Praise for Running Doc™, Lewis G. Maharam, MD

“Dr. Maharam is at the forefront of exercise-related medical issues in the U.S. and around the world. In his work as a marathon medical director, he has done much to make the sport of distance running safer and more enjoyable for hundreds of thousands of runners. He’s that rare sports medicine expert who knows how to explain the science in terms that average athletes can understand and follow.”

—Amby Burfoot, former executive editor of Runner’s World magazine

“Running Doc is the most knowledgeable and articulate medical professional in the running industry. His willingness to share his expertise has prevented countless medical emergencies and personal hardships. More than that, his warmth and humor ease the anxiety of those with whom he speaks.”

—John “The Penguin” Bingham, columnist for Competitor magazine

“When runners get hurt, they fly to Dr. Maharam!”

—Meb Keflezighi, 2009 New York City Marathon winner and 2004 Olympic silver medalist

“Running Doc brings a unique blend of anecdotal experience and medical science to the sports world, particularly distance running. He knows how to keep people exercising safely. Best of all, he can do it by explaining things in a way that everyone can understand.”

—Frank Shorter, 1972 Olympic marathon gold medalist and 1976 Olympic marathon silver medalist

“Dr. Maharam is the definitive medical resource for the running and walking industry. His brilliance is in the delivery. He entertains as he educates, leaving you with great information and a smile on your face.”

—Jenny Hadfield, running coach and columnist for Runner’s World and Health magazines and author of Running for Mortals

“Dr. Maharam is the premier running doctor in the world! He has carved out a specific medical specialty for taking care of runners. I was lucky to have him formulate our medical plans and lead our medical teams as well as educate our runners. This book will be an invaluable resource for all runners at all levels.”

—Allan Steinfeld, former president and CEO of New York Road Runners and race director of the New York City Marathon
“If you've got a sports injury, Dr. Maharam is the go-to doctor, and his book is the go-to resource for patients and doctors.”

— Steven Van Camp, MD, FACSM, former president of the American College of Sports Medicine

“It didn’t take long to realize that Maharam was the best student I ever had. He absorbed everything we knew about the biomechanics of running and walking. He has gone on to become an expert in the physiology of running. I have enjoyed watching him become the best and [am proud] that I was able to help him accomplish that.”

— Allan M. Levy, MD, former team physician of the New York Giants, the New Jersey Nets, and the New York Islanders

“Dr. Maharam is innovative, dedicated, and great both behind the scenes making it happen as well as front and center speaking to a group. He stays current and informed. Dr. Maharam is sure to make you think and stimulate discussion on any topic he covers.”

— Heidi Skolnik, MS, CDN, FACSM, contributing advisor to Men’s Health magazine and former team nutritionist of the New York Giants and the New York Mets

“Dr. Maharam, Running Doc, has been my medical director for some 25 years. We entrust the health and safety of 400,000 participants in the Rock ‘n’ Roll Marathon Series each year to his care. He is far and away the best and most experienced doctor specializing in running and marathon medicine in the world, and I would hate to ever have to put on an event of any size without his guidance and oversight. Perhaps even more important, though, I would send anyone whom I cared about with any ailment to see him. He is the best diagnostician I have ever known. He understands the medical side of the sport like no one else. He ‘connects the dots’ like Picasso and is able to communicate all manner of medical complexities in terms that we laymen can understand. This will be the definitive book on running injuries.”

— Tracy Sundlun, senior vice president for events of the Competitor Group, cofounder of the Rock ‘n’ Roll Marathon Series, and former Olympic track coach
PART IV: Injury Manual 101 .......................... 117

FEET AND ANKLES ............................................. 119
Black Toenails .............................................. 119
Achilles Tendinitis/Tendinosis .......................... 120
Retrocalcaneal Bursitis .................................. 123
Plantar Fasciitis ............................................. 125
Heel Bursitis, or “Faux Fasciitis” ......................... 126
Pump Bump .................................................. 127
Calcaneal Stress Fracture .................................. 128
Cuboid Syndrome .......................................... 129
Hallux Valgus (Bunion) .................................... 130
Jones Fracture: Fifth Metatarsal .......................... 131
Metatarsal Stress Fracture ................................ 132
Foot Tendinitis .............................................. 133
Morton's Foot ................................................ 134
Warts and Corns ............................................ 135
Marathon Feet .............................................. 135
Dorsum Neuritis (Numb Toes) ............................ 137
Lisfranc Foot Injuries ...................................... 138
Ankle Sprain, Ankle Break ............................... 140

LEGs AND KNEES ............................................ 143
Plantaris Tendon Rupture ................................. 143
Shin Splints, Tibial Stress Syndrome,
Exertional Compartment Syndrome .................. 144
Runner's Knee .............................................. 150
Iliotibial Band Syndrome ................................ 155
Anterior Cruciate Ligament ............................... 159
Distal Hamstring Bursitis ................................ 161
Proximal Hamstring Tendinitis/Tendinosis ............ 161
Unresolved Quadriceps Pain .............................. 165

GROIN AND HIP ........................................... 166
Adductor Strain, Groin Pulls That Won't Go Away .. 166
Greater Trochanteric Hip Bursitis ....................... 168
Osteitis Pubis .............................................. 168

BACK ....................................................... 170
Sciatica ....................................................... 171
| CONTENTS |
|-------------------------------|----------|
| Piriformis Syndrome            | 175      |
| Sacroiliac Joint              | 177      |
| Leg-Length Discrepancy        | 179      |
| HEAD                          | 182      |
| Concussion                    | 182      |

**PART V: Sudden Death and Running** 185

- Five Steps to Prevention 187
- The Case Against Caffeine 189
- When Trouble Strikes 192

- Postscript: Enjoy the Ride 197

- Appendix A: IMMDA's Health Recommendations for Runners and Walkers 199
- Appendix B: IMMDA Advisory Statement on Children and Marathoning: How Young Is Too Young? 201
- Appendix C: IMMDA's Revised Fluid Recommendations for Runners and Walkers 211

Index 215

About the Author 225
Foreword

By Frank Shorter

Dr. Lewis Maharam quite simply loves what he does. It is obvious he has always wanted to be a sports medicine physician. You can see it in the way his eyes light up whenever he describes his ongoing efforts to safeguard the health of thousands of runners, a task he assumes regularly as the medical director for major road races all around the United States.

When on site, Dr. Maharam—Rock Doc, we call him, for his role with the Rock ’n’ Roll Marathon Series—is constantly fine-tuning his protocols, adding new ideas to the way he organizes his field hospital and medical aid stations along a race route, and seeking to innovate his approaches to better care. His attention to detail and his practical methods of advising and treating runners, combined with his common sense, make him uniquely qualified to write about the medical side of running. For runners, it’s all about persevering and moving on down the road. The Rock Doc has the tools and wisdom to help us all do that.

Several years ago, when we were on stage together to lead a clinic at a Rock ‘n’ Roll Marathon expo, I finished answering a question from the audience, and the Doc turned to me. He whispered, “I am incredibly impressed by how some elite athletes like you intuitively know the right thing to do with regard to training and injuries.” I was flattered, but it also made me realize that a big part of Dr. Maharam’s role lies in interpreting and spreading the knowledge he gathers and in making sure that those athletes who are not able to listen to their bodies quite as well are still able to maximize their chances of success by following his guidelines.

