right foot and help keep workouts on track. Once you get going, jot down any hurdles you run into on your monthly activity calendar (page 46) and then think your way around them. Here's some help with common hurdles.

Need the okay to start doing core exercises? Call your doctor today. Remember, it may help to send a copy of the workouts you hope to do, then follow up with a phone call to discuss whether any modifications will be needed.

Just don't feel motivated? Ask a friend to help you stay accountable and give you a pep talk when you need it. You might also consider working out with a personal trainer or physical therapist, depending on your health issues.

Seriously out of shape? Focus on doing only the easiest exercises over the course of your day. Try our "Easiest abdominal exercises," page 21—maybe starting with just doing one exercise before breakfast, lunch, and dinner every day, or even every other day, for two weeks. The Office Workout (page 22) and Office Stretch (page 25) or Home Stretch (page 38) are all good places to start as well.

Bored by your routine? If you've mastered the Level 1 moves, try Level 2 exercises. Done with those? You're ready to step up to our *Core Exercises* Special Health Report, which has six additional core workouts ranging from easy to very challenging. (See "Resources," page 48, for ordering information.) Or add variety by searching online for new core exercises available through reputable fitness organizations, such as the American Council on Exercise, which maintains an online fitness library (www.acefitness.org/exerciselibrary).

Still stuck? Sometimes breaking down a bigger goal into smaller steps is the best way to succeed. Instead of aiming for two complete gentle core workouts a week, consider doing just one exercise from the Quick Workouts (page 21) and one Home Stretch (page 38) every day until you cycle through the full set. Then repeat.

be really helpful here, too: signing up for a charity walk or planning a beach vacation can prod you to get your core program under way.

Find the time. Skimming time from your busy schedule can be tricky, but it's doable. Over the course of a week, skip an hour of TV and use the time to exercise, or fit core exercises into commercial breaks. Get up 10 to 15 minutes earlier each day to finish a full workout. Be efficient: as you advance to more challenging exercises, leave the simpler ones behind to make the best use of your time.

Sprinkle core activities into your day. Throughout the day, be on the lookout for pockets of time. Challenge yourself to see how often you can slip in gentle core work. After your morning shower when muscles are pliable is a good time for a few Home Stretch options, such as child's pose (page 38) and butterfly pose (page 40). While on the phone, do 10 soccer kicks (page 23) and 10 standing side leg lifts (page 22). Before shifting from calls to other projects or back again, do a front plank on desk (page 24). If you're working at home, take five minutes before lunch to do the bridge (page 32), ball squeeze (page 33), and crunch with one leg extended (page 31).

Choose cues to serve as a trigger. While waiting for the light to change, for example, check your posture and practice bracing yourself (see "12 tips for doing gentle core work safely and effectively," page 12). Instead of sipping coffee while your computer is firing up, try a few standing knee lifts (page 22). When you finish a task, take an active break to do standing side leg lifts (page 22) or chair stands (page 28).

Plan simple rewards. Give yourself a pat on the back for every small or big step toward success. Blast your favorite tune at the end

Staying fit doesn't require a gym membership. If you're looking for more variety beyond the moves offered in this report, try streaming fitness classes online.

of a workout. Text a friend after a workout so he or she can cheer you on. Treat yourself to a relaxing bath before bed with a beautifully scented bath oil. A bigger reward for staying on track for two to four weeks might be new workout gear or a massage.

Find a fitness buddy. Exercising with a friend or family member is more fun, plus you're less likely to cancel on the spur of the moment. If you belong to a gym, ask if there is a buddy program. Or try working out with a far-flung pal while you catch up via Zoom. If finding a workout buddy isn't possible, just ask a friend to check in with you regularly—on workout days or maybe once a week—so you have someone to give you a pat on the back or a pep talk.

Turn to your smartphone, iPad, or game system. Use your device to stream live or prerecorded classes. Most require a subscription, but some, such as Nike's Training Club, offer free workouts. Another option is to play fitness games on older systems like Wii and Xbox or newer virtual reality systems like Oculus or PlayStation VR. Some of the activities they offer—like tennis, dancing, and dodging obstacles—will work your core. Cyber options like these can also help you learn new exercises, track progress, and get friendly nudges that encourage you to stick to your goals. Check smartphone fitness options at Apple's app store or Google Play. Alternatively, search the the online library of the American Council on Exercise (www.acefitness.org/exerciselibrary).

Make your commitment

Now, put your SMART goal and plans together. Start by writing a commitment statement. Then fill in "My monthly activity calendar," page 46, writing in the times and days you'll do core work, plus any rewards you will give yourself. Here's an example of a commitment statement:

I'm making a commitment to my health, well-being, and enjoyment of life. My goal is to get into better shape and prevent my back from hurting. I plan to start on Wednesday, June 15, by doing the Quick Workout: Level 1 on Wednesdays at 6:30 a.m. and Sundays at 5 p.m. I'll check my calendar weekly on Sunday nights to see if I'm succeeding. If not, I'll brainstorm ways to jump hurdles and motivate myself to get back on track.

