

Injury Free Running

by Tim Richardson, PT

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'Get Better Physical Therapy'

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Medical Arts Rehabilitation, Inc, in Manatee County Florida, has provided physical therapy solutions for patients, physicians and payors for over 25 years.

'Get Better Physical Therapy!'

Six Exercise every Runner Needs to Run Injury Free

My special interest in runners is due to the fact that I'm a runner and I've always had a special place in my heart for those athletes who pound the pavement for miles and miles.

Running has always piqued my curiosity and it has led me to ask the simple question: Why do runners get injured?

I began working in 1992 as a physical therapist at the University of Florida in Gainesville. This area is a 'hotspot' for international, elite runners and triathletes. They are drawn to the area by the gently rolling countryside, ideal year-round training weather and world-class sports training and medical facilities.

I worked for an internationally known therapist named Gerard Hartmann who attracted top runners from Track and Field and Cross Country Running. Their names and faces graced the covers of Runners' World magazine and filled the Rolodexes of sports agents and coaches.

These athletes got the same injuries that most of us runners get: plantar fasciitis, shin splints, stress fractures, and more.

What I learned in Gainesville was that elite athletes' injuries are related to many of the same limitations in strength and mobility that affect us 'regular folks'.

The exercises I recommend seem simple at first but are fundamental to the rehabilitation of some of the world's fastest and fittest runners. These exercises can also be fundamental for you to stay strong and injury free.

I have found that very few injuries are resistant to proper rehabilitation. Everybody can get better. Runners and athletes get better most of all.

I recommend you perform these exercise movements as a preventative program, prior to each run or workout. If you can't do them every time then do them at least three times per week. Try to get twenty or thirty repetitions of each exercise with no loss of good form and no change in speed (that is, pace yourself).

Exercises on Video

These exercises are available on video, hosted by YouTube, 24-hour per day, seven days per week.

Click the link to watch the video. If you can't click the link then cut and paste it to your address bar.

Do the exercises in the order shown – they move in a logical progression from the standing to the sidelying position.

Standing Heel Raise: <http://www.youtube.com/watch?v=DJ63rzIPcGA>

Lunges: <http://www.youtube.com/watch?v=LDLhP60Pvks>

Sitting Knee Extension: <http://www.youtube.com/watch?v=2VJNa2VyGyE>

‘All Fours’ Hip Extension: <http://www.youtube.com/watch?v=SUukX3E36cw>

Sidelying Hip External Rotation: <http://www.youtube.com/watch?v=b97slkmC2Oc>

Sidelying Hip Abduction: <http://www.youtube.com/watch?v=v2fiSinklB8>

Why these six exercises?

I’ve discovered these exercises are the ones that give the most ‘bang for the buck’ when it comes to rehabilitation and running performance.

These exercises are safe, easy and effective. Everyone benefits because we are working the major ‘locomotor’ muscles that everyone needs for running.

For some runners six exercises are far too many, and for other runners six exercises are not enough. Some runners never stretch and they do nothing but run for their exercise. That’s OK. Don’t worry about them. If you want a little competitive edge and a little ‘insurance’ against injuries then adopt these simple exercise habits as part of your running workout.

Why ‘give it away?’

Why would I give away exercise when, as a physical therapist, I ‘sell’ exercise as a means to help injured people alleviate pain and feel better?

The answer is that I am not in the business of ‘selling’ exercise. I am in the business of ‘selling’ information.

When I examine a new patient I gather measurements and facts and impressions that lead me to a diagnosis: a physical therapy diagnosis. That diagnosis allows me to recommend one exercise versus another. The value that I give my patient is the unique information about their body that they are not fully aware.

For instance, the other day I examined a new patient, a lady with runners' knee. As I examined her, I realized that she could not straighten her knees. She did not recognize this limitation. I showed her how the normal knee is supposed to straighten and then I showed her an exercise to help straighten her knees.

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Why does my {insert your body part here} hurt?

Most people do not know what makes their body parts hurt. In most cases, especially with youthful (<55 years) runners, the cause of the pain is in the muscles, not the bones.