You may be surprised by the tone of this book. This is not a dry, clinical presentation. It is not a simple glossary of medical conditions and treatments either—although, make no mistake, the aches, pains, and injuries that we runners get are fully described and explained, along with the Doc’s recommended treatments. But in this book he
also draws on many personal stories from his vast experience in his medical practice in New York City and from the cases he sees in the field. He uses these stories to show how he diagnoses and treats his patients. It’s like having a personal doctor who is also a good friend sit down at your side and explain what’s going on and what to do. Dr. Maharam’s advice on preventive measures is concise, and the way he presents it is easy to remember.

Running injuries can be complicated, but even in sports medicine, the simplest explanation and suggested treatment often produce the best result. Here is a doctor who can provide you with the questions you should ask your own provider in an effort to stay active and injury-free.

Whenever runners get together, we like to talk about our training, our recent races, and, invariably, our injuries. If your goal is to stay as active as possible for as long as you can, I can think of no better book to read and keep close by for future reference.

Frank Shorter ignited the first American running boom in the 1970s when he won the gold medal in the marathon at the 1972 Olympics. He also won the silver medal in the marathon at the 1976 Olympics. In addition to his preeminence at the marathon distance, Shorter was a four-time U.S. national 10,000-meter champion and won 24 national running titles during his career. A graduate of Yale University and the University of Florida College of Law, Shorter helped to create the U.S. Anti-Doping Agency and served as its chairman from 2000 to 2005. He was elected to the U.S. Olympic Hall of Fame in 1984.
Black Toenails

QUICK GUIDE: BLACK TOENAILS

Symptoms: Pain, black toenails.

How it occurred: Repetitive trauma of the toe or toenail hitting end of shoe.

What the doctor may do: If painful, put a hole in the toenail to release pressure.

Likely treatment: Prevention is key. Leave one thumbnail’s distance between longest toe and end of shoe. Trim toenails.

Bleeding that occurs under a toenail is from repetitive trauma where that toe hit the end of your shoe. If the toenail has leaked to relieve the pressure that can cause pain, so much the better. If it hasn’t and the condition is painful, a doctor can put a hole in the nail to relieve the pressure. In any case, the black color is just the blood under the nail drying up. It will be reabsorbed. The nail may die and fall off; no worries, a new nail will grow in behind it.

To prevent black toenails, follow these guidelines:

- Make sure your running shoes fit properly. Buy them at the end of the day when your feet are most swollen. Make sure there is a thumbnail’s distance between your longest toe (which may be your second toe) and the end of the shoe.
- Make sure your toenails are trimmed before you run. Sometimes an extralong nail can hit the front of the shoe and cause bleeding beneath the nail.
• Make sure your insole or orthotic is not slippery. Sometimes slippery insoles make the foot slide forward and the toe hits the front. Try putting a nonslippery covering over your insole or orthotic; something like those Dr. Scholl’s foam pads (white with little holes in them) you can find in almost all drugstores will work for this purpose.

Achilles Tendinitis/Tendinosis

QUICK GUIDE: ACHILLES TENDINITIS/TENDINOSIS

**Symptoms:** Pain and swelling at Achilles tendon.

**How it occurred:** Repetitive overuse due to biomechanical problem, either overpronating or supinating. Also can be due to overly tight calf muscles.

**What the doctor may do:** Palpate tendon, dorsiflect foot to evaluate calf tightness. Order MRI or ultrasound to evaluate tendon. Doctor should also check your running form and wear pattern on your running shoes.


**NOTE:** Cortisone injection should be avoided because it will weaken the tendon.

Any sport that keeps you on your feet and uses a pushing-off motion can produce Achilles tendon trouble. Orthotics (see page 68) are usually prescribed, but stretching is always your first defense.

The Achilles tendon, which is formed from your calf muscles, can be pushed beyond its limits and become inflamed. That’s the tendinitis to which most athletes ascribe pain. There can also be some swelling tendinosis, or chronic tendinitis, above the upper heel. But every time the tendon gets inflamed, and certainly every time the pain comes from more serious microtears in the overused tissue that can easily be mistaken for tendinitis, the Achilles grows just a little weaker.

What brings the condition on besides simple overuse? The Achilles is vulnerable to misuse. Designed to do its job of guiding the heel in a vertical plane, it’s intolerant of the rolling of the ankle when it overpronates (rolls inward) or supinates (rolls outward).
Stretching and an orthotic can help prevent the inflammation by biomechanically allowing the tendon to pull in proper alignment.

But a calf muscle routinely loosened by conscientious stretching every day and after a workout cuts the tendon some slack, particularly in stiffer athletes, reducing the tendon’s role as a shock absorber—for which it’s not very well suited anyway. So on those hectic days when stretching seems too much of a bother, remind yourself that a neglected and partially torn tendon needs to rest and heal in a cast for six to eight weeks unless you like courting a rupture.

And if that tendon does pop? The gulf between the two ends creates a hole you can actually feel. A clock has just started ticking, during which the tendon’s two ends will drift apart. As soon as possible you must decide if you want the rupture repaired by surgical reattachment of the ends—the best choice for most athletes. After the operation, you will have to wear a cast or cast boot at first and then undergo probably 9 to 12 months of therapy. The sooner the surgery’s done, the easier the repair. Or you can just go into a cast for maybe 8 to 12 weeks and accept whatever healing nature is able to provide—probably a weaker result and longer recovery.

Given all this, a couple of minutes of prevention doesn’t seem like such a bother after all. Do both the gastroc (upper calf muscle) stretch and the soleus (lower calf muscle) stretch whenever you’re near a wall and have the time. As for the Achilles tendon stretch, once a day for a minute should do it. For both, the more, the better.

Heel lifts alone (orthotic inserts that go only under the heel; see page 69) are a big NO. They shorten the muscle tendon complex. Yes, you “feel” better wearing them, but next time out running when you stride a little farther or speed up, that shortened complex will now tear. That, you don’t want or need! So, please stay away from those heel lifts.

So what do you do if stretching alone doesn’t work? The longer you take before you seek help, the longer the problem will take to fix. All structures in the body constantly remodel (at different rates). The Achilles tendon gets its strength by its fibers lining up in parallel. If its originating calf muscles are inflexible, living in an environment of overpronation and inflammation (tendinitis), remodeling proceeds
is more poetically referred to as “the disease of the aging athlete” because it’s virtually unheard of in people under 40.

For years, even many sports medicine physicians dismissed plantaris rupture as a myth because no cases had ever been surgically proven. But a few years ago, researchers at the University of Miami published a paper confirming that the detailed investigation made possible by MRI had finally found two confirmed cases of plantaris tendon rupture. Too late for all those athletes who had been treated for more serious conditions. Not too late for you.

The good news is, the two ends of the rupture will shrivel up and go away—in a couple of weeks with a little physical therapy, a little longer without—and you’ll never know the difference. The bad news? One more leg to go.

Shin Splints, Tibial Stress Syndrome, Exertional Compartment Syndrome

**QUICK GUIDE: SHIN SPLINTS**

**Symptoms:** Pain in shin.

**How it occurred:** Overpronation (or, less likely, supination) and twisting of tibia.

**What the doctor may do:** Palpate area. Gait analysis. X-ray. MRI. Compartment pressure test in some cases.

**Likely treatment:** Calf stretches. Orthotic or orthotic adjustment. Physical therapy. Soft tissue deep massage of lower leg. Surgery if compartment syndrome is not resolved with physical therapy.

