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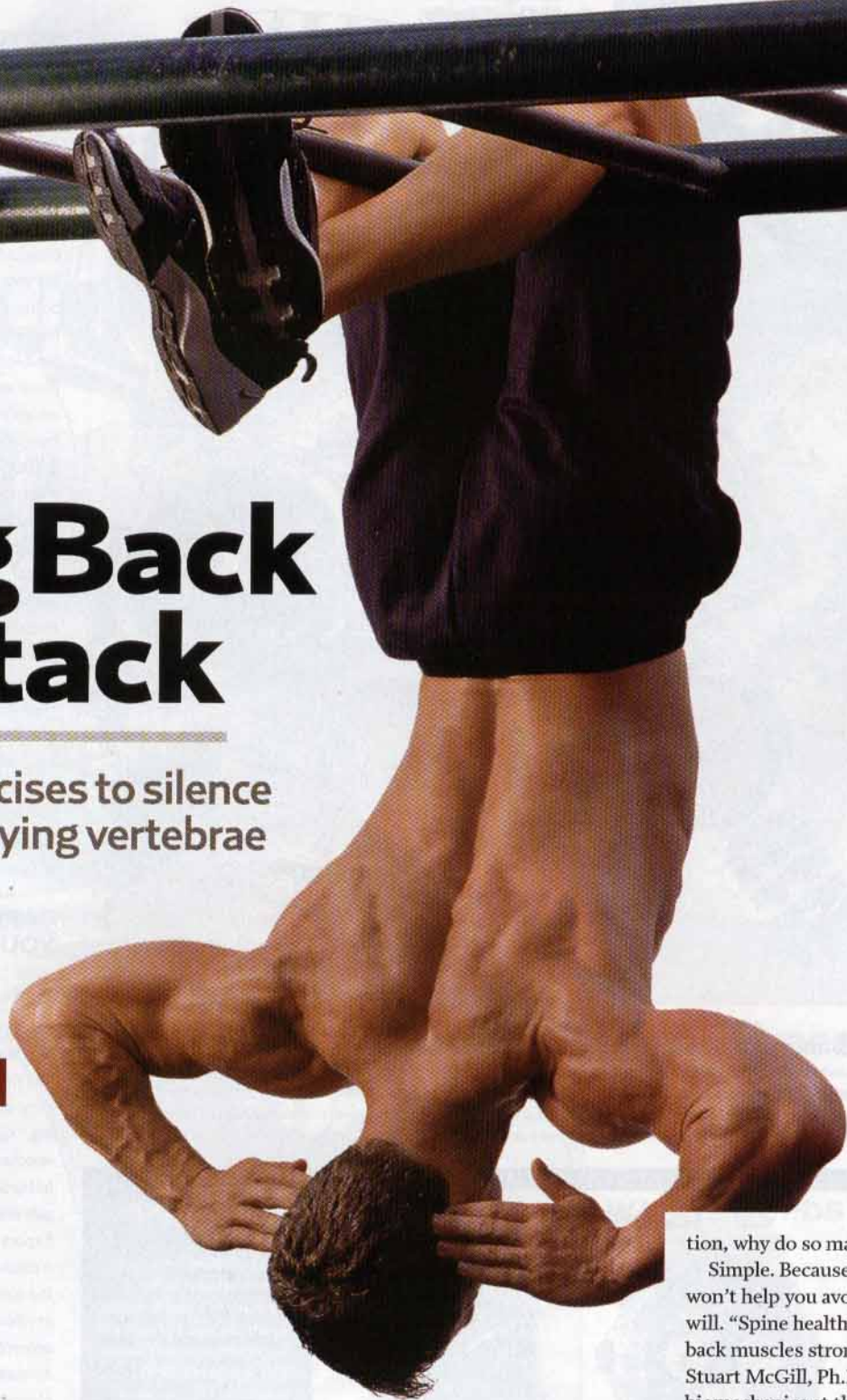
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Big Back Attack

Four exercises to silence those braying vertebrae

Before you take high risks, build your lower back.



LOWER-BACK PAIN HAS THE SAME EFFECT ON 19- to 45-year-old men that Lifetime movies have on middle-aged women. It's their leading cause of inactivity. And as if these guys don't suffer enough, they want to scream every time they hear the same lame advice: Strengthen and stretch your lower-back and abdominal muscles. But if that's such a good prescrip-

tion, why do so many backs still ache?

Simple. Because strength and suppleness won't help you avoid back pain. But endurance will. "Spine health isn't about making your back muscles stronger or more flexible," says Stuart McGill, Ph.D., a professor of spine biomechanics at the University of Waterloo in Ontario, and author of *Low Back Disorders*. "It's about training them to maintain the strength they have over long periods of time." The other critical factor, says McGill, is to "groove optimal muscle-activation patterns." That is, teach the muscles that stabilize your spine to support your back during any activ-

ity, for maximum protection.