Physical therapy is the process of examining the range-of-motion and the strength of the muscles around the following areas: the hips, the lumbar spine, the knees, the ankles, the toes and even the ribcage and the neck on occasion.

The process is time-consuming and comprehensive. I spend a lot of time with my patient and that's what I charge for: my time. The exercises are essentially free.

I have packaged the exercises in this 'e-book' along with video demonstrations and explanations (hosted on You Tube) in order to broaden the appeal and understanding of the physical therapy process.

If most runners knew what physical therapy exercises could do for their daily aches and pains they would be knocking down my door to receive treatment for their injuries.

Free physical therapy exercise videos

Most runners are highly motivated types that would take the specialized knowledge that I 'sell' them and they would do the exercises – especially since the video is available 24 hours a day on YouTube.

There is additional information on the physical therapy process at www.MedicalArtsRehab.com.

When performed consistently, these exercises add a layer of protection to the runner's legs and body that is every bit as good as expensive running shoes or dietary supplements.

Notice the emphasis, in the videos, on ‘bodyweight’ exercise that requires no equipment. These are the most effective for the following reasons:

- Safe
- Effective
- No special or expensive equipment.
- Can be done indoors or outdoors

Also note that there is very little ‘stretching’.

The most recent evidence (in 2005) comes from the United States Centers for Disease Control and Prevention in Atlanta and indicates that, on balance, stretching does more harm than good. This ‘literature-based’ evidence is consistent with my own experience over 15 years of running and I am glad the word is starting to get out.

The benefits of these ‘simple’, preventative exercises are persistent and cumulative: freedom from pain, reduction in injury risk, improved running form, harder training and, ultimately, faster race times.

Does Running Cause Arthritis?

‘Does running cause arthritis’ is a big question that we will discuss in this e-book. If, when you’re done reading, you have more questions about running and arthritis then I will consider my job done. If you have more awareness of issues surrounding running and arthritis then I will definitely consider my job done.

(note: this article contains links to Web video. To preserve the links, you can save the document to your hard drive. If you prefer, you can print the document and the links will also print and you can type them into your address bar.)

The Question

I first asked the question ‘Does running cause arthritis?’ at the 2001 Annual Meeting of Orthopedic Surgeons in Orlando, Florida. I had the good fortune to sit in on a lecture by Joseph Buckwalter, MD from Iowa State University. Dr. Buckwalter is the kind of orthopedic surgeon that teaches other orthopedic surgeons how to treat arthritis. He is also one of the foremost arthritis researchers in the world.

The lecture was a 90-minute presentation followed by questions and answers. The audience was primarily orthopedic surgeons and arthritis researchers. I was one of the very few physical therapists at that conference. The men and women in that room that day discussed the microscopic materials that make knee cartilage and the effect of injury on those materials. The discussion was getting pretty heavy. All of a sudden, I threw out my simple (or simple-minded) question...

“Dr. Buckwalter, does running cause arthritis?” I asked.

He paused and looked at me. He didn’t answer for a moment. Everyone in the room was silent and (it seemed) everyone was looking at me. Finally, he spoke.

“Dogs get arthritis” he paused again. “Wolves do not get arthritis”.

Wow. Profound. I sat stunned. I had not expected a gem of an answer like that. Dr. Buckwalter went on into some detail about his research with dogs and treadmills and weighted packs, et cetera. The details of the rest of his talk are lost to me. I cannot remember any other specifics except that dynamite quote.

The Answer

Since that time I have tried to understand Dr. Buckwalter’s motive for making that statement. This article presents some of the peer-reviewed literature on running, injury and arthritis. This article presents some of my experience. This article presents some of my findings from treating runners with injuries from my 15-year physical therapy practice. I have also incorporated Web video that helps to dramatize the information in this article. Finally, I leave off with my own recommendation for runners and the impact of their lifestyle on their future risk for arthritis.