Shin splints encompass a number of disorders that include tibial stress syndrome, stress fractures, and exertional compartment syndrome. It is a condition in which some of your calf muscles wrap forward around your lower leg bone, usually at the inside flat part just about a third of the way up from the ankle, and it favors beginners, athletes coming back from a long layoff, and athletes upping their mileage as the weather gets better outside. Toe runners are constantly told they’re perfect candidates for the condition, but they’re not. It’s brought on by a combination of overly tight calf muscles and not what the foot does when it lands, but after it lands.
Picture a pronating runner with flat feet—the classic shin splint candidate. Airborne, his or her foot acquires a subtle curve where the rest of us have higher arches. Then the foot lands, flattens out, and as the ankle rolls inward (pronates), the shin bone or tibia is forced to twist slightly in the opposite or outward direction. Over and over and over. So anything attached to it—like the calf muscle—is going to be yanked over and over and over, too. That spells shin splints.

If this is the pain you feel, you’re lucky because it can be treated with ice, over-the-counter anti-inflammatories, and a proper orthotic. Ignore these early signs at your own peril. The shin bone is covered with a membrane called the periosteum, which can in turn become inflamed from the muscle’s tugging. And eventually, of course, a twisting tibia is headed for a stress fracture.

The single most effective step is to stop the foot rolling, and only a proper orthotic can do that. The orthotic must be soft and flexible, and it must control the forefoot on takeoff.

Loosening the calf muscles also cuts your shins some slack. Try the stretches recommended here. More is better. You cannot do these too much.

If you have done the exercises conscientiously and still have no relief, you may need some physical therapist’s hands to do soft tissue work to loosen your calf muscles.

Still not better? Ask your sports physician the following questions:

- Is shin splints the correct diagnosis? Do I have a stress fracture or compartment syndrome that is not resolving with the current treatment?
- Are my orthotics controlling my forefoot when I am on the ball of my feet (80 percent of the time when you run)?

Shin splints should resolve with two weeks if you have the correct orthotics and your stretching is compulsively done.

Of course, as a Running Doc I always think of horses, not zebras, first when I hear hoofbeats (in medicine, a zebra is an unexpected diagnosis and comes from a lesson by Dr. Theodore Woodward, who said to his medical students in Baltimore, “When you hear hoofbeats behind you, don’t expect to see a zebra”). So when I am looking for the horse first,
if there is a quarter-inch difference, a correction should be made of one-eighth inch); otherwise, the correction will be too great and further discomfort will result.

**Greater Trochanteric Hip Bursitis**

![Figure IV.34 Greater trochanteric hip bursitis](image1)

**QUICK GUIDE: GREATER TROCHANTERIC HIP BURSITIS**

**Symptoms:** Pain at outside of hip.

**How it occurred:** Repetitive motion causing friction on bursa.

**What the doctor may do:** Palpate area. X-ray, MRI not necessary.

**Likely treatment:** Cortisone injection. PRP injection if cortisone only brings partial relief. ITB stretches can sometimes relieve and/or prevent condition.

Sometimes iliotibial band syndrome pain (see page 155) that is felt only at the hip may not be ITB syndrome after all. There is a small bursa at the hip that can get irritated, and the resulting condition, greater trochanteric hip bursitis, can be diagnosed only by an experienced physician who knows what to feel for. The good news is a simple cortisone shot or a PRP injection (see page 124) is all that is needed for you to be pain-free within a week.

I am always asked how these injuries occur. The annoying answer is, no one knows. We think a tight ITB can rub this bursa, so stretching the ITB (as recommended on pages 156 and 157) if you are tight is a good idea. That said, I have also seen this in patients with very loose ITBs, so go figure! Just know that if you have it and it is properly diagnosed, the condition is a needle stick away from being gone.

**Osteitis Pubis**

It’s tempting to assume that every pain in the pubic area is just another run-of-the-mill groin pull like you had last time and that stretching the area before every workout will take care of it. Fortunately or unfortunately, the hip area is a little more complicated than that. And one of the common but frequently undiagnosed ways it can object to hard training is a condition called osteitis pubis,
Osteitis pubis is an inflammation of the bones where the two halves of the pelvis meet, often caused by running shoes with insufficient cushion, or a biomechanical flaw at the feet translated upward. By moving up and down and rotating a little, that pelvis joint does its job mechanically by helping you to be more flexible. But nature supplied the pubic symphysis, as the joint is called, with a stingy blood supply and consequently a great ability to become inflamed, rather than healed, after irritation. So while the joint is absorbing the shocks it was meant to take from the rest of the body, it’s not really able to deal with them after it gets them.

The classic osteitis pubis victim I see is a runner, male or female, who’s been pounding out the miles on hard surfaces in worn shoes that no longer cushion or possibly had too little cushioning to begin with. Men who’ve had prostate surgery are more vulnerable. In the early stages of this condition, a mild stretching program to loosen all the muscles that attach to and therefore pull on the groin area might have been enough, plus some rest or at least an exercise switch to water running, swimming, or even cycling on smooth roads. But by the time I see most athletes, their futile “groin pull” therapy piled on top of a full training schedule has produced severe pain, with particular tenderness right on the pubic bone. Now it hurts even worse when they stretch, and the softening of the pubic bone from all the irritation is obvious enough to be seen on a common X-ray.
Index

Abdominal muscles, 95, 173
Aches, 25, 49, 76–88, 86, 151
Achilles tendinitis, 120 (fig.), 124
  symptoms/treatment of, 120–121, 123
Achilles tendons, 51, 67, 88, 120, 121, 123
  stretching, 122 (fig.)
Adductor strain, symptoms/treatment of, 166–168
Adrenaline, 27, 188
Aerodynamics, 96
Airways, inflammation of, 97–99, 101
Alcohol, avoiding, 26, 114
Allergies, 92, 94
Amenorrhea, 109, 110, 111
American Heart Association, CPR and, 194
American Red Cross, 49, 73, 194
Amino acids, 25, 32, 89
Ammonia-smelling sweat, 89
Anemia, 90, 91
Ankle breaks, symptoms/treatment of, 140–142
Ankle sprains, 141 (fig.)
  symptoms/treatment of, 140–142
Ankles, problems with, 119–142
Anorexia, 110
Antacids, 24
Anterior cruciate ligament (ACL), 159 (fig.)
  symptoms/treatment of, 159–161
  tears, 162, 174
Anterior knee syndrome, 150
Anterior tibialis tendinitis, 133
Anti-inflammatory agents, 32, 95, 99, 124, 127, 128,
  131, 138, 145
  avoiding, 41
  oral, 157
  staying away from, 27
Antibacterial cleansers, 84
Antibiotics, 79, 81, 85, 85, 88
Anticoagulants, 166
Antidiarrhea medicines, 7, 40, 93
Antilipid agents, 108
Antioxidant Revolution (Cooper), 108
Antiviral medicines, 88
Aortic stenosis, 65