Researchers in Finland found that men who lacked lower-back muscular endurance were 3.4 times more likely to develop lower-back problems than those who had fair or good endurance. That's because poor endurance in your deep-back and abdominal muscles—the spine stabilizers with exotic-sounding names such as multifidus, quadratus lumborum, longissimus, iliocostalis, latissimus dorsi, and transverse abdominis—along with poor muscle-activation patterns, leaves you unable to sit or stand with good posture for extended periods. And poor posture increases stress on your vertebrae, turning your spine into a compacted-disk turntable, playing endless reprises of "Twist and Shout."

We asked McGill for a back-saving program, both to relieve current back pain and to reduce your chances of a future back attack. His plan: Increase the endurance of your forgotten deep-back and abdominal muscles, to increase spine stability and ultimately reduce lower-back stress.

And, in case you're wondering, this is more than theoretical. What McGill learns in his

Poor posture turns your spine into a CD turntable, playing endless reprises of "Twist and Shout."

research—he's the author of more than 200 studies on lower-back injury and rehabilitation—he uses on real-life, active men. In fact, he's often the guy who gets the call when a rich and famous athlete takes one on the multifidus. But now you can jump the line in his waiting room for just the price of this magazine. We're watching your back, friend.

THE WORKOUT

Do the workout at right once a day, every day. You don't need rest days between lower-back workouts, since the idea is to build endurance, rather than strength. Plus, by performing these exercises daily, you'll strengthen your spine-stabilizing muscles—which can become deranged following a bout of lower-back pain. Perform the exercises as a circuit, doing them consecutively without rest in between. At the same time, you can begin following McGill's strategies—at the office and the gym—for a lifetime of optimal back health.

BACK IN THE OFFICE

Your office chair can be as hard on your back as a headhunting free safety. Initiate damage

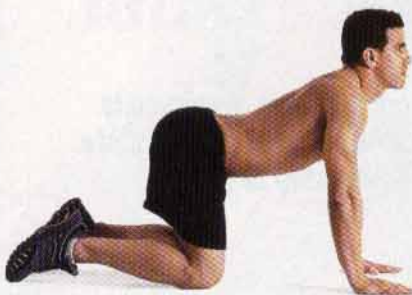
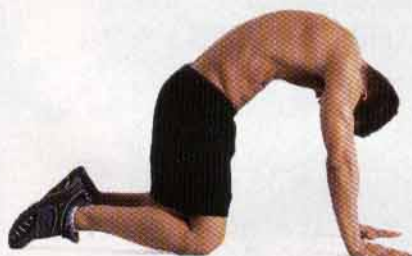
The Back-Saving Workout

7 minutes to a healthier back

1 Cat-Camel Although this plan is designed to improve the endurance of your stabilizing muscles, it's important to begin your workout by slowly flexing and extending your spine in small ranges of motion to prepare it for the moves that follow. Keep in mind, this exercise isn't a stretch. So don't push at the end of each movement.

How to do it: Get down on your hands and knees with your hands shoulder-width apart. Slowly lower your

head between your arms as you push up as high as you can with your back, rounding your spine. When you reach the top of the movement, slowly lower your back as you lift your head up, extend your neck forward and up, and arch your lower back by moving your belly button toward the floor. That's one repetition. Remember, move back and forth slowly without pushing at either end of the movement. Do five to eight repetitions.



3 Side Bridge You'll work your lateral stabilizers—muscles that are crucial in ensuring that your spine is fully supported—by assuming a body position that puts them at a disadvantage and forces them to work harder than normal.

How to do it: Lie on your left side with your knees straight and your upper

body propped up on your left elbow and forearm. Place your right hand on your left shoulder and slowly raise your hips until your body forms a straight line from your shoulders to your knees. Hold this position for 7 to 8 seconds, breathing deeply the entire time. Do four or five repetitions, then switch to your right side.



2 Curl-up This exercise forces you to work your entire abdominal muscle complex while keeping your lower back in its naturally arched position. The move minimizes stress on your spine while increasing the endurance of the muscles.

How to do it: Lie faceup on the floor with your left leg straight and flat on the floor. Your right knee should be bent and your right foot flat. Place your hands palms down on the floor underneath the natural arch in your lower back. (Don't flatten your back.) Slowly raise your

head and shoulders off the floor without bending your lower back or spine, and hold this position for 7 to 8 seconds, breathing deeply the entire time. That's one repetition. Do four repetitions, then switch legs so that your right leg is straight and your left is bent.

Advanced move: Try raising your elbows off the floor as you curl up. For an even greater challenge, start by contracting your abs, and then curl up against that force.



4 Bird Dog This exercise works your lower- and middle-back extensors—the muscles that help you bend backward—while producing half the stress on your spine that conventional back-extensor exercises such as the "Superman" (simultaneous leg and arm lifting) create.

How to do it: Get down on your hands and knees with your palms flat on the floor, shoulder-width apart. Slowly raise and straighten

your right leg and left arm at the same time. Hold that position for 7 to 8 seconds, breathing deeply throughout the exercise. Lower your arm and leg straight down, and then sweep them along the floor back into the starting position. That's one repetition. Perform four repetitions, then switch sides.

control with these at-work guidelines.

