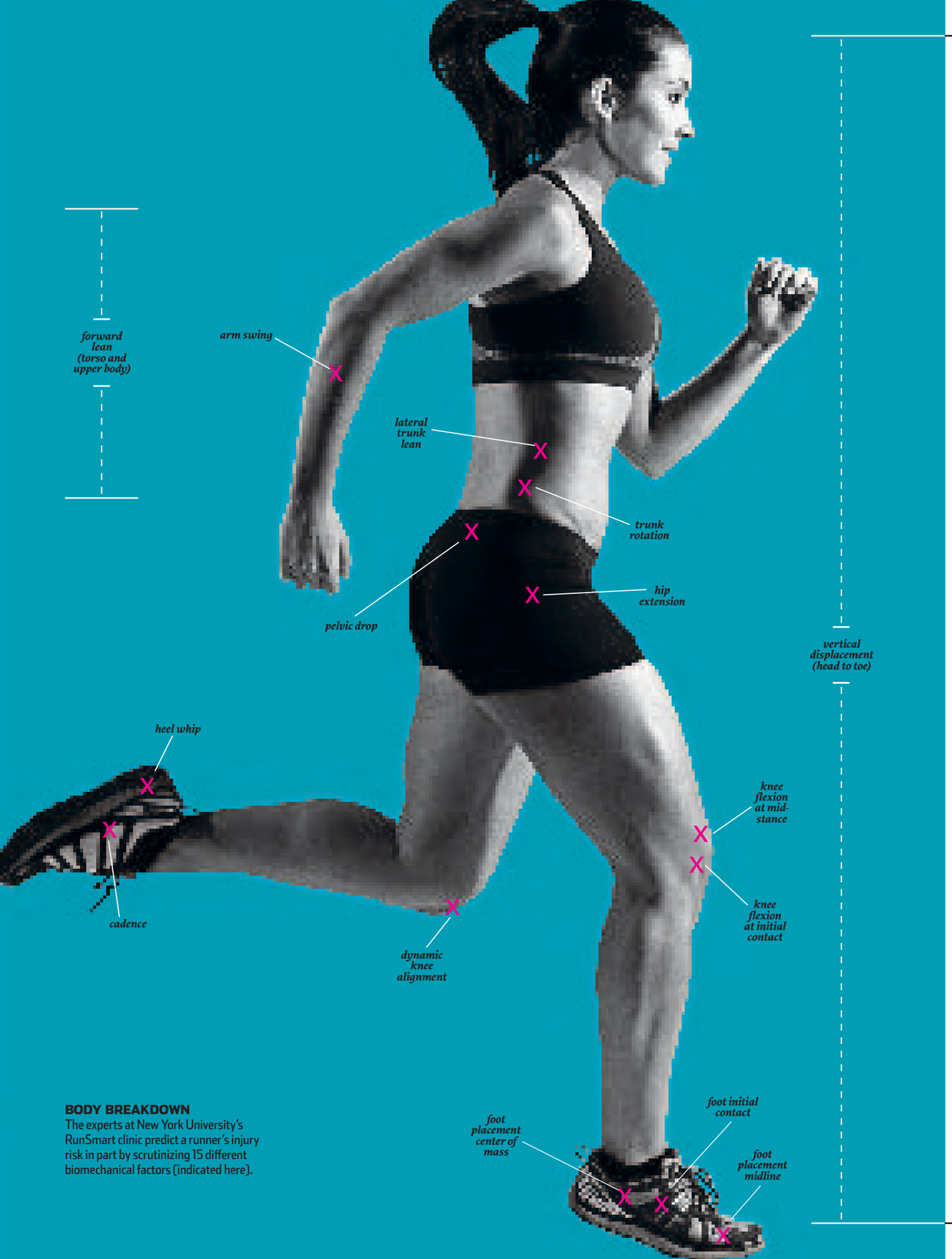


BODY BREAKDOWN
The experts at New York University's RunSmart clinic predict a runner's injury risk in part by scrutinizing 15 different biomechanical factors (indicated here).