Aqua therapy, 133
Arches, 34, 36, 125
  high, 36 (fig.), 145
  low, 36 (fig.)
  normal, 36 (fig.)
Arrhythmia, 3, 188, 190
Arteries, 103, 105, 108, 140, 146
Arthritis, running and, 104–105
Arthrograms, 174
Arthroscopic surgery, 151, 160, 162
Arthroscopy, 4
Articular cartilage, 178
Asthma, 95, 99
  chronic, 97, 98, 180
  pre-exercise treatment of, 98
See also Exercise-induced asthma
Atherosclerosis, 108
Athlete’s foot, 89–90
Athlete’s heart, 19
Athlete’s pseudoanemia, 90
B-endorphins, 110
Bacitracin, 79, 81
Back
  healthy, 175–174
  problems with, 170–182
Back pain, 171, 176, 178, 180, 181
  causes/treatments of, 170
Baker’s cyst, 4, 4 (fig.)
Bandages, 81, 82, 153, 180
Barefoot, running, 36
Basic 8 exercises, 170, 171, 173–175
Bematuria, 67
Bicycle fit, importance of, 96
Biomechanics, 57, 63, 71, 72, 95, 106, 133,
  153, 154, 163
  changes in, 142
  imperfections in, 68
Birth control, 110
Birth defects, 113
Black toenails, 59
  symptoms/treatment of, 119–120
Index

Blackout, 20, 55
Bladder, problems with, 67
Blisters, 58, 59, 70, 79–81
Blood
  breaking down, 165
donating, 73–74
Blood circulation, 20, 166
Blood flow, 28, 52, 68, 95, 142, 163, 188
  bowel, 67
diversion of, 53
equilibrating, 54
fetal, 114
redirecting, 20, 29–30
regulating, 77
temperatures and, 37
uterine, 112
Blood in stool, 66
Blood in urine, 67
Blood pooling, 53, 55
Blood pressure, 18, 105
Blood sugar, 101, 102
Blood supply, dehydration and, 91
Blood tests, 56, 90
Blood vessels, 52, 77
Blood volume, 28, 91
Bloody nipples, 81–83
BodyGlide, 79, 82
Bone density, 106, 129, 166
Bone mass, 76
Bone stimulator, 133
Bones, 4, 18, 106
Boston Athletic Association Marathon, 51, 190
Bowel ischemia, 92
Bowel movements, loose, 92
Brain, 53, 182
Brea, Michel, 51
Breathing, 94, 95, 98, 99, 195, 196
  rate, 115
Bronchial tubes, 97, 98
Bronchodilators, 99
Bronchospasm, 97
Bulimia, 110
Bunions, 130 (fig.)
symptoms/treatment of, 130–131
Bursa, 4, 123, 125, 127, 158, 161, 168
Bursitis, 4, 128
Butt muscles, 173
Caffeine, 27, 40
  arrhythmia and, 190
case against, 189, 190–192
  content per drink, 191–192
diarrhea and, 93
  limiting, 28, 39, 188, 189, 190
sudden death and, 187–188, 190
Calcaneal stress fracture, symptoms/
treatment of, 128–129
Calcaneus bone, 128 (fig.)
Calcium, 75, 111, 114, 165
Calf muscles, 121, 144, 145
Calf stretches, 127
Calluses, 80, 135
Calves, tight, 125
Cancer, 67, 75
Carbohydrate metabolism, endocrine-based
  changes of, 113
Carbohydrates, 21, 25, 32, 57, 58
  consuming, 22, 24
  eliminating, 89
  loading, 26
  replacing, 23
Cardiac function, 18
Cardiac output, 112, 113
Cardiac problems, 28
Cardiograms, 19
Cardiopulmonary resuscitation (CPR),
  194–195, 196
Cardiovascular system, 47, 113
Cartilage, 4, 7, 151, 161
CAT scan, 179
Cat, The, 174 (fig.)
Center for Science in the Public Interest, 191
Centers for Disease Control (CDC), 86, 87
Cervix, weak, 114
Chafing, 38, 50, 78–79, 82, 83
Chest compressions, 195
Chiropractic manipulation, 179
Cholesterol, 74–75, 104
Chondromalacia patella, 150
Chronic conditions, 7, 86, 97–106
Clothing, 82
  layered, 37, 38
  synthetic, 38, 40
Clots, 92, 104, 144, 166, 188
Cold medicines, 84
Cold weather, 37–38
Colds, 83–88
Colitis, 94
Colonoscopy, 66
Compartment pressure, measuring, 148
Compression, 142, 195
Concussion, 182, 183
Connective tissue, 158
Consciousness, 182, 195
Contraceptives, 109, 111
Contusion, 7
Cool down, 23–24, 32
   eating/drinking after, 24, 30
   walking for, 30
Cooper, Kenneth H., 108
Corns, symptoms/treatment of, 135
Coronary arteries, 188, 189, 190
Corticosteroids, 99, 153, 164, 170
Cortisone, 123, 128, 154, 158, 168, 170, 176
Coughing, 97
CPR. See Cardiopulmonary resuscitation
Cramps, 37, 58, 92
   leg, 114
   muscle, 76
   stomach, 23
Creatine, 148
Crosstraining, 18
CT scans, 7, 179, 180
Cuboid syndrome, 129 (fig.)
   symptoms/treatment of, 129–130
Cuneiform bone, 140
   (Welsh and Shephard), 112
Cushions, 33, 37, 132
Deep vein thrombosis (DVT), 102–104
Degenerative disc disease, 172
Dehydration, 27, 40, 41, 58, 93
   alcohol and, 26
   blood supply and, 91
   urine color and, 22
Desert races, traveling to, 40–41
Diabetes, 18
   running and, 101–102
Diagnoses, xii, 15, 64, 148, 176, 180
Diaphragm, 94, 95
Diarrhea, 87, 93
Diet, 26–27, 93, 94
Digestive system, 54
Dislocations, 139, 140
Distal hamstring bursitis, symptoms/treatment of, 161
Dizziness, 73, 182
Dorsiflexion, 7, 7 (fig.)
Dorsum neuritis, symptoms/treatment of, 137–138
Double knee to chest, 173 (fig.)
Drinking, 26, 38, 56
   cool down and, 24, 30
   eating and, 30–31
   tips on, 21–22
   too much/too little, 82
   urine color and, 39
Drug tests, 93
Duck walk test, 162
EAC. See Exercise-associated collapse
Eating, 27
   cool down and, 24
   disorders, 106
   drinking and, 30–31
   performance and, 26
Echinacea, 85
Edema, 7, 114
Effusion, 8
EIA. See Exercise-induced asthma
Electrogalvanic stimulation, 176
Electrolytes, 8, 21, 24, 55
Elevation, 138, 142
Elvis bagel, 22–23, 27, 39, 50
Emergency rooms (ERs), 41, 83
Endocrine system, 113
Endometrium, 110
Endorphins, 115
Endurance, 17–18, 19–20, 24, 47, 55, 56, 92
   women/men and, 106–109
Endurance kidneys, 29
Energy reserves, 108
Enzymes, 92
Ephedrine, 40
Epsom soaks, 78
Equipment, best, 32–35
Erectile dysfunction, 96
Estrogen, 75, 106, 108, 109, 110, 112
Exercise, 48, 85, 97
   avoiding, 99, 115
   benefits of, 17–18, 105
   insulin and, 102
   lungs and, 19–20
   orthotics and, 154
   pain and, 104
   postpartum, 113, 114, 115
   strengthening, 73, 106, 177, 180
Exercise, continued
stress and, 111
terminal extension, 152, 153
weight-bearing, 18, 92, 133
Exercise-associated collapse (EAC), 29, 3–54
Exercise-induced asthma (EIA), 97, 99, 100
medication for, 101 (table)
Exertional compartment syndrome,
symptoms/treatment of, 144–148
Exogen bone stimulator, 133
Extensor mechanism, 8
Eyes, 101

