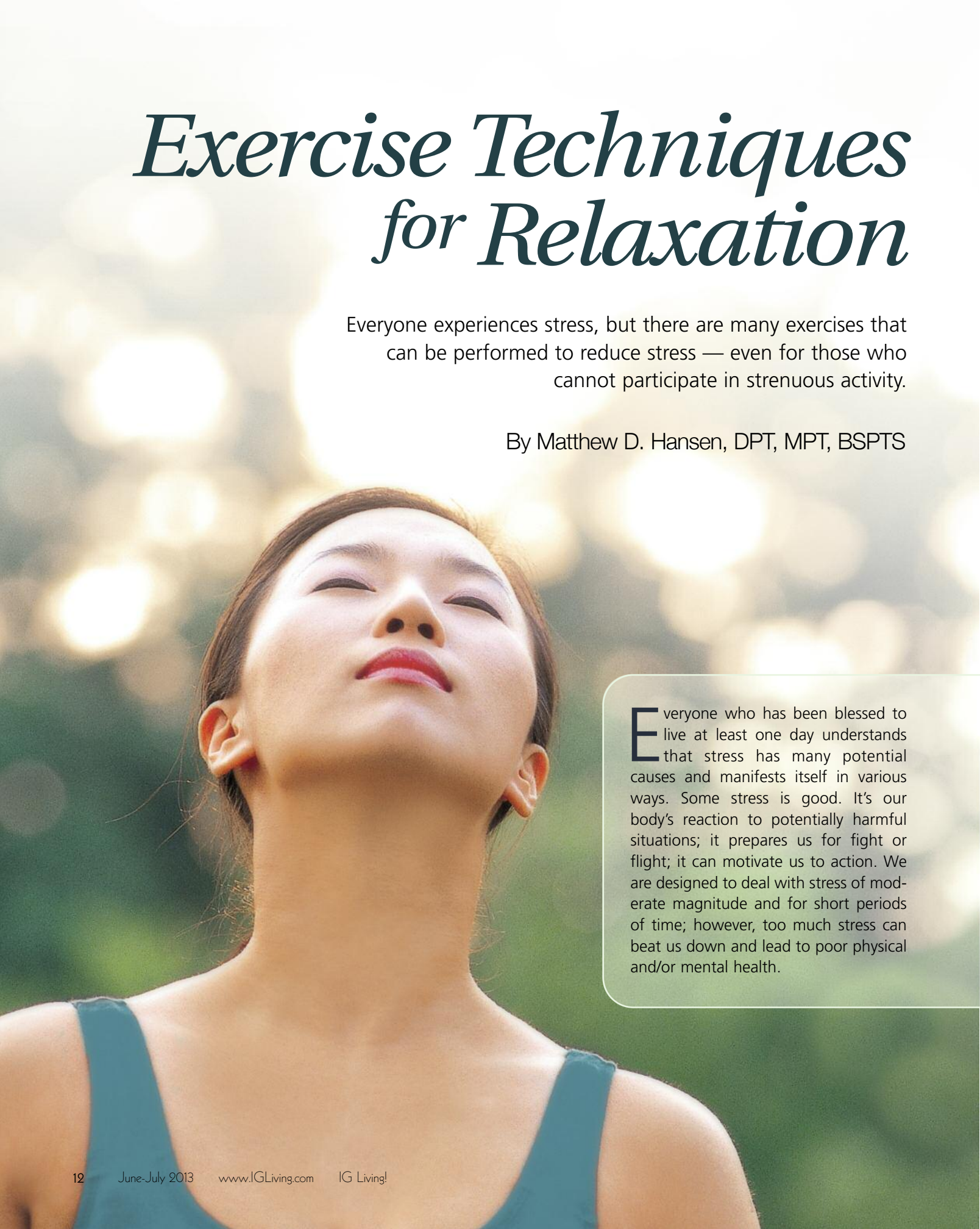
Exercise Techniques for Relaxation

Everyone experiences stress, but there are many exercises that can be performed to reduce stress — even for those who cannot participate in strenuous activity.

By Matthew D. Hansen, DPT, MPT, BSPTS



Everyone who has been blessed to live at least one day understands that stress has many potential causes and manifests itself in various ways. Some stress is good. It's our body's reaction to potentially harmful situations; it prepares us for fight or flight; it can motivate us to action. We are designed to deal with stress of moderate magnitude and for short periods of time; however, too much stress can beat us down and lead to poor physical and/or mental health.

Unfortunately, much of the stress that we experience today is self-induced. We seem to find a way to create our own giants. Many years ago, someone's greatest stressors may have included finding their next meal, building shelter from the weather and avoiding predatory animals. Today, someone may describe the day's most stressful moments as their football team losing a big game, losing their Internet connection or unwittingly having been charged the nonsale price on an item at the grocery store. That's not to say that we don't all face very real and legitimate stressors in our lives. Nobody understands this better than the patients and their families who depend on immune globulin (IG) treatments and who must arrange to pay for them. Yet, regardless of its cause, the results of prolonged and/or intense stress can be damaging.