Now you try

I'm making a commitment to my health, well-being, and enjoyment of life. My goal is

_____

_____.

I plan to start on _____

by doing _____

on _____

_____.

I'll check my calendar weekly on _____ to see if I'm succeeding. If not, I'll brainstorm ways to jump hurdles and motivate myself to get back on track.

My monthly activity calendar

Make copies of the blank calendar below so that you'll be able to fill one out each month. Put each month's calendar in an easy-to-see spot. Then follow these instructions:

Month _____

1. Use the notes on the far right to jot down your commitment and your reward.

2. Pencil in days and times you plan to do core work, and what you'll be doing (for example, bursts of exercise or a particular workout). Remember, core work should be part of a larger exercise plan, as explained in "How should core work fit into your overall exercise plans?" on page 14. So, when you pencil in your core exercise schedule, it makes sense for you to write

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	

down other strength sessions and aerobic activities, too.

3. Put a big splashy check mark next to each success. Anytime you fall short, record the obstacle in the notes section, then try to brainstorm and jot down a solution (see "Not getting anywhere?" on page 44).

4. Once a week, look over what you've checked off. Think about what's working well for you. Decide whether your solutions for overcoming obstacles are working, or whether you need to break your goal down into smaller steps in order to be successful (see "Not getting anywhere?" on page 44). And collect any reward due, as planned.

	THURSDAY	FRIDAY	SATURDAY
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐

MY COMMITMENT

OBSTACLES

SOLUTIONS

REWARDS

Resources

Organizations

American Academy of Physical Medicine and Rehabilitation
9700 W. Bryn Mawr Ave., Suite 200
Rosemont, IL 60018
847-737-6000
www.aapmr.org

AAPMR is a professional organization for physiatrists (medical doctors trained in physical medicine and rehabilitation) that provides information on conditions such as low back and neck pain and osteoporosis. A referral service on the website can help you locate a physiatrist near you. (Go to "About Physiatry" and click on "Find a PM&R Physician.")

American College of Sports Medicine
6510 Telecom Dr., Suite 200
Indianapolis, IN 46278
317-637-9200
www.acsm.org

ACSM is a nonprofit association that educates and certifies fitness professionals, such as personal trainers, and offers information to the public on various types of exercise. A referral service on the website (https://certification2.acsm.org/profinder) locates ACSM-certified personal trainers.

American Council on Exercise
9444 Balboa Ave., Suite 290
San Diego, CA 92123
888-825-3636 (toll-free)
www.acefitness.org

ACE is a nonprofit organization that promotes fitness and offers a wide array of educational materials for consumers and professionals. The ACE website has a referral service to help locate ACE-certified personal trainers and health coaches, as well as a library of free exercise videos. (Go to "Resources" and click on "Find an ACE Pro.")

American Physical Therapy Association
3030 Potomac Ave., Suite 100
Alexandria, VA 22305
800-999-2782 (toll-free)
www.apta.org

This national professional organization fosters advancements in education, research, and the practice of physical therapy. A referral system on the website (click "Find a Physical Therapist") locates board-certified clinical specialists who have additional training in specific areas of physical therapy.

Institute of Lifestyle Medicine
Spaulding Rehabilitation Hospital Boston
300 First Ave.
Charlestown, MA 02129
617-952-6016
www.instituteoflifestylemedicine.org

The institute seeks to reduce the prevalence of lifestyle-related disease by changing behaviors. Physicians work with patients to change lifestyle choices that damage health and reduce life span. The website also offers resources on stress management, nutrition, and physical activity.

Harvard Special Health Reports

If you've found *Gentle Core Exercises* helpful and you're looking for some new workouts, any or all of these eight exercise titles from Harvard Medical School can help. Order them online at www.health.harvard.edu/reports or call 877-649-9457 (toll-free).

Aqua Fitness: Refreshing workouts that are gentle on your joints
Lauren E. Elson, M.D., Medical Editor
Michele Stanten, Fitness Consultant
(Harvard Medical School, 2023)

From swimming to pool walking, water-based exercise strengthens your muscles and your heart, burns calories, and improves flexibility—all while taking pressure off your joints. This report offers six aqua workouts and other fun ways to get fit in the water. You won't even have to get your hair wet for some of them.

Better Balance: Simple exercises to improve stability and prevent falls
Suzanne Salamon, M.D., and Brad Manor, Ph.D., Medical Editors
Michele Stanten, Fitness Consultant
(Harvard Medical School, 2022)

This report explains health problems that may impair balance and lead to falls. The six workouts are designed to strengthen muscles, boost confidence, and interrupt a downward spiral that can compromise independence. Checklists help you take steps to ensure personal safety and eliminate home hazards.