Fascia, 8, 124, 127
Fats, 22–23, 57
Fatty acids, 107
Faux fasciitis, 126 (fig.)
symptoms/treatment of, 126
Feet
custom support for, 68
deformed, 70
impressions of, 72
problems with, 119–142
swollen, 59
Fever, 85, 86
Fifth metatarsal, fracture of, 131–132, 131
(fig.)
Flexibility, 58, 68, 146
Flexion extension, 180
Flu, 83–88
Fluids, 21
drinking, 28, 41
IV, 55–56
Fluoroquinolone, 88
Follicular stimulating hormone (FSH), 109, 111, 112
Food, 106
digestible, 94
fatty, 5, 94
fiber-rich, 93
gassy, 93
groups, 106
healthy, 25, 26
pre-race, 93
Food and Drug Administration, 86
Food Guide Pyramid, 22
Foot motion, abnormal, 65
Foot positioning, 72
Foot tendinitis, 133 (fig.)
symptoms/treatment of, 133–134
Footprints, shoe types and, 36
Footstrikes, 155
Forefoot, 33, 34, 132, 139, 150
Forward flexion, 178
Fractures, 8, 137, 140
Freshman nerve, 143
Friction, 79, 80
Frontrunners, 150
Frostbite, 38
FSH. See Follicular stimulating hormone
Fuel
muscle, 24
performance and, 23
women and, 107–108
Fuel belts, 21
Gaenslen's test, 179
Gailly, Etienne, 51
Gait, 36, 95, 181
Gastritis, 94
Gastroc, 121
Gastroc stretch, 122 (fig.), 125, 127, 147 (fig.)
Gastrointestinal bleeding, 67
Gastrointestinal series, 66
Gels, 23, 26, 50, 39, 128, 189, 190
General issues, 66–76
Gerdy's tubercle, 155, 158, 159
Glycogen, 8, 24, 25, 26, 107
Gonadotropin-releasing hormone (GnRH), 109, 110
Graduated-compression stockings, 104
Greater trochanteric hip bursitis, 168 (fig.)
symptoms/treatment of, 168
Groin, problems with, 166–170
Groin pulls, 169
symptoms/treatment of, 166–168
Group 1 shoes, 35
Group 2 shoes, 35
Group 3 shoes, 37
Group 4 shoes, 37
Guillain-Barré syndrome, 87
Half-marathons, 45, 50, 52, 189
Hallux valgus, 130 (fig.)
symptoms/treatment of, 130–131
Hamstring curls, 163, 164, 165
at home, 164 (fig.)
for proximal hamstring tendinitis, 164
(fig.)
Hamstring stretch, standing, 175 (fig.)
Hamstring tendons, strength/flexibility, 165
Hamstrings, 161, 171, 180
Harvey, William, 64
Head, problems with, 182–183
Headaches, 32, 182
Heart, training and, 19, 21
Heart attacks, 56, 95
Heart disease, 18, 188
Heart palpitations, 101
Heat, acute injuries and, 77–78
Heat illness, 39
Heat stroke, 56
Heel bruises, 128
Heel bursitis, 126 (fig.)
symptoms/treatment of, 126–127
Heel contact phase, 69
Heel control, 69
Heel counters, 33, 34
Heels, 126, 182 (fig.)
Hematocrit, 91, 113
Hemoglobin, 90, 113
Hemorrhoids, running with, 91–92
Hernias, 169
Herniated disc, 8
High-ventilation sports, 99
Hip, problems with, 166–170
Hip extension, 174 (fig.)
Hormones, 106, 109, 110, 111, 112
Hydration, 39, 56, 74, 82
maintaining, 22, 57–58
salt and, 23
stocking, 25–26
urine color and, 41, 104
Hypotremia, 27, 55, 93, 137
avoiding, 28–29
NSAIDs and, 41
Hypothalamus, 109
Hypothermia, 38
Ice, 28, 138, 142, 165
acute injuries and, 77–78
cooling with, 40
Ice baths, 32, 77–78, 137
iliotibial band (ITB), 155 (fig.)
stretching, 156 (fig.), 157 (fig.), 158, 159
iliotibial band syndrome (ITB), 168
symptoms/treatment of, 155–159
Ilium, 178
IMMDA. See International Marathon Medical Directors Association
Immunity, 83, 84
Infections, 76, 80, 94
bacterial, 85
skin, 78
viral, 85, 135
Inflamed patella, 124
Inflammation, 96, 121, 124, 125, 126, 134, 137, 170
airway, 97–99, 101
chronic, 68
environment of, 163
reducing, 32
ING New York City Marathon, xiii, 52
Inhalers
medication levels in, 100 (fig.)
using, 100, 100 (fig.)
Injection point, 9
Injuries, xi, xiii, xiv, 31, 35, 48, 66, 96, 113, 140
acute, 3, 77–78
brain, 182
career-ending, 160
decrease in, 68
diagnosing, 64
orthotics and, 69
overuse, 63
physical characteristics and, 57
preventing, 63, 68, 72
season-ending, 138
staying warm and, 37
stretching and, 68, 157
treadmill, 95–96
treating, 25, 49, 180
Insulin, exercise and, 102
International Marathon Medical Directors Association (IMMDA), 56, 187, 188, 189, 190
Intravenous pyelogram, 67
Irish foot, 34, 36
Iron supplements, 114
Irregular periods, 111–112
Ischemic area, 9, 92, 188
ITB. See Iliotibial band syndrome
Jogging, 58, 170
Index

Jogging in place, warming with, 37
Joint, 9
Jones, Sir Robert, 132
Jones fracture, 131 (fig.)
  symptoms/treatment of, 131
Kegel, Arnold, 114
Kegel exercises, 114, 115
Kidney disorders, 76
Kidneys, 29, 53, 67, 101, 137
Knee braces, 154
Knee joint space, 154
Knee sleeves, 153
Kneecaps, 151, 152, 153
Knees, problems with, 143–166, 174

