

# ORTHOPEDIC care



## A GUIDE TO DOCTORS, HEALTH, & LIVING

Today's orthopedic physicians offer exciting, minimally invasive innovations to get you back to a healthy, active lifestyle.

**People today are hiking, biking, playing tennis and traveling longer than ever before – and they want their bodies to keep up with the momentum of their minds. But time takes its toll on the joints, which means people are also increasingly experiencing pain that prompts them to seek orthopedic care. In 2010 in the U.S., patients made an estimated 63 million visits to office-based physicians specializing in orthopedic care, which focuses on the musculoskeletal system – bones, joints, muscles, ligaments and tendons.**

Patients often find that those twinges of pain in the back or elbow also can create twinges of concern – that after treatment they won't be able to return to their favorite activities. Thankfully, modern orthopedists are armed with an innovative arsenal of treatments, from physical therapy and injections, to fascinating forms of minimally invasive surgery that boast quick recovery.

“Orthopedics is such a rewarding specialty area of medicine because we are very successful at being able to treat patients... and effectively get them back to their active lifestyle, whether that is a 24-year-old professional football player returning to play at the same level after ACL reconstruction surgery, or an 80-year-old golfer who wants to return to play golf after shoulder replacement surgery,” says Shelden Martin, M.D., an orthopedic surgeon with OrthoArizona.

If people experience pain in their back, neck, arms, legs or groin, the first question they often ask is, “When is it appropriate to consult an orthopedist?” Moderate musculoskeletal pain is common and may go away in a week or two with rest, ice and over-the-counter medication. However, if significant pain lasts a few days, or if moderate pain persists for a few weeks, it's time to get evaluated, says Evan Lederman, M.D., an orthopedic surgeon and president of The Orthopedic Clinic Association.

One of the most common musculoskeletal problems is tendinitis (often referred to as tennis elbow), which can affect joints throughout the limbs. The condition occurs when overuse causes a tendon to become irritated, bruised or frayed like cutoff jeans. Also prevalent is bursitis – inflammation and swelling of the bursae, fluid-plumped sacs that act as pillows where muscles and tendons meet bone. Orthopedists also frequently treat torn tendons or cartilage, especially of the knee, including the meniscus and anterior cruciate ligament. Spine specialists see many patients with disc herniations; spinal stenosis, a narrowing of open spaces in the spine that causes crowding of the nerves; and spondylolisthesis, when one bone slips into another.

People who have never seen an orthopedist may have concerns that their physician will recommend surgery as the only recourse. That's not the case, remarks Dr. Martin. “As surgeons, we are trained to treat patients first nonoperatively, and only proceed to surgical treatment if non-







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“What is the difference between seizures and epilepsy?”



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Many people believe that having a seizure equates to having epilepsy. A seizure is an abnormal, excessive firing of the brain cells, which is intermittent and usually self-limited. Epilepsy is when a person has at least two unprovoked seizures occurring more than 24 hours apart. Epilepsy can arise from a variety of genetic, structural or metabolic causes. It is normally associated with lasting derangement of normal brain function. The age-adjusted prevalence of epilepsy in developed countries is four to eight per 1,000 population. There is a 3.6 percent risk of experiencing at least one seizure in an 80-year lifespan. The highest incidence of epilepsy occurs at the extremes of life – it is highest in the first few months of life, lowest in young and middle adulthood, and then starts increasing dramatically after age 60.

Seizures can be of different types, and each causes a different constellation of symptoms. Most people know seizures as “tonic-clonic” or “grand-mal” seizures. With these types of seizures, a person may pass out, get stiff and go into convulsions, which are jerking movements of the body. However, there are other seizure types as well that are not as dramatic. During these types of seizures, a shaking movement of one arm or leg, or in a part of the

face, can occur. These may or may not be associated with impairment of consciousness. In addition, there are seizures during which patients suddenly stop in the middle of a conversation and stare blankly for a few seconds. Sometimes, people can tell that they are about to have a seizure. This feeling is called an “aura” and also can take the form of a strange prodromal smell or funny taste lasting for just a few seconds. Finally, there are seizures called myoclonic seizures that manifest as sudden body jerks.

Seizures are diagnosed with the help of an imaging study of the brain such as an MRI and an electroencephalography (EEG). An EEG can be performed on a routine outpatient basis, while 24-hour ambulatory EEG and long-term EEG/video monitoring are conducted in a hospital setting.

There are several treatment options for epilepsy, including the use of anti-seizure medications to prevent seizures. There is a variety of anti-seizure medications that vary depending on the seizure types. Because not all patients respond to anti-seizure medications, alternative treatments such as ketogenic diet, surgery and neurostimulation are available.