THE WHOLE BODY FIX

Chronically injured and disheartened, a *Runner's World* editor sought holistic help from a team of therapists. Her diagnosis (sleeping glutes?) and hard-won lessons (master the clamshell!) can help you, too, stay healthy, happy, and on the road

By KATIE McDONALD NEITZ

Photograph by REED YOUNG

I'm lying facedown on an exam table at a state-of-the-art running clinic in New York City, about to perform a basic exercise for professional analysis. "Okay, Katie, I'd like you to lift your right leg in the air, using your glutes," says Colleen Brough, P.T., M.S., the physical therapist who's there to check my strength and form. *No problem*, I think. She places her hand on my right hamstring—my achy, troublesome one—as I lift and then lower my leg back down to the table with minimal effort and an attitude of *That's all?* "You contracted your hamstring as well as your back," Brough says gently. "Try again, but this time, power the move with your glutes by squeezing your butt before and while doing the lift." *Okay, got it. Simple enough.* But it isn't. Impossible, actually. I lie there motionless, slowly coming to the realization that clenching your face doesn't help you clench your butt cheeks. Forget lifting the leg. I am entirely unable to activate my glutes, a fact Brough describes with one cruel but apt word: "Astonishing." ››››››››››

RUN THIS WAY
During Neitz's treadmill screening, physical therapist Colleen Brough (in blue) gives running cues while therapists Hiwotie Deres (far left) and Hiromi Otani record the session.

WHAT MIGHT BE even more astonishing is that I'm *Runner's World*'s Mind+Body editor. When a person's job requires talking with top sports-medicine docs and physical therapists to provide injury prevention and treatment advice for runners, you might assume said person would be a reflection of her work: a happy, muscle-balanced, injury-free runner. Instead, I've been struggling with the same strained hamstring for six years. I've tried every technique recommended in these pages: massages, Active Release Technique, Graston Technique, and chiropractic treatment. And everything has made me feel better—temporarily. My improvements are always short-lived.

My cranky hamstring has limited my pace, my mileage, and my enjoyment of the sport. Yet when you've had an issue like this for this long, it becomes your new norm. You figure out what makes it worse—hills, faster-paced runs, back-to-back running days—and you work around those aggravators. I could carry on running three days a week on easy routes at a slow pace. I took up swimming and biking and did sprint triathlons in place of the marathons I could no longer run. And I convinced myself all of this was okay. After all, I have two young kids, a full-time job, and a long commute. Just fitting in a workout in my time-crunched, sleep-deprived world seemed like a victory. Running pain-free seemed like a luxury.

And then I had the opportunity in October to visit RunSmart, a running clinic at New York University's Langone Medical Center in Manhattan, shortly before the clinic's doors open to the public in March (yes, another perk of my job). While I came in with a specific complaint—a chronically sore, achy hamstring with limited range of motion—the clinic's chief goal is to help healthy, injury-free runners stay that way. The sports-medicine physicians and the sports-rehab physical therapists at Langone, who regularly team up to treat injured runners, recognized that so many of their patients' injuries—whether foot, knee, or hip complaints—stemmed from similar issues. They imagined the good they could do if they could identify and correct these weaknesses before a full-blown injury developed.

"My philosophy is that it's always better to prevent than to react," says Rusty Varlotta, D.O., F.A.C.S.M., associate professor of rehabilitation and orthopedics at NYU and member of the RunSmart team. "If you can recognize weaknesses or abnormalities, you can address those areas and be more likely to prevent an injury and prevent the downtime needed to rehab an injury."

Similar running clinics at medical centers around the country put participants through an assessment aimed at identifying areas of weaknesses with the goal of preventing injury. (Find a list at runnersworld.com/runningclinics.) One of the first was RunSafe, which launched in 2008 at the University of California at San Francisco and now has three locations throughout the state and one in Boston.

