

Maintain Your Mobility

Understanding Muscle and Joint Problem Spots

By Casey Flynn

Balance keeps the body moving efficiently. The right combination of exercise, rest, and nutrition maintains healthy tissue in the musculo-skeletal system, while proper posture, alignment, and conditioning distribute forces through the muscles and joints in a balanced way. Overwork or underutilize any of these components and you risk a system breakdown.

Strengthening the muscles around joints protects joint function and provides structural support for the body's motion. "Structure and function are very intimately related," says Lillie Rosenthal, D.O., a physical medicine and rehabilitation physician. "The smallest dysfunction of mechanics or training can exponentially increase the risk for injury."

Strong core muscles help protect the joints in your extremities, balancing the forces that your body experiences in sport. When the core is weak, smaller muscles in your arms and legs get overworked, leaving tendons and ligaments prone to injury. Pain typically occurs at the weakest link. "If you're a tennis player and you don't have a strong core, you're going to develop tennis elbow," says Lisa B. Barr, M.D., a physiatrist and founding partner at APM Spine and Sports Physicians. "You're going to be overusing your arm muscles because you don't have enough core strength in your external obliques. When you go to hit the ball, instead of using your core to get your power, you're getting all your power from your arm."

Core strength doesn't come exclusively from the abdominal muscles. Think of your core as a cylinder, with the diaphragm at the top, the pelvic floor at the bottom and your back muscles at the back of the cylinder. According to Dr. Barr, people often overdevelop their abdominals but never strengthen their diaphragm or pelvic floor. Try breathing exercises to work your diaphragm—singers and yogis who do breath work have healthy diaphragms. Do kegel exercises to develop the muscles of the pelvic floor, which can become weak after childbirth.

Hypermobility is a joint condition common in women, where lax ligaments allow the joints to go beyond normal ranges of motion. Double jointedness is a benign form of hypermobility, but more extreme cases can cause chronic injury in

Tips for Improving Posture

Good posture reduces back and neck pain and generally helps the body function better. Follow these tips from Dr. Rosenthal to go from slouching to sitting and standing tall.

- Check in with yourself regularly and make micro-adjustments in your posture and release any tension you feel in your shoulders.
- Lift your sternum and let your shoulders relax. Keep a nice space between your shoulders and your ears.
- Avoid pinching the phone between your head and neck—use a headset if you need your hands.
- Balance loads on your shoulders—alternate how you wear your purse and shift how you hold your children to avoid overstressing joints on one side.

joints and may be an indicator of serious health conditions. Many people who are hypermobile don't realize it and gravitate as children to sports that exploit their extreme range of motion, like cheerleading, gymnastics, and yoga, says Dr. Barr. This leads them to develop premature joint problems in their 30s and 40s, particularly in their hips. It is critical for these athletes to incorporate strength training to stabilize their joints.

Tendons are an integral component of our joints, connecting muscle to bone. When tendons are overused they become inflamed, which leads to tendonitis. Patellar (knee), hamstring, and Achilles tendonitis are the most common and can be prevented by warming up thoroughly, stretching, and gradually increasing training intensities. Tendonitis can also occur during yoga, especially from the Chaturanga posture (the four-limbed staff pose), says Sabrina Strickland, M.D., an orthopedic surgeon specializing in women's sports medicine. This position puts significant strain on the shoulder, and can cause inflammation where the biceps muscle attaches to the shoulder. If you feel pain in this area, let your instructor know so they can teach you how to make adjustments.

The IT band, or iliotibial band, is many a runner and cyclist's nemesis. The thick band of

fibrous tissue runs from the hip to just below the knee and flexes with both joints. Because it rubs over two knobby protrusions of bone (the top and bottom of the femur), it is particularly susceptible to irritation, most commonly on the outside of the knee. But don't fret! As Dr. Strickland says, "This is going to be a fight and you're going to win." Managing IT band tightness requires perseverance—regular stretching, foam rolling, and working on good running form. But in the end, you will prevail.

When something starts to hurt, lessen your training load. Avoid the activity that aggravates the injured area and RICE it (rest, ice, compress, elevate). Try other activities and exercises before easing back into your sport. Self-therapy does have its limits, though. "When we try to rehab ourselves, we usually try to get to a point where we lessen the pain just enough that we can get back into the activity," says Antoinette M. Cheney, D.O., a family physician, marathoner, and triathlete. "We usually don't give it the time that we need to give it, and then it becomes chronic. If you have a good physical therapist, they can rehab you in a great way so that they're actually preventing you from getting that injury again in the future."



Let's take a look at the following problem joints and some pain prevention techniques:

Shoulders

"Unless women are involved in some type of regular weight training, they generally tend to have weaker shoulder girdles," says Dr. Cheney. This becomes problematic if you switch over to a new sport requiring a lot of overhand motion, like swimming or climbing, and push it too soon. If you injure your shoulder, try not to baby it, as this can lead to reduced motion and something called frozen shoulder. The rotator cuff and surrounding muscles respond well to physical therapy, strengthening, and stretching.



Ankles

Ankles often get overlooked during strength training, despite the pivotal role they play in sports. Activities where you are moving over uneven terrain like hiking, trail running, and rock climbing work the ankles and demand a higher level of stability. Develop balance with one-legged exercises and use therabands, calf raises, and plyometrics to build strength in the ankles and lower leg muscles.



Knees

The shape of the pelvis and the alignment of women's legs put increased pressure on the back of the kneecap, making active women prone to patellofemoral pain, also known as runner's knee. Additional circumstances that shift the body weight forward, such as pregnancy or wearing heels, adds to this strain. Strong quadriceps help the patella track properly and can prevent patellofemoral pain and osteoarthritis as women age. If you begin to feel pain around your kneecap, avoid exercises like lunges and squats, which exacerbate the condition, says Dr. Strickland. Focus on core and quad strengthening with straight leg raises with ankle weights, leg presses, and BOSU ball exercises.

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