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Please bear in mind while you read the article that I am a runner (~20-30 miles per week) and that I may have bias in my interpretation of the data. I will try to present an objective viewpoint so that you can make up your own mind.

Arthritis Research

Runners make good subjects for arthritis researchers because runners tend to keep running logs: miles per week, per month, per year. Running also tends to be a lifestyle choice. Many people run for long periods of their lives. Runners who start running late in life can usually say exactly when they started running. This kind of precision is especially attractive to researchers studying diseases like arthritis.

Some arthritis research is also conducted using dogs. Sometimes the dogs are sacrificed at the end of the research (sorry, dog lovers). Dogs are used because their lifestyles mirror humans' lifestyle in many ways: activity level, diet, diseases and access to medical or veterinary care.

What is Arthritis?

I'm going to get real formal here: Arthritis is the radiographic (x-ray) evidence of structural changes in the bone and the shiny, white cartilage that covers the bone.

The x-ray only shows the bone and the space where cartilage covers the ends of the bone.

A healthy knee x-ray taken in standing will show a nice, even space between the upper leg and the lower leg. If the space is small or uneven then the surgeon will infer that the cartilage is worn away.

What to do about arthritis?

Interestingly, one of the most common recommendations for people with arthritis is exercise.

Exercise creates strong, healthy muscles. Healthy muscles support the joints.

One of the most frustrating problems I see as a physical therapist is 30-year old people who are told they have arthritis. When a doctor reads an x-ray and says to a young person the following:

“It looks like you have arthritis”

When a young person hears that diagnosis their desire to go out and exercise is diminished.

Exercise is only one possible treatment. Other treatments include oral anti-inflammatory medications, rest, ice, bracing, and activity modification.

Secrets of Arthritis

My patients describe many cases of back pain as ‘arthritis’. This may or may not be true since arthritis is such a broad term. I titled this section ‘Secrets of Arthritis’ since, to many people, arthritis and back pain are synonymous. As we will see, there is hope after a diagnosis of arthritis.

How to Live Better, Feel Better and Look Better

You may think a physical therapist has it easy – fit and trim with no aches and pains – but I was 28 when I first hurt my back (I’m 38 now)... I bent over to pick up my son’s Slinky Toy and I sneezed!

I blew my back out! I started to panic “This can’t happen to me! I’m a PT!” I had leg pain to my foot, known as sciatica and I couldn’t stand up. I was really scared.

I quickly calmed down and I began to apply the simple physical therapy techniques that my best patients use to get themselves better.

Soon, I began to feel better. I realized that these techniques could be used on everyone: men, women, athletes and regular people.

And so, I developed a simple program of therapeutic movements for everyone who wants to move better, whether it is to play golf, go bowling, play with the kids, work in the garden or just feel better.

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Free Physical Therapy Screenings

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The best physical therapy patients are different from the average physical therapy patients because, I think, the best patients have an inherent bias towards exercise. The best patients tell themselves the following:

“I believe exercise and activity are important for my feelings of well-being, health and self-control. Also, I believe that exercise and activity have the ability to improve my arthritis and low back pain.”

What is Arthritis?

Arthritis is the radiographic evidence of structural changes in the bone, cartilage and joint space. It is a physicians' diagnosis made from an x-ray.

Isn't arthritis a great diagnosis? Well, NO.

It doesn't tell us what to do, how to move, what sports to do, which movements are good and which are bad.

A better way to think about arthritis is like BODY RUST.

You need to maintain the body like you would maintain a classic automobile. Your body is like a '57 Chevy. You may have put your '57 Chevy in the garage for a few years and left it there. If you did then think of the physical therapy exercises as the oil for your joints! 'No pain, No gain' – we're tossing that out! Exercise shouldn't hurt.

Who has Arthritis?

Everyone over the age of 50 has some NORMAL age related changes.

Arthritic changes in the bones (or body rust) are normal. Pain and dysfunctional movements are not normal.

The good news is that having arthritis doesn't mean you have to give up the things you love, like traveling, dancing, playing golf, etc.

What you need to know about MRI, CAT scans and X-rays!