Whether you want to treat an existing injury, as I did, or merely pre-emptively nip one in the bud, NYU's RunSmart schedules you for a two-hour-long appointment, during which you have a treadmill analysis, foot and ankle evaluation, strength and flexibility testing, and nutritional consultation. At each stop, you receive a personal evaluation from at least one sports-medicine professional: Exercise physiologists, physical therapists, and sports nutritionists make up the RunSmart team.

MEASURING UP
Clinical exercise physiologist Alison Peters (kneeling) and physical therapist Jenny Gallinaro (standing) assess the author's overall strength and flexibility with a seven-exercise screening, including this bird dog.

While some immediate feedback may be given along the way ("My, what weak glutes you have!"), the full details come when you sit down with the team as they review your evaluations. The experts take a holistic approach in discussing any areas of weakness, asymmetry, instability, or tightness detected, as well as any nutritional issues that could impact performance. Then, in a conference room outfitted with two 70-inch screens, they pore over your treadmill video. You are filmed from three angles (front, back, and side), and the team has the capability to watch the footage in real-time and slow motion as they scrutinize your running mechanics.

What are they looking for? Fifteen different variables—everything from trunk rotation, arm swing, and forward lean to footstrike, hip extension, and knee alignment. As they dissect stride and form, they constantly refer to the strength, flexibility, foot, and ankle testing to find commonalities and clues.

"Everyone's station contributes a piece of the puzzle," says physical therapist James Koo, P.T., D.P.T., who checked my feet and ankles. "It's only when we all put our own piece down that it creates a picture of what's really going on with a runner. If you come in with knee pain, we're not looking just at the knee. We're looking at everything above and below the knee to see how they influence each other."

Watching your posterior midrun—in slow motion, on two ginormous screens, in a room with a dozen people—isn't for the faint of heart. But once I stopped squirming, I quickly appreciated the value of this expert roundtable. "We realized the most special part of our clinic is how the information is synthesized from each station," says physical therapist and runner Mia Palazzo, P.T., D.P.T., who is the program manager of RunSmart. "It is one thing to report on a strength and flexibility score, on foot and ankle strength/mobility, and to analyze a video. It is a whole other thing to integrate the information from each station in order to figure out which findings are actually relevant to the runner in order to make suggestions on how to improve."

All the data from the testing and the expert huddle go into your take-home report, e-mailed to you a few weeks later, which you can then take to your own local physical therapist to start a rehab routine, if necessary. At 31 pages, my document is epic. And fascinating (at least to me). Although it's filled with notations about—and photographic evidence of—my many flaws (heel-striker on left, midfoot-striker on right; excessive trunk rotation; excessive pelvic drop; inefficient arm swing; inefficient forward lean), the experts concluded that I'm 100 percent fixable. My hamstring pain, they told me, is the result of glute and pelvic weakness, which I can resolve with physical therapy. That feedback renewed my motivation to correct the mistakes I've made in the past and recover—for good. The mistakes I've made, and the lessons I've learned, on the road to recovery can help you overcome your own aches and pains, or better yet, help you avoid injury in the first place.

THE MISTAKE

RUNNING AND RACING WITH A SERIOUS WEAKNESS

While my race times aren't very impressive, what is impressive is that I have been able to run half-marathons at all, with no help from my glutes. My glutes—specifically my gluteus medius and gluteus maximus muscles—are asleep, even on the run, and perfectly fine with having my hamstrings, hips, back, and abdominal muscles step in to carry the load. And that's a problem. A common one, it turns out. Each of the 11 physical therapists and exercise physiologists I spoke with for this piece named inactive glutes as the top weakness they see in runners (with weak lower abdominals as a close second).