Lacerations, 9, 82
Lactic acid, 31
Las Vegas Rock ‘n’ Roll Marathon, 41
Lateral, 9
Lateral collateral ligament sprains, 162
Lateral meniscus tears, 162
Leg extensions, 153
Leg length, 167, 181
Leg-length discrepancy, 170, 180 (fig.)
  symptoms/treatment of, 179–181
Legs, problems with, 143–166
Leukemia & Lymphoma Society, 47
Leukotriene inhibitors, 99
Leutotropic hormone (LTH), 110
LH. See Luteinizing hormone
Lifts, 121, 181
Ligament length, 171
Ligament tears, surgery for, 162
Ligaments, 9, 95, 130, 139, 140, 160
  pelvic, 115
  training and, 21
Lightheadedness, 28, 53
Lightweight trainers, described, 37
Limited quad extensions, 152 (fig.)
Lisfranc de St. Martin, Jacques, 139
Lisfranc foot injuries, 138–140, 139 (fig.)
Liver disorders, 76
Louis, Spiridon, 51
Lumbar spine, curvature of, 115
Lungs, 21, 194
  exercise and, 19–20
Luteinizing hormone (LH), 109, 111, 112
Maalox marathoner, 24
Magnesium sulfate, 78
Magnesium supplements, 95
Marathon feet, symptoms/treatment of,
  135–137
Marathon kidneys, 29, 137
Marathon sniffles, 9, 83–88
Marathons, 45, 46, 50–52
  lessons from, 49–50
Marine Corps Marathon, 48
Massages, 31, 32, 28, 163
Medial, 9
Medial collateral ligament (MCL), 124
  tears, 174
Medial meniscus tears, 162
Medical aid stations, xi, 31, 38, 192–193
Medical care, xi, xiii, 3, 30, 40, 45, 53, 83,
  189, 193
Medical Control, 192–193
Medications, 40, 84
  avoiding, 114
  OTC, 85, 90
Meniscal tears, surgery for, 162
Menopause, 75
Menstrual irregularities, 109–110, 111
Metatarsal bones, 132, 140
Metatarsal stress fracture, 132 (fig.)
  symptoms/treatment of, 132–133
Metatarsals, 134
Metered dose inhalers (MDIs), using, 100
MICE (motion, ice, compression, rest), 142
Microischemic, 190
Microsurgery, 160
Microtears, 58, 120, 165
Midfemur stress syndrome, 166
Midfoot, 139
Mileage, increased, 106, 109
Minerals, 87, 106
Mitochondria, 20
Moisturizers, 38
Morton, Dudley Joy, 134
Morton’s foot, 134 (fig.), 150
  symptoms/treatment of, 134
Motion control shoes, 35, 133
MRI, 9, 124, 129, 130, 140, 144,
  148, 160, 162, 166, 167, 174, 180
Multiple sclerosis, 76
Muscle cells, changes for, 20
Muscle fatigue, 24
Muscle length, 68
Muscle pulls, 165
Muscle repair, 24–25
Muscles, 9, 21, 95, 177
post-race, 31
Musculoskeletal system, 113
Mylanta, 24
Myositis ossificans, 165

National Institutes of Health, vitamin D and, 76
Nausea, 28, 32, 53, 87, 101, 183
Nelson’s knot, 138, 138 (fig.)
Neurological complications, 115
Neuroma, 134
Neurotransmitters, 108
Neutral, 34 (fig.)
Neutral runners, 34, 36
New York City Marathon, 74
NipGuards, 82
Nipple jewelry, 82
Nitrogen, 57, 89
Nonfunctioning gut, 54
Nonsteroidal anti-inflammatory drugs (NSAIDs), 10, 29, 93, 137
avoiding, 27, 41
restarting, 32
Normal motion, 179
Nulliparity, 109
Numb toes, symptoms/treatment of, 137–138
Nutrition, 19
evaluation, 112
guidelines, 57
muscle cells and, 20
poor, 84
Oligomenorrhea, 109, 110
Organ systems, maintaining, 75
Orthotic alignment, 71 (fig.)
Orthotics, 10, 35, 36, 65, 80, 120, 121, 123, 124, 125, 126, 129, 130, 131, 132, 133, 134, 138, 142, 145, 146, 155, 159, 163, 165, 166, 167, 180
construction of, 69, 72
custom, 34, 154
exercise and, 154
full-length, 70–71
information about, 68–73
misalignment and, 69
overpronation and, 128
performance and, 69
proper, 153
refurbishing, 71
Osteitis pubis, 168 (fig.)
symptoms/treatment of, 168–170
Osteoarthritis, 104
Osteoporosis, 76, 106, 110, 129, 166
Overhydration, 22, 30, 39, 95
Overpronation, 10, 33, 69, 72, 120, 125, 127, 131, 132, 133, 134, 150, 154, 159, 163, 167
eliminating, 70
orthotics and, 128
Overpronators, 34 (fig.), 35, 36, 128, 142
Overuse chronic condition, 10
Ovulatory dysfunction, 111
Oxygen, 19, 20

Pain, 32, 49, 76–88, 96, 103, 119, 124, 125, 131, 141, 147, 151, 154, 155, 164, 166
arch, 126
back, 170, 171, 176, 178, 180, 181
butt, 178
chest, 189
during training, 25
exercise and, 104
pelvic, 178
running shoes and, 34
sciaticlike, 178
severe, 169
thigh, 165, 178
Parasites, 94
Partial sit-up, 174 (fig.)
Patella cartilage, 153, 154
Patella femoral disorder, 150
Patrick’s test, 179
Pelvic floor, 115
Pelvic stabilization, 171
Pelvic tilt, 173 (fig.)
Pelvis, 167, 178
Performance, 92, 96
eating and, 26
fuel and, 25
orthotics and, 69
Pericardium, 194
Periosteum, 145
Peristalsis, 54
Peroneal tendinitis, 133
PF Chang’s Rock ‘n’ Roll Marathon, 40
Phidippides, legend of, 50, 51, 52
Physical exams, 66–68, 188, 189
Physical fitness, 56–57, 113
Index

Physical therapy, 124, 144, 148, 154, 158, 160, 161, 163, 166, 170, 174, 177

Physiology, 52, 53, 55
  endurance, 19–20, 24
  pregnancy, 112–115

Piriformis, 176, 176 (fig.)

Piriformis syndrome, 178
  symptoms/treatment of, 175–177

Pituitary gland, 109

Plantar fasciitis, 125 (fig.), 126, 129, 130
  symptoms/treatment of, 125

Plantar flexion, 10, 10 (fig.)

Plantaris tendon, 142 (fig.), 143
  symptoms/treatment of, 143–144

Plantaris tendon rupture, symptoms/treatment of, 143–144

Platelet-rich plasma injections (PRP), 123, 124, 125, 126, 130, 133, 135–154, 159, 161, 164, 168, 170, 177, 179

Popliteal space/popliteal fossa, 10

Postconcussive syndrome, 182, 183

Posterior, 10

Posterior cruciate ligament tear, 65, 162

Posterior tibial tendinitis, 161, 163–165

PRP. See Platelet-rich plasma injections

Prolactin, 110, 112

Pronation, 10, 34, 35, 36, 70, 145, 150

Pronalgin, 93

Prostate surgery, 169

Protein, 22, 25, 37, 110

Proximal hamstring tendinitis
  hamstring curls for, 164 (fig.)
  symptoms/treatment of, 161, 163–165

PRP. See Platelet-rich plasma injections

Pseudoanemia, 91

Pseudoephedrine, 40

Pubic bone, 167, 170

Pubic symphysis, 169

Pudendal nerve, 96

Pump bump, 127 (fig.)
  symptoms/treatment of, 127–128

Push-off phase, 70

Quad extensions, 152, 152 (fig.)

Quad strain, 166

Quad stretch, 175 (fig.)