Core Exercises: 6 workouts to tighten your abs, strengthen your back, and improve your balance
Lauren E. Elson, M.D., Medical Editor
Michele Stanten, Fitness Consultant
(Harvard Medical School, 2020)

The natural next step after mastering the workouts in *Gentle Core Exercises*, the *Core Exercises* report offers six additional core workouts that range from easy to challenging. Three workouts call for no equipment other than body weight, while the rest center on exercises done with a medicine ball, stability ball, or Bosu. All exercises can be tailored to make them easier or harder to do.

An Introduction to Tai Chi: A gentle exercise program for mental and physical well-being
Peter M. Wayne, Ph.D., Medical Editor
(Harvard Medical School, 2022)

Mind-body forms of exercise, such as tai chi and yoga, can help with everything from lowering blood pressure and managing depression to building strength and improving balance. This report includes three simple routines for beginners.

Resources

An Introduction to Yoga: Improve your strength, balance, flexibility, and well-being
Sat Bir Singh Khalsa, Ph.D., and Lauren E. Elson, M.D., Medical Editors
(Harvard Medical School, 2020)

Yoga is a combination of postures, breathing practices, deep relaxation, and meditation that can transform your health on many different levels. This report is aimed at beginners and explains how everyone can reap the benefits.

The Joint Pain Relief Workout: Healing exercises for your shoulders, hips, knees, and ankles
Lauren E. Elson, M.D., Medical Editor
Michele Stanten, Fitness Consultant
(Harvard Medical School, 2021)

The exercises in this report can help tame ankle, knee, hip, or shoulder pain. When practiced regularly, the workouts may permit you to postpone—or even avoid—joint surgery by strengthening supportive muscles and restoring flexibility.

Strength and Power Training for Older Adults: Two complete workouts to start rebuilding your muscles
Elizabeth Pegg Frates, M.D., Medical Editor
Michele Stanten, Fitness Consultant
(Harvard Medical School, 2019)

Weak muscles hasten the loss of independence as everyday activities become more difficult. Two weekly strength training workouts can help fortify muscles and bones, recouping losses linked to aging or inactivity.

Walking for Health: Why this simple activity could be your best health insurance
Lauren E. Elson, M.D., Medical Editor
Michele Stanten, Fitness Consultant
(Harvard Medical School, 2019)

Walking is one of the simplest forms of exercise—and one of the best. This report includes five different walking workouts, information on proper technique, tips on finding the right shoes and socks, safety pointers, and more.

Glossary

aerobic activity: Any activity that speeds heartbeat and breathing through repetitive use of large muscle groups. Examples include walking, running, swimming, and biking.

cartilage: Tough, flexible connective tissue that cushions the intersection between bones and absorbs synovial fluid, a lubricant that reduces friction within a joint.

core muscles: The muscles in the abdomen, back, sides, pelvis, and buttocks that connect and facilitate movement between the upper and lower parts of your body. *Core exercises* refer to those that work the core muscles.

extend: Straighten out a joint (for example, extending your arms overhead or extending your leg behind you).

flex: Bend a joint (for example, flexing your knees).

intensity: A measure of how hard you are exercising.

joint: A junction in the body where bones are linked together.

ligament: Strong, usually inelastic, tissue that binds joints, connecting bone to bone.

neutral alignment: Keeping your body in a straight line from head to toe except for the slight natural curves of the spine.

neutral spine: A position in which the back is straight except for the slight natural curves of the spine.

physical activity: Any voluntary body movements that burn calories, including walking up stairs, going for a brisk stroll, or engaging in a structured exercise program.

range of motion: The extent of movement—and thus flexibility—in a joint, measured in the degrees of a circle.

repetition: A single, complete movement in an exercise. Also called a rep.

set: A specific number of repetitions of an exercise.

strength training: Exercise that harnesses resistance supplied by body weight, free weights such as dumbbells or weighted cuffs, resistance tubing or bands, or specialized machines. Also known as resistance training or weight training.

tendon: A cord of tissue that tethers muscle to bone.

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Energy/Fatigue
Erectile Dysfunction
Exercise
Exercises for Bone Strength
Eye Diseases
Foot Care
Functional Fitness
Grief & Loss
Hands
Headaches
Hearing Loss
Heart Disease
High Blood Pressure
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Inflammation
Interval Training
Joint Pain Relief
Knees & Hips
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Living Longer
Memory
Men's Health
Mobility & Independence
Neck Pain
Nutrition
Osteoarthritis
Osteoporosis
Pain Relief
Positive Psychology
Prostate Diseases
Rheumatoid Arthritis
Self-Care
Sensitive Gut
Sexuality
Shoulder Pain Relief
Skin Care
Sleep
Starting to Exercise
Strength Training
Stress Management
Stretching
Stroke
Tai Chi
Thyroid Disease
Vitamins & Minerals
Walking for Health
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