Move Around "The best posture for sitting is one that changes frequently," says McGill. That's because it varies the location of the stress on your spine, instead of focusing all of it on the same area. Try putting your feet up, leaning your chair back, and raising or lowering the height of your seat throughout the day, while maintaining the natural arch in your back. If you look like you're celebrating the close of a big deal, so much the better. It'll keep your boss guessing and inspire your rivals to spend more time spying on you and less romancing their own clients.

Avoid rounding your back to lean forward and resting your elbows on your knees or your desk. Look like you're slumping, and you'll soon have a reason to be.

Stand Up, Stand Up, Sit Down If you're a desk jockey, McGill recommends leaving your chair every 20 to 30 minutes to give your back intermittent breaks from the increased stress of sitting. "Try standing up anytime you talk on the phone, to keep yourself in the habit." Another trick: Drink lots of water. Your bathroom breaks will give you an excuse to take your spine for a spin.

Reach High Stand with your feet shoulder-width apart and your arms extended straight above your head. Slowly reach your hands toward the ceiling. As you reach, inhale deeply, then lower your arms to your sides. Use this exercise whenever you take a break from sitting, to reduce chair-bound back stress.

BACK IN THE GYM

"Some guys can do the craziest things without hurting their backs," says McGill. And surprisingly, not all of them involve women with blood-alcohol levels of 0.08 or higher. A lot of the craziest stuff happens in the gym. Take the risk out of lifting with these simple principles.

Avoid rounding your back to lean forward and resting your elbows on your knees or desk. Look like you're slumping, and you'll soon have a reason to be.

Stay Out of the Back Stretch Although stretching can feel good, it may actually exacerbate any back problems you already have. Scientists in Denmark found that men who had greater lower-back flexibility were more likely to injure their lower backs than those with less flexibility. The reason: Specific lower-back injuries—such as herniated disks—are often linked to the end ranges of back movement. For instance, your spine has to be fully flexed to cause a herniated disk, says McGill. A man who

Are You Stable?

TRY THIS SIMPLE SELF-TEST TO DETERMINE YOUR LEVEL OF LOWER-BACK muscular endurance. After you use Stuart McGill's program for a month, test yourself again and check your progress.

TAKE THE TEST Lie facedown on an elevated surface—a bed, bench, or picnic table, for instance—and have a partner hold your ankles. Scoot forward so your groin area is at the edge of the bench and your upper body, from your hips up, has no contact with the surface. Your partner keeps holding your ankles firmly so your feet and legs remain in a fixed position. Place your arms along your sides and hold your upper body in line with your lower body to form a straight line from your shoulders to your ankles.



Maintain this position for as long as possible. The longer you can hold it, the better your lower-back endurance.

Good: 104 seconds or more

Fair: 59 to 103 seconds

Poor: 58 seconds or less

Note: If you have persistent lower-back pain, skip the test and consult a back specialist. For more tests, as well as a complete guide to lower-back pain, consult McGill's book *Low Back Disorders*, available at www.humankinetics.com.

doesn't have very good flexibility has trouble putting his back in that position. "By increasing the frequency of those end-range back positions by stretching or exercising, you're increasing your chance of injury, not reducing it," says McGill.

Keep a Stiff Lower Back The most dangerous position for your spine is fully flexed, or bent forward like the letter C. Avoid that position by keeping your lower back in its naturally arched alignment (as it is when you're standing with good posture) when you lean forward to do hamstring stretches, or when you do deadlifts and good-mornings in the weight room. And if you have any degree of lower-back pain, avoid these exercises altogether until it subsides.

Take It Easy in the Morning Your intervertebral disks—the fluid-filled cushions located

between your vertebrae—are like your bladder in the early morning: full. You know how to take care of a full bladder, but there isn't much you can do to drain your spinal disks, other than give them time to drain on their own. The problem: Fully hydrated disks are larger and less flexible when bending. Forcing them to bend in this situation causes three times more stress on them than later in the day, when they're less hydrated and more pliable.

Walking can speed the fluid loss from the

disks, so in theory a good warmup on a treadmill would lessen the risk. McGill recommends that you wait at least 2 hours after waking before attempting a workout that includes a lot of spine bending. Moves that aren't morning-friendly include abdominal exercises and heavy lower-body exercises, such as squats and deadlifts. The stress they cause can push a disk out from between your vertebrae, resulting in a herniated disk—and lots of pain.

Breathe Normally We've all been taught to exhale when lifting a weight and inhale while lowering it. The idea, like so many others, is based on good intentions. If you hold your breath during a lift, you cause a small increase in blood pressure. That's why trainers tell clients to exhale during a heavy lift. But that breath in your lungs does more than spike your blood pressure. It also provides support for your spinal column. And it's completely unnatural to destabilize your spine while lifting a heavy weight.

Try the Old In-Out McGill says to breathe freely when you're lifting for general health and fitness or performing the stabilization exercises described in the workout on the previous page. You won't build less muscle if you inhale while lifting and exhale while lowering a weight. You can breathe twice during a repetition, if you want. And if you like exhaling on the lift, do that. In real life, your back and abdominal muscles have to stabilize your spine all the time, whether you're inhaling or exhaling, lifting or lowering. Allowing your body to decide how to breathe—rather than going into manual override—trains these muscles to stay on the case and protect your spine.

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