Symptoms of stress can include, among other things, headaches, tense muscles, insomnia, gastrointestinal problems, high blood pressure, a pounding pulse, rapid breathing, sweatiness, low energy, loss of libido and sexual performance, nervousness, tremors, agitation/moodiness, low self-esteem and depression, an impaired immune system, increased use of commercial and/or recreational drugs, social avoidance, forgetfulness, inability to focus, altered judgment and poor eating habits.

Ironically, the anguish caused by stress frequently leads to more stress in what can become a seemingly hopeless cycle. We're not unarmed, however. We've been given tools to combat stress — one of which is exercise.

How Exercise Helps Our Bodies Relax

Our bodies reward us when we exercise by improving many of our physiological responses. These benefits include essentially the opposite of those symptoms of stress already described. How else could we explain why humans are willing to perform what would otherwise be seen as pretty silly activities: push-ups, sit-ups, jumping jacks, glute squeezes (remember the Thigh Master?). What's worse, these activities often leave us sweaty and stinking.

Happily, the benefits of exercise are many, they are real, and they have a scientific explanation. For instance, exercise reduces levels of the body's "stress hormones," including cortisol and adrenaline. Adrenaline (epinephrine) is one of the primary hormones responsible for our fight-or-flight response. It is released in response to physical threats (or perceived threats), excitement, anticipation and intense stimuli (such as loud music, bright lights and certain types of touch). Adrenaline works together with cortisol (hydrocortisone) to open airways in the lungs, cause the heart to pump harder and narrow blood vessels so that a great supply of blood is diverted to major muscle groups. These reactions prepare someone to either run or confront a threat, or perform in an extraordinary way when called upon. However, when the stress hormones remain in the body at an abnormally high level, they can have very detrimental effects on our health and mental well-being.

In addition to decreasing stress hormone levels in the body, exercise also increases endorphin production and release. Generated in the pituitary gland and hypothalamus of the brain, endorphins interact with neuron receptors to elevate the mood and reduce the perception of pain (the receptors that endorphins bind to also bind to some pain medications). The resulting euphoria, commonly referred to as a "runner's high," is a gratifying feeling similar to that produced by morphine — but naturally.

Our bodies reward us when we exercise by improving many of our physiological responses.

Exercise is relaxing for other reasons as well. For instance, it can distract us from our worries, which can be self-defeating if we persevere thinking about them for too long. Many people describe the rhythmic motion of exercise and meditating as hypnotizing. For instance, people often say they are going to take a walk to "clear their mind." Once exercise becomes a part of our daily lives, we begin to enjoy an improved self-image and increased self-confidence, taking pleasure in a sense of self-control and the understanding that we are doing something good for our bodies.

All of these reasons are why physical activity can be so relaxing. Just about any type of exercise can help to relieve stress, so even if you have a chronic illness, you shouldn't worry if you aren't able to participate in more strenuous forms of exercise. Some of the most relaxing activities can be done from your bed or armchair. Rather than trying to present a few of the hundreds of possible exercises, I've focused on a few that just about anybody can do, despite limited time or energy.

Start with Breathing

Stress can cause breathing to become shallow, rapid, erratic and, consequently, less efficient. When relaxed, we breathe more deeply, slowly and regularly, taking the full advantage of each lung full of air. By imitating a relaxed, diaphragmatic breathing pattern, you incite relaxation.

Here's how:

1. Sit comfortably in a chair with your knees bent and your upper body relaxed; it's best if you are able to maintain your spine in contact with the back of the chair. Alternatively, lie on your back with bent knees (you may choose to use a pillow under your head and/or knees).

2. Breathe in slowly and deeply through the nose so that your abdomen expands to its extreme and your chest remains as still as possible (this step normally takes 5 to 10 seconds, depending on lung capacity).

3. Hold your breath for a second or two.

4. Let your abdomen fall inward as you tighten its muscles and exhale through pursed lips. Remember to try to keep your chest as still as possible (exhalation should take about as long as inhaling did, 5 to 10 seconds).

5. Repeat the process at least 5 to 10 times, several times a day.

Even if you have a chronic illness, you shouldn't worry if you aren't able to participate in more strenuous forms of exercise.

If you are having a difficult time learning the technique, place one hand on your upper chest and the other over your belly button. This will help you feel the diaphragm expand as you breathe, and monitor the movement of your chest at the same time. If you begin to feel lightheaded, stop and return to a breathing pattern that feels more natural to you. Wait until you have completely recovered before attempting the exercise again. As you begin to master diaphragmatic breathing, you can use it as a tool to help curb oncoming stress. Gradually increase the time spent performing it throughout the day. You can make the task more difficult by increasing the resistance of your hand on your abdomen or by placing a book in its place.