Why? One theory is that we park our butts too much. "Many people drive to work, then sit all day, then drive home and sit more," says physical therapist Craig Souders, P.T., the 2:52-marathoner who is overseeing my rehab at Lehigh Valley Health Network in Allentown, Pennsylvania. "That's not the function of the core,

TRIAL AND ERROR

My previous treatments for hamstring pain produced mixed results

CHIROPRACTIC ADJUSTMENTS

The good it did My chiropractor detected my pelvic drop by watching me walk across the room and then worked to realign my hips. I felt drastic improvement initially, even going for a pain-free 10-mile run after my third appointment.

Why it didn't cure me While this work did help align my hips, I wasn't building underlying glute strength to keep my pelvis in the correct position. Now I'm pairing adjustments with physical therapy. By strengthening my glutes, the goal is that I'll be able to successfully hold the pelvic alignment my chiropractor helps me achieve.

MASSAGE & GRASTON TECHNIQUE

The good it did These two forms of bodywork break up scar tissue and enhance circulation to aid in the healing process. Both of these treatments made my hamstring feel loose and more flexible.

Why it didn't cure me These treatments were focused on my hamstring, which wasn't the root of my problem. Neither addressed my inactive, weak glutes, so the relief I felt after a session was short-lived. The hamstring pain always returned.

ACTIVE RELEASE TECHNIQUE (ART)

The good it did At a point in time, my body was starting to fall like dominos. My left knee started to hurt, likely due to compensation. My chiropractor used this method, which breaks up scar tissue in a body part while moving it through its natural range of motion, on my knee. This treatment successfully eased that pain.

Why it didn't cure me While this technique did help my knee, it didn't address the underlying cause of my pain.

PHYSICAL THERAPY

The good it did In 2009, I saw my current PT after having a baby and suffering a pelvic stress fracture. Under his care, I ran a successful marathon (finishing just five minutes shy of my PR) six months later.

Why it didn't cure me I fell back into my old patterns. I didn't keep up with my strengthening exercises. After having a second baby, I resumed PT, but didn't approach it with the same seriousness or dedication I had in the past.

Photographs by GREG MILLER

which includes your glutes. It's designed to move. So we see something that's like disuse atrophy. It's this pattern where the muscle is turned off. And when it's turned off, it's hard to get it back on."

A muscle can also switch off to protect itself. "When you have pain, your body's neuromuscular connection shuts down. That's the body's response to pain—to not use that body part," says RunSmart member Warren Young, M.D., assistant professor of the department of orthopedic surgery at NYU. "The muscle may stay deactivated and you have to retrain it to fire again."

The gluteus maximus, which is the big, meaty muscle of your butt, absorbs some of the impact when your foot hits the ground and then generates power to push you forward. The gluteus medius, the smaller muscle along the side of your rear, prevents your hip from dropping when you run. That's a key job because excessive motion in the pelvis decreases power and increases instability in your legs, knees, ankles, and feet. "If your glute maximus and glute medius aren't firing, then your body recruits the next available muscle group," Souders says. "Your hamstrings may kick in, but they aren't designed to do that job. With the repetition of running, eventually it will catch up with you, and you'll develop hamstring pain." *Bingo.*

THE FIX

GET HELP

You took extra rest days, you foam-roll regularly, you dialed down your mileage, and still you hurt? A chronic soreness or achiness that doesn't go away is a sign of an injury (or an emerging one) that deserves professional attention. Admitting that you need help is step one. Step two is getting the right kind of help. You could go to your regular doctor, chiropractor, or massage therapist and get lucky—he or she may have experience treating runners and understand our unique biomechanics and the common muscle weaknesses and compensations that often occur in our bodies. Or your professional might treat the symptom of your problem (in my case: a sore hamstring) without discovering the underlying cause of your injury (in my case: inactive glutes). Focusing on the symptom, and not the true source of the problem, isn't an effective solution. This is the value of visiting a running clinic, like RunSmart, that takes a holistic approach to injury prevention and diagnosis. For information about getting an evaluation, see "Get Assessed," page 57.