Quadriceps, 171

Racing, 45–50, 59
  explosion in, 47–48
  time trial, 37
  training and, 27–28
  warm-weather, 39–40

Range of motion, 68

Recovery, 53, 64, 73, 121, 131, 160, 166

Recovery drinks, 24–25, 31

Red blood cells, 74, 90, 91, 113

Refractory zone, 99

Repetitive inversion, 130

Respiration, 115
  exercise and, 19–20

Rest, 142, 143, 167

Retrocalcaneal bursitis, 123 (fig.)
  symptoms/treatment of, 123–125

RICE (rest, ice, compression, elevation), 142

Rickets, 76

Rock ‘n’ Roll Marathon series, xi, xiii, 24, 47, 107

Runners
  beginning, 37
  female, 35
  heavy, 35
  high-mileage, 35
  lightweight, 37
  midweight, 35
  moderate-mileage, 35
  often injured, 35
  seldom-injured, 35

Runner’s knee, 152, 178, 179
  symptoms/treatment of, 150–151, 153, 155

Runner’s trots, 76, 92–94

Running, 17, 18, 39, 69
  back problems and, 170
  cold weather, 37–38
  endurance, 85
  gender gap in, 46
  long-distance, 67
  mechanics, 59
  popularity of, 46–48
  problems, 71

Running shoes, 50, 96, 129, 181
  blisters from, 79
  breaking in, 80
  bump from, 127
  changing, 90
Index

choosing, 35, 36
finding, 33–35
imperfections in, 59, 126
pain with, 34
parts of, 33 (fig.)
properly fitted, 128
recommendations for, 32–33
running style and, 34
selling, 48
tight, 137
well-cushioned, 37, 136

Sacroiliac joint (SI), 178 (fig.)
symptoms/treatment of, 177–179
Sacroiliac pain, location of, 178 (fig.)
Sacrurum, 178
Salt, consuming, 23, 29, 30, 39, 41
Saunas, avoiding, 113
Sciatic nerve, 11, 172, 176
Sciatica, 10 (fig.), 11, 176
symptoms/treatment of, 171–172, 174–175
Seizures, 185, 196
Shephard, Roy J., 112
Shin splints, 144 (fig.)
symptoms/treatment of, 144–148
Shoe groups, understanding, 35, 37
Shoelacing guides, 138
Shorter, Frank, xi, 24, 72, 76
Shortness of breath, 97, 189
Showers, post-race, 32
SI. See Sacroiliac joint
Side stitches, 94–95
Siegel, Arthur, 190
Sitz baths, 92
Skeleton
front view, 5 (fig.)
rear view, 6 (fig.)
Skin lesions, 135
Slapping feet, 34
Snacks, healthy, 25, 26
Socks, 58, 80, 90
Sodium, 55, 95
Soleus, 121
Soleus stretch, 122 (fig.), 125, 127, 147 (fig.)
Spasms, 76, 97, 176
Spinal discs, 11, 176
er herniated, 11 (fig.)
normal, 11 (fig.)
Sports drinks, 25, 30, 39, 40
training with, 21, 58
Sprains, 11, 160, 162
ankle, 140–142, 141 (fig.)
ligament, 3, 124, 139
Sprinting, back problems and, 170
Stability shoes, described, 35
Stair toe raises, 149 (fig.)
Stamina, 22, 47
Standing hamstring stretch, 175 (fig.)
Steroid injections, 156
Steroid metabolism, endocrine-based
changes of, 113
Stick, The
using, 157 (fig.), 158
Strains, 165
muscle, 3, 9, 167
Strength training, benefits of, 18, 22
Stress, 84, 110, 111, 137
joint, 179
reaction, 166
Stress fractures, 11, 91, 110, 133, 145, 166
preventing, 130
repeat, 105–106
Stress syndrome, 11, 130, 144–148, 167
Stretching, 58, 75, 95, 106, 121, 124, 125, 126, 158, 165, 169, 171, 177, 180
flexibility and, 68
injuries and, 68, 157
post-race, 31
running and, 68
Subluxation, 11, 129
Sudden death
adrenaline and, 188
caffeine and, 187–188, 190
1-mile mark and, 187, 188
preventing, 187–189
Sugar test, 102
Sun, protection from, 40, 82
Sundlun, Tracy, 107, 108–109
Supination, 12, 34, 34 (fig.), 36, 37, 70, 120, 133
Supplementation, 76, 91
Suppositories, 92
Surgery, 151, 153, 160, 162, 169
Sweating, blood volume and, 91
Swelling, 103
Symphysis pubis, cartilages of, 113
Syncope, 20, 27, 53, 54, 137
avoiding, 28–29
Tailbone, 178
Tamiflu, 88
Tarsometatarsal, 140
Tears, 160, 174
ligament, 65, 162
meniscal, 124, 162
micro, 58, 120, 165
muscle, 124
TED stockings, 104
10 commandments, 56–59
Tendinitis, 12, 88, 120, 121, 123, 124, 133, 163, 165
Tendinosis, 12, 124
symptoms/treatment of, 120–121, 123, 161, 163–165
Tendons, 12, 68, 95, 121, 125, 133, 177
inflammation of, 163
painful, 123
pelvic, 115
training and, 21
Terminal extension exercises, 152, 153, 154
Testicles, 96
Therapy, 165, 166, 167, 176, 177
Thirst, 82, 92
obeying signs of, 29–30, 38, 41, 58
Thrombosis, 92
Thyroid gland, 110
Thyroid stimulating hormone (TSH), 110, 112
Tibia, 145, 160
Tibial stress syndrome, symptoms/treatment of, 144–148
Tinactin, 90
Training, 16, 21–25, 52, 57, 95
distance/intensity of, 25
explosion in, 47–48
interval, 21
medical problems and, 31
pace, 74
pain during, 25
programs, 47, 57, 63
racing and, 27–28, 102
success and, 21–25, 25–27
Trunk flex, 173 (fig.)
TSH. See Thyroid stimulating hormone
Tumors, 94
20-minute protocol, 54–55, 54 (fig.)
Ulcers, 94
Ultradistances, women/men and, 107
Ultrasounds, 103, 165, 166
Underpronators, 37
Unresolved quadriceps pain, symptoms/treatment of, 165–166
Upper femur, 167
Urinary incontinence, 114
Urine, 82
color of, 22, 39
hydration and, 41, 104
Urine pregnancy tests, 110
U.S. Department of Agriculture, pyramid by, 22
USA Track & Field Road Running Information Center, 46
Uterine prolapse, 114
Valgus, 12, 12 (fig.)
Varicose veins, 114
Varus, 12 (fig.), 13
Vascular complications, 101, 115, 166
Vasoconstrictors, 77
Vasodilators, 77
Venogram, 103
Venous return, 103, 114
Vertebra, 13
Virginia Beach Rock ‘n’ Roll Half Marathon, 72
Visual disturbance, 28, 53
Vitamin D, 75–76
Vitamins, 85, 87, 106, 129
Vomiting, 32, 185, 196
Walker, H. Kenneth, 84, 85
Walking, 17, 35, 46–47, 48, 84, 114
Warming down, time for, 53
Warming up, 58, 68
Warts, symptoms/treatment of, 135
Water, drinking, 21, 26, 27, 30, 39, 41
Water running therapy, 135
Weight control, effective, 105
Welsh, R. Peter, 112
Wet heat, 165
Whirlpools, avoiding, 113
Winfrey, Oprah, 48
Women’s health, 106–115
Woodward, Theodore, 145
X-rays, 19, 129, 140, 141, 142, 165, 166, 167, 169, 171, 174, 179, 180, 181
Yoga, 114
About the Author

Lewis G. Maharam, MD, FACSM (Fellow, American College of Sports Medicine), is a primary care sports medicine specialist in private practice at 24 West 57th Street in New York City. One of the most extensively credentialed and well-known experts in the country in the fields of health, fitness, injury prevention, and treatment of athletes and other active people, Dr. Maharam is past president of the Greater New York Regional Chapter of the American College of Sports Medicine and past chair of sports medicine at the former Downtown Athletic Club (“the Home of the Heisman Trophy”). He has served as the medical director of New York Road Runners and the ING New York City Marathon, and is currently the medical director for the Rock ‘n’ Roll Marathon series. He also serves as chairman of the Board of Governors of the International Marathon Medical Directors Association as well as national medical director for the Leukemia & Lymphoma Society’s Team in Training program. Dr. Maharam was appointed USA team physician in track and field for the 1999 World Indoor Championships in Japan. He previously served as USA team physician for the USA Jr. Track and Field team that won the IAAF Championships in Sydney in 1996.