Progressive Muscle Relaxation

Progressive Muscle Relaxation (PMR) was developed in the first half of the 20th century by an American doctor named Edmund Jacobson. It is a method used to control tension in the muscles by contracting each of the major muscle groups and then allowing them to relax completely. Although the technique was not designed to be a physical exercise, it is similar to a type of strength training named isometrics in which the muscles are contracted in a static position instead of moving repetitively through a range of motion.

Once learned, the skill has been attributed to helping reduce anxiety, headaches, high blood pressure, insomnia, gastrointestinal disorders, pain and a number of other ailments.

PMR is best performed when reclining or lying down on your back in a quiet room away from distractions. Many people like to close their eyes while performing the activity so that they can completely focus on the task and their body's response to it.

1. Start by taking a deep breath as you contract the muscle group (without moving the part of the body that it controls). Some sources suggest holding each contraction for up to 20 seconds, but my recommendation is a 5- to 10-second hold time. The longer that a contraction is held, the more likely the muscle group is to cramp/spasm. To help avoid cramping, be sure to remain hydrated. However, if it is a frequent occurrence, your body may be low on one or more of the other elements necessary for muscle performance (such as potassium, sodium, calcium, magnesium and glucose), and you should consult with your doctor.

2. After holding the contraction for 5 to 10 seconds, exhale while allowing the muscle group to relax. Concentrate on the sensation of all the tension in your body being released.

3. Rest for 15 to 20 seconds, and then move on to the next muscle group.

See the Sample Progressive Muscle Relaxation Routine for one possible routine to perform.

Getting Started

Deep breathing and PMR may be a good place to start, but any regular exercise can lead to a reduction in stress. Stretching, yoga, biking, even household chores and yardwork, can help bring desired results. To maximize an

Sample Progressive Muscle Relaxation Routine

The following is one possible progressive muscle relaxation routine. You may perform the entire succession or eliminate some of the steps to save time. Do not perform any motions that have been restricted for you by a medical professional or that cause pain.

Head:
1. Raise your brow (hold 5 to 10 seconds, then relax; repeat steps for all other actions)
2. Close your eyes tightly
3. Scrunch your nose
4. Frown
5. Smile
6. Open your mouth widely as if yawning (eliminate this step if you have a history of problems with the temporomandibular joint [TMJ])
7. Push your tongue firmly against the top of your mouth

Neck and shoulders:
1. Pull your chin down to your chest
2. Lift your head backward so you are looking at the ceiling if you are sitting
3. Elevate your shoulders toward your ears
4. Bend your head to the left
5. Bend you head to the right

Back/chest:
1. Round your shoulders forward and arch your back while contracting your chest. Alternatively, bend the elbows to 90 degrees and squeeze the arms firmly against the side of the trunk
2. Retract your shoulders as if you were trying to pinch your shoulder blades together and push your chest outward

Arms:
1. Flex your biceps
2. Tense your forearms and clench your fists
3. Open your hands and spread your thumb and fingers as wide as possible

Abdomen:
1. Contract your abdominal muscles

Buttocks and thighs:
1. Tense your thigh muscles (this is most easily done when your knees are extended)

Calves, ankles and feet:
1. Point your feet and toes downward
2. Pull you feet and toes upward

This particular routine should take approximately 10 to 12 minutes to complete, depending on the contraction hold times, once you have learned the progression. Try to perform it a couple of times a day, either at regular intervals or when you need it most. It may take a week or two until you begin noticing real differences in stress, but be patient.

activity's potential for relaxation, it is important to consider several concepts first. For starters, be aware of your limitations, and don't overdo it. If you do too much or don't observe established medical restrictions, you leave yourself vulnerable to injury and a significant increase in stress.

Second, don't allow scheduling or performing exercise to be a source of anxiety. If your thoughts begin with, "I have to…" versus "I want to …" or at least "I should …" when you consider exercising, then maybe you've chosen the wrong activity. It should be something that you enjoy doing and look forward to. If you're concerned that you don't have enough time to exercise, incorporate it into your daily routine. I can't tell you how many mini-squats I've done when brushing my teeth, or how many abdominal crunches I've performed while watching the evening news.

Interestingly, the stress cycle works both ways. The more you are able to decrease stress, the easier it is to decrease. So, get exercising — just don't stress about it! ◪

MATTHEW DAVID HANSEN, *DPT, MPT, BSPTS, is a practicing physical therapist in Washington state and president of an allied healthcare staffing and consulting agency. He completed his formal education at the University of Utah, Salt Lake City, and has additional training in exercise and sports science, motor development and neurological and pediatric physical therapy.*