THE MISTAKE

ACTING LIKE A STUD

I pride myself on being a well-rounded athlete. I run, swim, and spin a few times a week. And when I strength-trained, I had the attitude that I was too "advanced" for simple exercises, like clamshells. Instead, I did complex movements like burpees with box jumps. I figured all this cross-training had made my body strong and balanced. And so I was excited to do the Functional Movement Screen (FMS) at the RunSmart clinic, which measures head-to-toe strength and flexibility and is designed to detect muscle imbalances via a series of seven exercise tests. This would be my opportunity to shine—so I thought. A person is considered vulnerable to injury if he or she earns fewer than 14 points out of a possible 21 on the FMS. My score: 12.

I imagine I'm not the only runner with a false sense of confidence about my fitness. It's easy to assume that because you are capable of running 13.1 miles in one shot or even 13.1 miles in one week, you are strong. And you are, for sure. But that's not all that matters. "You can get strong doing something incorrectly—using a dysfunctional movement pattern," says Alison Peters, M.S., a clinical exercise physiologist at NYU who conducted my FMS test. "Your body is designed that way—to enable you to do the movement, even if it's not being done correctly. The problem is that you'll eventually get injured from performing the move that way."

THE FIX

FOCUS ON THE BASICS

To address specific weaknesses and correct flawed patterns, you've got to take a step or two back and home in on the exact

IMPROVEMENT NOTED

Neitz's initial Functional Movement Screening score was 12 out of 21. After undergoing six weeks of physical therapy, she was reassessed (shown here), and her score jumped to 17.

DON'T GET HURT!

So you're a healthy runner? Lucky you! If you want to stay that way, the experts at NYU's newly opened RunSmart clinic recommend doing the following "prehab" exercises daily. These moves target common weak and inactive areas—gluteus maximus and medius—that if left neglected can lead to injury. The exercises are broken into two progressions. In each one, start with letter A and do that exercise daily for 1 to 1.5 weeks before progressing to B, and then C. Once you master these moves, you need to add running cues (pushing off through your glutes while contracting your lower abdominals, for example, when you run) to your routine. Find them at runnersworld.com/runningcues.

BEFORE YOU START

Prior to performing any of the exercises at right, it's important to ensure that you are able to perform an effective transverse abdominis (TA) isometric contraction.

How to Lie on your back with your knees bent and feet flat. Make sure your spine is in a neutral position (not completely flat and not overly arched). Engage your transverse abdominis (lower abdominals) by performing a Kegel or by imagining a line that connects the inside of your two hip bones (the two bony protrusions on either side of your pelvis). Along that imaginary line, gently and slowly draw your two hip bones toward each other. Hold the contraction for 5 seconds while breathing.

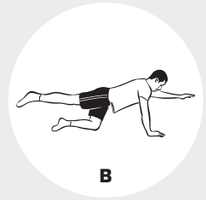
Get it right! Simple moves aren't always so simple to do. Watch a video on how to prevent common exercise form mistakes at runnersworld.com/glutestrength or in this issue's iPad edition.

PROGRESSION 1: GLUTEUS MAXIMUS STRENGTHENING

In many runners, the gluteus maximus (glute max) muscle is under-recruited, and other lower-extremity muscles tend to be overdominant as a result. This imbalance seems to lead to biomechanical faults and overuse injuries. This progression will help you activate your glute max to prevent injury.

PRONE HIP EXTENSION

How to Rest your upper body on a table or a bed with both feet on the floor and your knees bent. Activate your transverse abdominis (as described in "Before You Start," at left). Then contract your right glute max muscle by squeezing your right buttock. While maintaining this contraction, lift your right leg one inch off of the floor. Slowly lower the leg and return to the starting position. Perform 2 sets of 5 repetitions on each leg once a day.



BIRD DOG

How to With your hands under your shoulders and your knees under your hips, activate your transverse abdominis. Extend your right foot behind you. Squeeze your right buttock. Then lift your left arm, thumb up. Hold for 3 to 5 seconds. Return to the starting position. Repeat on the other side. That's one rep. Perform 2 sets of 10 reps once a day.

