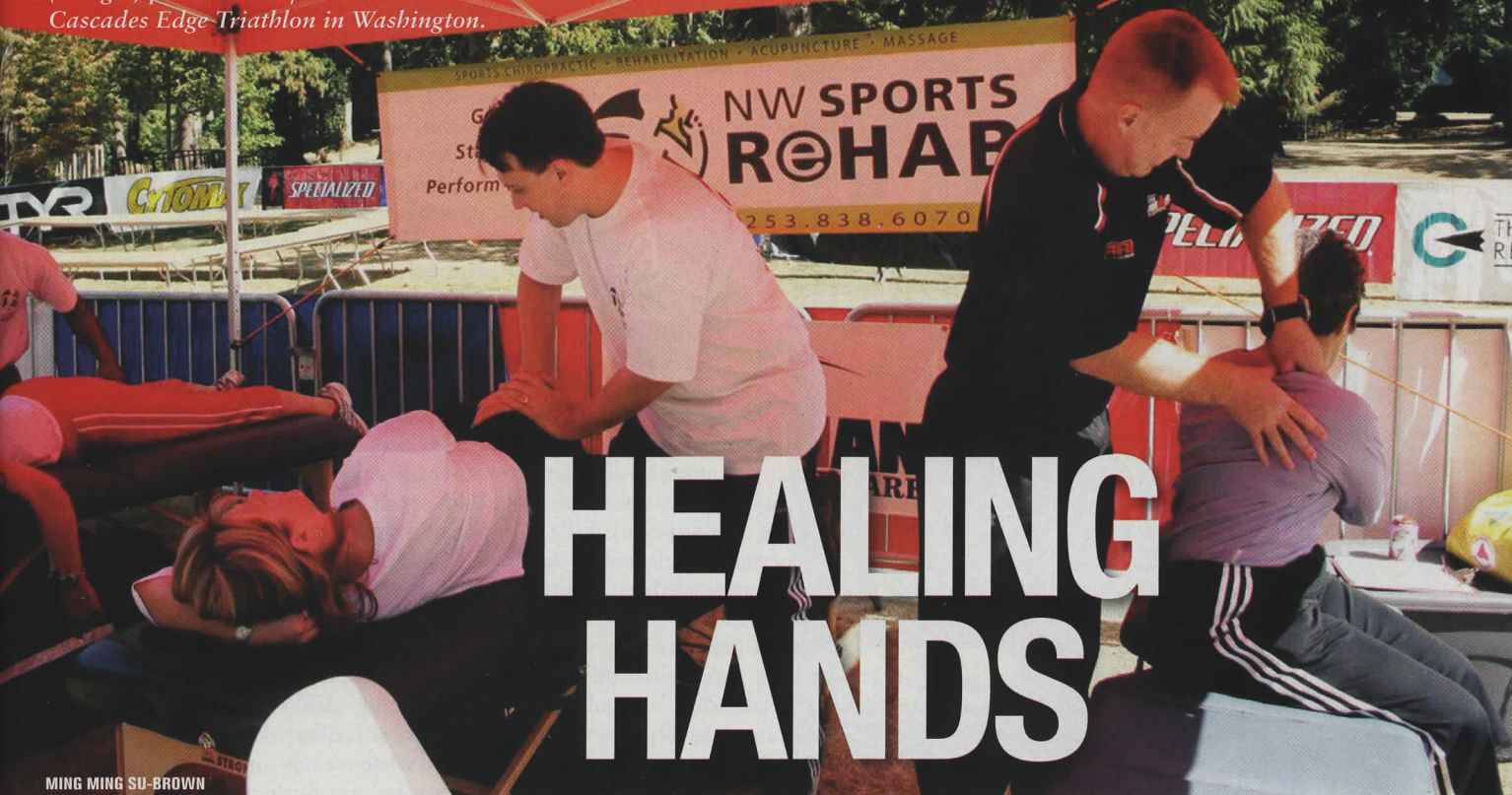


Sports chiropractors including Dr. Jim Kurtz (at right) provide care for athletes at the Cascades Edge Triathlon in Washington.



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HEALING HANDS

BY DR. JIM KURTZ

When many people think of chiropractors, they picture a group outside of mainstream medicine, relying on a pseudo-science based on spine cracking, joint “adjusting,” and other practices of dubious benefit. In fact, in the 1960s, the American Medical Association called chiropractic “an unscientific cult whose practitioners lack the necessary training and background,” and went on to say it was “a hazard to rational health care ... because of its substandard and unscientific education of its practitioners.”

But as both chiropractic and traditional medicine have evolved, more and more physicians are realizing the genuine value that today's chiropractors can add to programs for performance enhancement and injury prevention and treatment. In the athletics world in particular, the benefits of modern chiropractic care have spoken for themselves, and it's now common to find chiropractors treating athletes at virtually all levels, from high school to the NFL to the Olympics to the Senior PGA Tour.

So what exactly do sports chiroprac-

Sports chiropractic medicine is gaining broader acceptance as a remedy for joint instability, soft tissue dysfunction, and many other orthopedic problems. Is it time to adjust your perception of this emerging field?

tors do, and how can they benefit your athletes? In this article, I'll answer those questions and provide an overview of this progressive and often misunderstood branch of sports medicine. I'll also tell you how to identify chiropractic specialists who have the training to make a truly positive difference for your athletes.