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“Sun Devils quarterback scheduled for MRI on injured elbow.”  
“Cardinals wide receiver to get MRI of left knee.” During football season, we hear it every week – MRIs on hamstrings, hips, Achilles’ tendons. What exactly is an MRI and what does it show about these injuries?



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MRI uses a powerful magnetic field, radio frequency pulses and computers to produce detailed pictures of soft tissues such as cartilage, muscle, tendons and ligaments, as well as bone. MRI is non-invasive and does not use ionizing radiation (X-rays). There are no known harmful effects.

While imaging in recreational sports is typically used to evaluate more severe injuries, such as a skiing accident, musculoskeletal magnetic resonance imaging (MRI) in competitive sports now has a much broader role. MRI often goes beyond simply confirming the diagnosis of an athlete’s injury; it is being used to help sports medicine physicians evaluate the degree of performance impairment, determine the optimal treatment/training for fast recovery and forecast how long an athlete will need to remain on the injured list. Professional athletes and their teams’ franchises are reaping the benefits.

Scottsdale Medical Imaging (SMIL) has a group of five radiologists specializing in musculoskeletal imaging. They are an important part of a patient’s care team, providing crucial information for other physicians who will treat and manage injuries.

MRI has become the gold standard for imaging many types of sports-related injuries involving muscles, cartilage, ligaments and tendons. There are several different types of MRI machines, including open MRI and low-field MRI. However, to best image small joints and ligaments – such as those in the foot, hand or wrist – exceptionally high spatial resolution is required. The highest spatial resolution comes from a 3T MRI, and SMIL has three of them.

MRI also can detect abnormalities in bone marrow, allowing it to detect stress fractures that cannot be seen on an X-ray. The same is true for bone contusions or bone “bruises” at the site of a direct blow. Some injuries, like muscle pain, are particularly difficult to assess by clinical examination alone. When exertion-related pains, strains, bruises and muscle-overuse-syndromes are serious, MRI is ideal for evaluating significant muscle edema (buildup of fluids) and hemorrhage (bleeding). By revealing any associated injuries, for example to adjacent tendons and bones, MRI can make a crucial difference to the treatment an athlete should receive, and how long it will take him or her to return to the starting lineup.





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D.P.M., D.A.B.P.S., F.A.C.F.A.S.

"Treating people gently and quickly, so they can resume the activities they love ASAP." That's the philosophy of Dr. Alan Discont, Board-certified by the American Board of Foot and Ankle Surgery, and a fellow of the American College of Foot & Ankle Surgeons. Dr. Discont has practiced in the East Valley for more than 30 years. He is a faculty physician for many podiatric medical colleges; he is president of his state medical association and a frequent guest, including Your Health, CBS; Medical News, FOX 15; Morning Scramble, KAZT; and TV3 AzFamily, TV 15 Sonoran Living. Attending Ohio State University and University of Arizona, he received his doctorate from Ohio College Podiatric Medicine. Dr. Discont obtained specialized surgical training in Phoenix, Baltimore, Detroit, Cleveland and Tucson, performing his residency in Arizona.



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"ONE OF THE MOST COMMON MUSCULO-SKELETAL PROBLEMS IS TENDINITIS (OFTEN REFERRED TO AS TENNIS ELBOW), WHICH CAN AFFECT JOINTS THROUGHOUT THE LIMBS."

operative treatment has failed or is generally not effective. Most patients I see in the office are able to be treated successfully nonoperatively." Examples of nonoperative treatments include activity modification, immobilization such as splinting or casting, oral anti-inflammatory medications, cortisone or steroid injections, viscosupplementation injections utilizing gel-like hyaluronic acid and physical therapy.

For an initial visit, Edward Dohring, M.D., medical director of the Spine Institute of Arizona, recommends going to a multidisciplinary practice rather than seeing a physician who specializes only in

surgery or injections, for example. At a practice where doctors have a variety of backgrounds, each physician may be more likely to consider a gamut of options instead of steering patients toward their specialty, he notes.

If surgery is required, today's physicians are shrinking their surgical footprint through minimally invasive methods. Traditional open surgery often involves making a large incision, cutting the muscle and pulling it out of the way to reach the joint or bone. Not surprisingly, this results in significant scarring of the skin and muscle, and often a long and painful recovery. Minimally in-



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vasive surgery is far easier on the patient, though more challenging for the physician. "It's like putting together a ship in a bottle," says Dr. Dohring.