Dr. Maharam writes the “Ask Running Doc” column on Competitor.com (http://runningdoc.competitor.com). He is the author of A Healthy Back (Owl Books, 1998), Backs in Motion (Henry Holt, 1996), The Exercise High (Fawcett Columbine/Ballantine Books, 1994), and Maharam’s Curve: The Exercise High—How to Get It, How to Keep It (Norton, 1992). Dr. Maharam is an enthusiastic advocate of exercise as not just something we “ought” to do for our health, but something we owe ourselves—something we must do to fully enjoy our day-to-day lives. His award-winning running medicine research has been presented in continuing education seminars for doctors and at numerous speaking engagements aimed at educating the public. His groundbreaking program for preventing and relieving back pain has made Dr. Maharam a sought-after speaker at community group gatherings, and his positive, clear, and witty conversational style has
resulted in many TV and radio interviews. He was a frequent guest on *America’s Talking Network: Alive and Wellness Show*, and he has appeared nationally on *World News Tonight, Today, Good Morning America, Inside Edition*, CNN, and Fox News as well as CBS talk radio and WFAN. He has traveled the country appearing on local TV newscasts and radio, appearing with sports reporters as well as health and fitness correspondents talking about current issues.

Dr. Maharam graduated Magna Cum Laude from Lafayette College and earned his medical degree at Emory University prior to surgical and medical internships at, respectively, Columbia-Presbyterian Medical Center and Danbury Hospital, an affiliate of the Yale University School of Medicine. After his residency in internal medicine, Dr. Maharam was awarded one of the few fellowships in the new specialty of primary care sports medicine at Pascack Valley Hospital, Department of Sports Medicine.

An expert on staying free of injuries that can afflict athletes and nonathletes alike, Dr. Maharam writes for *Competitor* magazine, competitor.com, newspapers, newsletters, and many magazines. He is frequently sought as a source of medical advice by writers for *Sports Illustrated, Runner’s World, Fitness, Self, Shape, Redbook, Time, Newsweek, the New York Times, USA Today, the New York Daily News, Newsday, Conde Nast Sports for Women, Glamour, Cosmopolitan, Jane, American Health for Women, Men’s Journal, Walking, Woman’s Day, McCall’s, Reader’s Digest, the New York Post, Allure, U.S. News and World Report, Cooking Light, Women’s Sports and Fitness*, and other publications both here and abroad.

With boundless enthusiasm for debunking health myths while sharing the latest discoveries that can help his audiences enjoy longer, more robust lives, Dr. Maharam speaks on topics such as the following:

**Marathon Medical Tips.** How do you prepare for marathon day? Training tips, injury prevention, dealing with injury, nutritional tips, carbo-loading. Know what to do to finish the 26.2 miles strong and healthy!
Illegal Substances in Sports. It's gone well beyond professional wrestlers and their steroids. From the junior high school student up, competition is tough and the drive to win medals—or just look better—is strong. Dr. Maharam’s information and nonconfrontational style have been a success with students, athletes (professional, college, high school, recreational, and weekend), parents, and coaches. He discusses who's using what and why and what everyone should be on the lookout for.

Back Pain? Don’t Just Sit There. A program that takes aim at this ubiquitous ailment not by telling people to be quiet and be careful but by telling them to be active and move!

Sex and Back Pain. Everyone who has back pain is afraid to ask the question “Can I do it?” Dr. Maharam talks about how one can, male or female, depending on who is having the pain and why!

Making Exercise a Part of Your Life. Why do so many people start an exercise program and quit? Because it’s like bad-tasting medicine: good for you but too tough to swallow. They don’t know how to get into the exercise feel-good zone that makes people lifetime converts. But it’s not hard. Many people after just one lecture have gotten onto the path of lifetime exercise!

Don’t Fall into the Mouse Trap. Sitting at a computer doesn’t need to cause wrist and back pain. Dr. Maharam’s program gives corporate employees a plan for pain-free computer work.

Healthy People. The CPC and ACSM’s latest findings on how much exercise you really need for good health and lower cardiac risk. Plus, how easy it can be to eat right without being a scientist or mathematician.

Sports Shouldn’t Hurt. Problems like tennis elbow or runner’s knee derail more fitness programs than boredom or lack of time ever could. But they don’t have to. The secret is being prepared, whether it’s for summer biking, tennis, or golf or wintertime skiing. What people need is a season-by-season program that fine-tunes the body for the sports to come.

Exercise: The Best Stress Reducer. People think they need meditation, drugs, or long vacations to deal with the daily tensions
of life. There’s plenty of medical evidence suggesting what they really need is regular exercise.

**Dance Fever.** Dance is a sport. Prepare your body for that night out or your everyday workout.

**Food as Fuel.** Most nutrition-conscious people try to eat right simply so that they can stay healthy. What about eating to get strong, have more energy, and feel better? Sports medicine knows how you can, and it knows that you never have to count a calorie.

**The Superman Syndrome.** Adolescent athletes think they can go out on the field, play hard at any game they want, and not get hurt. They think they’re unbreakable. Not so. But if they prepare, just like adults should, they’ll be headed for an active lifetime of good health. Prepare or beware: the most important exercises, stretches, and other conditioning practices “supermen” and “superwomen” should know so that they stay as durable as they feel.

**Women in Sports: Yes, They’re Different from Men.** Female athletes have more to think about than winning. For example, on a typical high school cross-country women’s team, 2 out of 10 runners will show evidence of an eating disorder. We’re finally beginning to learn some fascinating things about issues like anorexia and bulimia, exercise and menopause, osteoporosis, and hormonal balances. Who’s at risk, and what can they do about it?

**What Makes the Older Athlete Different?** In most sports they’re called masters. They’re ordinary people over 35, and as a group they could beat most 20-year-olds of a couple of generations ago. Why? The body doesn’t age the way we once thought it did. We just have to keep it tuned up a little differently as the years go by.

**Are You Fit or Just an Athlete?** Most of us confuse prowess on the playing field with fitness and health. You can be a top jock and be in awful shape. And vice versa. If you want to stay healthy, stay fit. Then work on the athletics.
“Like having a personal doctor who is also a good friend sit down at your side and explain what’s going on and what to do.”
—FRANK SHORTER, OLYMPIC MARATHON GOLD MEDALIST

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LWIS G. MAHARAM, MD, is one of the world’s most extensively credentialed and well-known running health experts. He is the medical director of the Rock ‘n’ Roll Marathon Series and former medical director of the New York Road Runners club and the New York City Marathon.


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