IMBALANCES & INJURIES

A chiropractor's approach to sports medicine is typically concerned with two main facets of orthopedics: joints (both in the spine and the extremities) and soft tissue. When a sports chiropractor examines an athlete's body, he or she is typically looking for any type of dysfunction that can be addressed with treatment.

Joints. There are three main types of joint dysfunction that chiropractors can treat. *Hypomobility* occurs when the joint has an inadequate or abnormally limited range of motion. *Hypermobility* is just the opposite, when the joint has too much motion or laxity. *Aberrant mobility* can include elements of both other types, and refers to any abnormal movement patterns within a joint—this is often seen in athletes with degenerative joint conditions.

Joint hypomobility often develops after a sports injury and commonly produces symptoms of pain and reduced function. Hypomobility can also result after immobilization of a joint following an injury or surgery. The term *subluxation* is sometimes used by chiropractors to describe limited joint motion with soft tissue changes and possibly nerve ir-

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ritation. Soft tissue conditions can also cause joint dysfunction, or joint dysfunction can cause soft tissue changes.

Hypermobility is commonly seen after an injury such as a sprain or a tear of

and over time results in a breakdown of the cartilage, which can lead to arthritis or osteoarthritis. Athletes don't typically present with aberrant mobility until their 30s or 40s, depending on ac-

There are neurophysiological benefits as well. These come primarily from changes in the activity of the mechanoreceptors within the joint capsules, and include relaxation of muscle hypertonicity and facilitation of inhibited muscles.

a ligament, especially in highly mobile joints like the knee. In the spine, hypermobility is most common in the lumbar and lower cervical regions, where there is more movement and a higher risk for repetitive overuse injuries. Repetitive overuse stretches the ligaments in these areas and results in ligament laxity and pain with activity.

Aberrant mobility is often the end result of incomplete or improper rehab following a joint laxity problem. The excessive movement causes increased shear forces across the joint cartilage

tivity level—for example, many soccer players experience degenerative changes in the foot and ankle by their early 30s due to a history of ankle sprains. Likewise, pro golfers may see degenerative changes with aberrant mobility in their lower lumbar spine due to years of repetitive rotational forces.

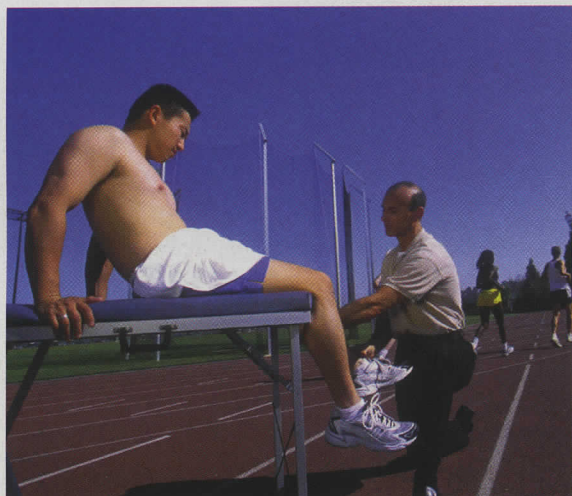
Soft tissue. The most common soft tissue injury in athletics is a muscle strain. Medical imaging studies have shown that most muscle strains occur at a muscle-tendon junction or tendon-bone junction, and muscles that cross

two different joints are especially prone to strains. Athletes who participate in sports that require quick bursts of speed, such as football, basketball, and soccer, are at highest risk for muscle strains.

Strains and other muscle injuries are painful and can be debilitating. But just as troublesome, they can also lead to chronic muscle tightness and, eventually, muscle imbalances.

Czech physician Vladimir Janda researched and wrote extensively about muscle tightness and shortening, and was a pioneer in the treatment and rehabilitation of soft tissue conditions. He was among the first to recognize and study the relationship between joint dysfunction and muscle imbalances, and he wrote seminal papers on how as the non-contractile elements of a muscle shorten, the muscle spindle adapts to this new length, and the muscle then becomes hyper-excitable.

According to his analysis, the hyper-excitable or facilitated muscle then begins to fire when it's not supposed to, leading to overuse and further tension. This increased tension, in turn, leads to inhibi-



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tion (lack of full firing) of the corresponding antagonist muscle.

Let's explore an example of how this concept applies to a common sports injury. When a soccer player strains a hip flexor during activity, or the hip flexor begins tightening due to overuse, the flexor muscle shortens and reflexively inhibits its antagonist, the gluteus maximus. Because the gluteus maximus isn't firing completely, the athlete becomes susceptible to pain in the knee, hip, and low back, since the hip flexor or psoas muscle attaches to the lumbar spine and hip. When the muscle is too tight or in a shortened position, it can create joint dysfunction in the lumbar spine, sacroiliac joint, or hip joint.