Get it right While doing the move, think about lifting the leg using the buttock muscles while keeping the lower back relaxed.

LATERAL STEP-DOWN

How to Stand on a 6-inch-high step with your left foot close to the edge, your right leg off the step. Engage the transverse abdominis and bend your left knee. Lower your right leg to tap the heel on the ground. Return to the starting position. Perform 2 sets of 10 reps on each leg once a day.

Get it right Make sure your stance knee does not go past your toes and that the stance knee remains aligned with your hip and ankle. To do this, stick your buttock out and lean forward.

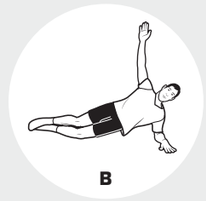
PROGRESSION 2: GLUTEUS MEDIUS STRENGTHENING

In many runners the gluteus medius (glute med) is inactive. This weakness seems to contribute to biomechanical faults that are commonly present in injured runners. The exercise progression will enable you to strengthen your glute med, correct for these biomechanical faults, and prevent injury.

CLAMSHELL

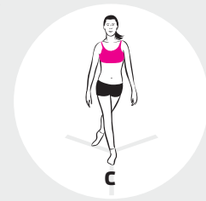
How to Lie on your left side, with knees bent and hips stacked. Activate your transverse abdominis and squeeze your glute muscles. Keep your feet together and slowly raise your right knee. Hold for 5 seconds. Lower your knee back to starting position. This is one rep. Perform 2 sets of 10 reps on each side once a day.

Get it right While you maintain muscular tension in the outer hip and buttock, be mindful to relax your lower back and keep your pelvis tilted forward.



MODIFIED SIDE PLANK

How to Lie on your left side with your knees bent. Align your knees with your hips. Bend your left elbow and align it directly beneath your left shoulder. Activate your transverse abdominis. Then squeeze the glute muscles while maintaining the TA contraction. Slowly raise your hips off the floor, using the glute muscles, and pause. Slowly lower your hips to the starting position. This is considered one rep. Repeat on the opposite side. Perform 2 sets of 5 reps once a day.



STAR EXCURSION

How to Create a "Y" on the ground with tape. Stand on your right foot in the center of the "Y." While contracting your transverse abdominis, bend your right knee and reach your left foot out along the line of the "Y" directly in front of you. Repeat this motion to the next line of the "Y" diagonally behind you to your left and then to the line of the "Y" diagonally behind you to your right (shown above). This is one rep. Repeat on the opposite side. Perform 2 sets of 10 reps once a day.

Illustrations by JAMESON SIMPSON

TEST YOURSELF

Weak, inactive glutes are the top problem RunSmart experts see. If not resolved, glute issues can lead to a host of injuries from the hips down to the feet. Instead of assuming all is good until you are hurt, Colleen Brough, a RunSmart physical therapist, recommends the following self-test, which will help you determine if you have proper muscle recruitment.

STEP-DOWN TEST

➜ Facing a full-length mirror, balance on your left leg on top of a 6-inch-high step or box.

➜ Bend your left knee and squat down until your right foot just touches the ground.

➜ Watch your form as you squat down. If your left knee collapses inward or your left hip juts out to the side, you have pelvic and glute weakness.

➜ Repeat on the other side.

area that needs improvement. If your glutes aren't firing, for instance, you can do squats all day long and you'll just continue to work (and likely strain) whatever muscle group covers for your comatose rear. Instead, you need to isolate your true problem spot. This may require checking your ego at the gym door and doing exercises you might have once deemed too remedial for you. "It's tough to convince runners that basic strength exercises, like clamshells, are important," Koo says. "But if you jump into complex moves without the necessary strength or range of motion, you're almost setting yourself up to fail. Maybe not immediately, but eventually, it'll lead to injury. You need to work on the basics and focus on quality over quantity."