An increasingly common type of "ship-in-the-bottle" spine surgery is nerve decompression. When discs degenerate, they do not absorb stress well, and nerves can become squeezed, causing pain. To take pressure off the nerves with minimal invasiveness, surgeons make an incision less than an inch long, separate the muscles using dilators, and insert a small tube through which they remove irritating bone or tissue.

Minimally invasive methods are even more beneficial to patient recovery when fusion surgery is required. In this method, surgeons remove irritating joint tissue, stabilize the surrounding vertebrae with screws and rods, and insert bone grafts, which trick the body into thinking the bones are broken. Over time, the body repairs itself by fusing the two vertebrae into one. Dr. Dohring was the first physician in the country to conduct fusion surgery through a small tube.

Fusion also can be conducted minimally invasively through a method called surgery by navigation. A CT scan machine based in the operating room takes a picture of the spine's interior that surgeons use as a high-tech map, helping them maneuver their tools through tiny incisions. "We don't have to actually see the whole actual spine because we see it on the CT scan machine," Dr. Dohring explains. "There's much less scar, both in the skin and the muscle, and it enables the patient to recover a lot faster." Though it might seem that fusion would limit range of motion, Dr. Dohring says, "Most

people say they can move more afterward because the pain is gone."

In addition, arthroscopic surgery has advanced by leaps and bounds in the last few decades. In arthroscopy, doctors make two incisions about half an inch long. In one, they insert a fiber-optic camera, and in

the other, the surgical instruments. The procedure allows patients to heal quickly and with much less pain and scarring than with traditional surgery. "The total recovery time is about three or four months before you're back doing everything you want to do," states Tyler Collins, M.D., an orthopedic surgeon at the CORE Institute who specializes in arthroscopic surgery of the hip. "You're just on crutches for about three weeks, and most people are doing pretty well about six to eight weeks after surgery."

Prior to advancements in arthroscopy, many people with pelvic problems were treated with open surgery – which could involve dislocating the hip – or were left untreated, Dr. Collins says. "I can think of one particular patient who was told, 'There's nothing you can do, and you just have to wait to have a hip replacement.'" Thanks to innovations, that patient received hip arthroscopy and was able to return to an active life. Dr. Collins also notes that a common condition called hip impingement – bony prominences that cause pain – can lead to osteoarthritis if left untreated. "So hip arthroscopy is treating something that can prevent you from getting arthritis."

Arthroscopy can be used to treat musculoskeletal problems throughout the body. Dr. Martin of OrthoArizona specializes in shoulder, elbow and knee injuries, treating problems

"Today's physicians  
are shrinking their  
surgical footprint  
through **minimally  
invasive methods**"



Being on the sidelines is difficult.  
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such as arthritis, tendinitis and ligament tears. He performs arthroscopic surgeries including rotator cuff repair, nerve transfer, ligament repairs and reconstructions for torn meniscus, ACL or PCL. He also uses robotics to perform partial knee replacements.

Though Dr. Martin treats numerous sports players and is the head team physician for the Arizona Rattlers, he emphasizes that athletes do not receive more advanced orthopedic treatments than the average individual. “No matter the types of patients we take care of as orthopedic surgeons, whether it is a professional athlete or a sedentary worker who enjoys recreational athletics, we tend to use the same nonoperative and surgical approaches and principles.” The difference, he says, is in the patient’s recovery: “A young, healthy, athletic individual is going to recover faster from an arthroscopic knee or shoulder surgery than an obese, diabetic patient with multiple medical problems after a knee replacement surgery.”

That’s why making positive choices to help prevent musculoskeletal problems is so important. Dr. Dohring notes that many people have a genetic predisposition toward spine problems, but that these conditions often manifest suddenly after heavy lifting or twisting. To prevent this, he recommends “core strengthening – getting good, strong stomach and back muscles – and overall heart and lung conditioning, whether it’s walking, biking or running, because it not only increases the use of back muscles, but it also gets better blood flow to the discs and muscles.”

Though many people experience musculoskeletal problems during exercise, whether due to a fall or repetitive movement, that doesn’t mean people should avoid exercise – just improper or weekend-warrior-style exercise. Consistent exercise that promotes



flexibility can prevent injury, advises Dr. Lederman.

When researching orthopedic surgeons, Dr. Lederman advises patients to get recommendations from other doctors and patients, and look for physicians who are board-certified in their specialty. He also encourages patients to ask their surgeon questions, not only about potential complications and recovery, but also about the surgeon’s experience with the necessary type of operation. “In today’s information age, it’s important for patients to do their own research and try to educate themselves about their problems,” Dr. Lederman says. “It’s our job to be informed about their treatment options and be able to explain it to them in a way that makes them comfortable.”

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