These machines 'see' too much.

Ordinary findings can be interpreted as the cause of the pain.

- Scoliosis

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- Bulging discs
- Bone spurs
- Cysts

These are ‘ordinary’ in the sense that nearly everyone has some of these. They do come with age – but the pain doesn’t have to!

The spine is ‘designed’ to break down – like crumple zones in an automobile. The ‘crumple zone’ takes the impact damage and the occupant is protected.

Single-level disc bulges heal automatically over time and the spine and the person regain function and eventually the pain will go away. Gentle exercise and functional training (how to sit, how to stand, how to lift) will accelerate the healing and the rehabilitative process. A highly specific test like an MRI or an x-ray encourages the patient and the doctor to believe that cutting away the damaged tissue will resolve the pain and dysfunctional movements.

MRI and CAT scan ignores soft tissue findings

- Weak muscles
- Stiff muscles
- Bad posture
- Poor lifting technique
- Ergonomics

When your doctor shows you this x-ray and says you have arthritis and you will have to live with it, what do you say?

Why pills don’t always work?

- Pills work great for Occasional LBP!
- Pills don’t work so well for Lingering LBP!
- We all get occasional low back pain.

What can I do about Arthritis and LBP?

Some common treatments include the following:

- Spinal manipulation
- traction
- medication
- NSAIDs
- Muscle relaxants
- Electrical stimulation (TENS)

All of these treatments are for Occasional low back pain, not Lingering low back pain.

For Lingering low back pain we need to address the cause – the bones, muscles and discs.

Six Reasons Why You Should Not Exercise

No spot reduction

Many of my patients ask me how to get rid of the flabby part of the backs of their arms. Even arm exercises will work the whole arm, not just the flabby part. Good, safe exercises work the whole body part or the whole body. Think swimming or Pilates rather than the Thighmaster.

No instantaneous gratification

Many of my patients tell me that they exercised for 2 or 4 weeks and they didn't get any results. Try to find an exercise that you enjoy that you will do for months or years. Try to exercise with a buddy. Make exercise a social event. Have fun.

Exercise is not risk free

Choose your exercise carefully. I run marathons because I love running and I'm very good at running. Not everyone has the body type that lends itself to running. Some people tend to have a high injury rate when they run. Sports that do not have a high injury rate include swimming, Tai Chi, Pilates, walking, low-impact aerobics and bike riding (non-competitive).

Sports that have a high injury rate include baseball, football, marathon running, weightlifting and competitive cycling.

Exercise won't make you skinny

Your body type determines your shape. There are three basic types:

The ectomorphic body type has long arms and long legs. They also have long and thin muscles. Ectomorphs don't store much fat.

The mesomorphic body type tends to grow muscle. They have large bones and low fat levels. They tend to have wide shoulders with a narrow waist.

The endomorphic body type tends to store more fat storage because they have a larger number of fat cells than the average person. They tend to have a wide waist and a large bone structure.

Exercise won't change your body type but you can still loose fat, gain muscle, feel better, move better and look better.

Exercise won't make you beautiful

Maybe you're beautiful right now. Maybe you're not. Exercise won't change that.

I find that beautiful is often more about your state of mind and your attitude, not about your waist size.

Exercise can reduce your waist size but, more importantly, exercise will normalize what you have already. You will have normal strength, normal endurance and normal range-of-motion. If you are not exercising now and you start exercising you will get better.

Don't worry about being beautiful. Be yourself. Beautiful people have problems, too.

Exercise wont cure your ills

Many times our physical therapy patients have other medical problems. I just finished treatment with a cancer patient who had only a few months to live. He was very depressed. He also had back pain. We worked on his muscles and his joints. He got stronger, more flexible. He wasn't as tired anymore. His back pain went away. Guess what? He still has cancer.

I'm proud of him because he cared enough about himself, in the midst of his depression, to take the time to attend physical therapy and to do his home exercises. What did it gain him, you say? He still has cancer.

What you do with the time you have is more important than how much time you have. Take time to exercise. Take care of yourself.