This can be challenging for ambitious, numbers-driven runners, who'd rather do 20 leg lifts than 10—but if you are doing them with poor form and relying on the wrong muscles in order to crank out a high number of reps, you aren't doing yourself any favors. "Practice doesn't make perfect; perfect practice makes perfect," Koo says. "If you do each rep as perfect as possible, you'll notice the muscle burns, it's challenging, and you'll feel like it's worth your time." Indeed, says Brough. "You might be able to do 100 clamshells and think it's an easy exercise," she says. "But can you do it while maintaining a lower abdominal contraction and while activating your glutes? When you recruit the right areas, suddenly an 'easy' exercise isn't so easy."

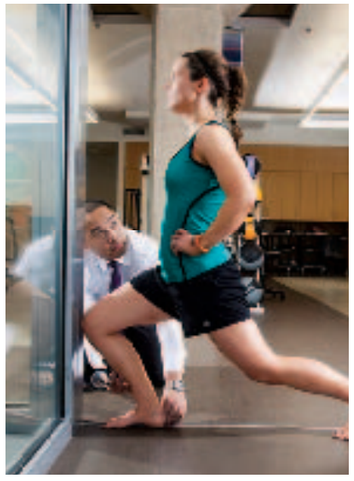
THE MISTAKE

TAKING A HALFHEARTED APPROACH TO RECOVERY

During all my attempts to cure my hamstring, I've kept training for races. My top priority would be my running—not my rehab. I remember one physical therapist very gingerly suggesting that I'd likely see better results if I didn't run 10-milers every weekend. I stuck my fingers in my ears and started singing, *"La, la, la, la! I can't hear you!"* Okay, I didn't actually do that, but I might as well have.

It's also probably no coincidence that during the six years I've been battling my hamstring, I had two kids. That means my sleep quantity has been limited, and the quality of sleep I have gotten has been poor. "There is good research that indicates that anything less than seven and a half hours a night predisposes you to injury," says Laura Dunne, M.D., who is a primary-care sports-medicine physician at OAA Orthopedic Specialists in the Lehigh Valley, Pennsylvania, and also my doctor. Yet, regardless of how little sleep I might have gotten, I'd still get up with my alarm (predawn, even on weekends). The idea of moving a run to a time when I might be better rested made me cranky.

I also made the mistake of seeking a cure from massage therapists, chiropractors, and other practitioners without taking enough personal responsibility for my own recovery (see "Trial and Error," page 53). I suppose I thought that I could simply lie on a table and have a professional render me injury-free. My lazy mind-set had to change. Souders has helped me flip this mental switch. "If you want to get better, you need to *attack* your rehab," Souders told me at my first appointment. In other words, put just as much focus and energy into it as you would a training run and accept it as a serious mission. I'm learning, for example,



FLEX TEST
Physical therapist James Koo checks Neitz's ankle and calf mobility during his portion of the strength and flexibility assessment.

that it's better to do a three-mile run than a five-miler, and spend those extra 20 minutes on the exercise mat.

THE FIX

PRIORITIZE YOUR REHAB

Just as nailing a PR isn't easy, recovering from an injury isn't easy—it takes dedication and hard work. And just like with your training, you can't expect to get better if you give it less than your best. "I tell my patients to channel the energy and frustration that you can't run or can't run as much as you want into your rehab," Souders says. "Get mad! Do 5,000 clamshells a day because you're so mad. If you commit to that and do that, then when you get back to running, you'll see real progress."

It's also important to be mentally engaged in your recovery. "It's very easy to go into mindless mode," Souders says. "Let me play with the kids, watch TV while I do my exercises, and the next thing you know, you're really not feeling it. You're not activating the right muscles, and you're not feeling the burn." To properly train your muscles and prepare them for the rigors of running, you've got to think of rehab as endurance training, and work your muscles until they are truly tired—not until you've simply tired of doing the work.

And as hard as it is, in your busy, time-crunched life, sleep shouldn't be the first thing to go. "We live in a running culture where if we have a lot going on at work and with the kids, we'll still take on marathon training and just sleep less," says Souders, himself a father of two who is training for the Boston Marathon in April. "But the body repairs itself when you sleep, so if you cut that out, there can be effects." Figure out a balance—whether it's going to bed an hour early when you have an early run planned, or dialing down your training and focusing on, say, a 10-K race goal instead of a half-marathon, when you know your time—and sleep—is limited.

THE MISTAKE

LOOKING FOR A QUICK FIX

Six weeks after I started physical therapy, I returned to the RunSmart clinic for a follow-up evaluation. In that period of time, I saw my therapist only three times. But I was religious about my homework: I did many, many reps of clamshells, leg lifts, and bridges daily—sometimes twice a day. Still, neither the staff nor I expected a dramatic transformation after such a short time, but any sign of improvement would indicate that my therapy was on the right track, reward me for my efforts, and motivate me to keep at it. I thought my FMS score, which measures strength and flexibility, might move up a point or two. Instead, it jumped from 12 to 17. The results of my treadmill analysis were just as striking. My pelvic drop, which was significant at initial testing, was now within a healthy range. Most impressive, perhaps, was that my hamstring didn't hurt. At all. And my therapy hasn't involved any hamstring stretching or massage—just lots of glute work.

The old me would have been so pleased with this feedback I'd likely declare myself "cured." The new me, however, realizes I've made good progress, but I'm still very much a work in progress.

All the clamshells in the world aren't going to produce any long-lasting carryover to my running until I take the new muscle recruitments I've been practicing in rehab and put them into effect when I run. This is a critical step, but one that hasn't always been taken. "We found that runners would finish their rehab and be strong, so we'd send them out on the road," Brough says. "But they'd go back out and their pain would still be there. We now know that it's not until you incorporate real-time training cues into your runs—you teach your muscles to be recruited while you are running—that you see a difference."

To do that, RunSmart prescribed me two running drills I'll incorporate into my routine once my physical therapist says I'm ready. One focuses on glute recruitment: As I run, I'll focus on squeezing my butt each time I push off with my foot; the second focuses on developing a midfoot strike with a forward lean, which will help me run more efficiently (see runnersworld.com/runningcues for more detail). To stay healthy, it's recommended that I continue to do these drills regularly—even when I am truly healed.

GROUP CONSENSUS
NYU's RunSmart experts review the author's before-and-after video analysis.

GET ASSESSED

You don't have to be an RW editor to get a detailed running assessment. Running clinics like NYU's RunSmart are open to the public and are less expensive than you might expect. The initial evaluation at RunSmart costs $325—that's for the complete four-station testing plus the take-home report with a customized prehab or rehab plan based on your needs. If you want to return in a few months to see if you're making improvements, you can book a follow-up reassessment for $150. Other clinics around the country are priced similarly: An evaluation at one of the University of California's RunSafe centers costs $299; the University of Florida's Running Medicine Clinic costs between $135 and $314, depending on the scope and length of your assessment. For a list of programs around the country, visit runnersworld.com/runningclinics.

THE FIX

BE COMMITTED

When you've been running with flawed biomechanics for years, you can't expect an overnight fix. And even when you are declared healed, your faulty habits are something you need to be cognizant of—if you want to avoid another breakdown. "You are going to have these patterns that you tend to fall into," Brough says. "So if you tend to have excessive pelvic drop, that will tend to happen on your last mile or on that tough hill. Those are times to call upon these running cues—contract your lower abs, push off through your glutes—to help you prevent those issues." Souders agrees. "Let's say you run 40 miles a week. What if you make that 36 miles a week, and in that extra time you have, you do drills and exercises that will work your weak spots? The work isn't over when you return to sport. That's when you need to focus on stopping this from happening again." RW