Furthermore, with the gluteus maximus not firing properly, a host of other biomechanical problems may result. If the hip and pelvis are not stabilized adequately by the gluteus, this can further increase loading on the low back, hip, and knee joints. A gluteal weakness can also increase pronation in the foot and internal rotation of the leg, resulting in knee valgus (inward pointing or "knock-knees"). Depending on the athlete and the length of time they have this dysfunction, the iliotibial band may tighten due to the knee valgus and overpronation, which can exacerbate other conditions and lead to iliotibial band syndrome.

In the end, an athlete who began with a simple strained hip flexor can end up with dysfunction and pain in the low back, hip, and knee joints. All told, this may result in decreased performance, overuse injury, and significant prolonged pain and discomfort.

CHIRO INTERVENTION

A sports chiropractor can not only address dysfunctions like those described above through hands-on manipulation, but also assess and treat muscle imbalances and prescribe exercises and stretches to correct the imbalances and prevent them from returning. Chiropractors have a thorough understanding of proper joint function, biomechanics, soft tissue flexibility, movement patterns, and rehabilitation protocols, and this comprehensive approach to orthopedic care is essential for optimizing outcomes.

Chiropractors are traditionally associated with spinal and extremity manipulation or adjustment, and indeed, this is one of the profession's primary tools. The main purpose of manipulation is to correct joint dysfunction or hypomobility, which mechanically restricts the movement of a joint and can lead to increased strain on the tissues that move the joint and those that must compensate for the lack of movement. Manipulation helps to remove mechanical restrictions, increase range of motion, and eliminate excessive strain. Usually, several treatments are needed to achieve lasting results and long-term pain relief.

In addition to the mechanical effects of manipulation, there are neurophysiological benefits as well. These come primarily from changes in the activity of the mechanoreceptors within the joint capsules, and include relaxation of muscle hypertonicity and facilitation of inhibited muscles. Another neurophysiological benefit is the stimulation of mechanoreceptors, which helps block pain impulses and thus increases patient comfort.

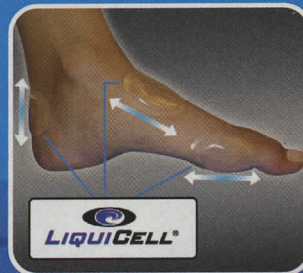
These effects can be produced through direct manual chiropractic treatment or with any number of adjusting instruments. The instruments are handheld devices placed on the patient that deliver a series of short, quick thrusts at varying speeds to stimulate the mechanoreceptors and produce move-

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LOOKING FOR A CHIROPRACTOR?

Whether you're looking to add a sports chiropractor to your program, or are simply interested in referring an athlete to a chiropractor for help with a specific condition, the resources listed below are excellent starting points for further information.

- The American Chiropractic Association's Sports Council: www.acasc.org
- The American Chiropractic Board of Sports Physicians: www.acbsp.com
- The American Chiropractic Rehabilitation Board: www.acrb.org
- Active Release Techniques: www.activerelasetechniques.com
- Graston Technique: www.grastontechnique.com
- Sound Assisted Soft Tissue Mobilization: www.sastm.com
- International Federation of Sports Chiropractic: www.fics-sport.org
- Your state chiropractic organization

ment in the restricted joints.

Chiropractors are like most other healthcare providers—the best ones have a large toolbox of techniques they can apply in response to problems they encounter. In addition to many varieties of manual adjustments and various adjusting instruments, there are also several different types of adjusting tables that can assist in an athlete's care.

One of the most popular is the flexion distraction table, which is frequently used to assist with flexing the spine during spinal adjustment. This table has a hinge that allows the half supporting the patient's lower body to be flexed downward, essentially placing a traction on the spine. This stretches the lower back muscles and provides a gentle distraction force to make the adjustment process easier on the patient and the chiropractor.

Another common apparatus, the drop table, has several hinged pieces—typically under the sections supporting the middle back, lower back, and pelvic area. The chiropractor can raise those sections up independently to make adjustments easier and more efficient. It also allows smaller chiropractors to deliver adjustments to larger patients with less effort and force.

For manipulating soft tissue, chiropractors use many types of manual therapy, including Active Release Tech-

niques (ART), the Graston Technique (GT), and sound-assisted soft tissue mobilization. These are used successfully to encourage suitable scar formation, mobilize soft tissue after acute and overuse injury, and eliminate, reduce, or stretch adhesions. They can also reduce abnormal cross-linkages,

Rehab exercises are an important part of successful chiropractic intervention—they help to restore proper firing patterns and further break the cycle of muscle imbalance and joint dysfunction. Daily activation can mobilize the hypertonic or facilitated muscles and improve overall muscle function.

eliminate or reduce pain-induced tissue reaction, remove chemical irritants and waste products by improving circulation and lymphatic drainage, promote muscle balance and proprioceptive input, and stretch and improve the flexibility of muscle and fascia.

Soft tissue manipulation techniques are most commonly used on overly facilitated muscles to aid in inhibiting them, and on shortened muscle groups to lengthen them and help restore muscle balance. In a typical injury treatment, a sports chiropractor might begin by addressing soft tissue, then adjust any hypomobile joints, and finally recommend rehab exercises and stretches

to initiate the active care phase of the athlete's recovery.

The rehab exercises are an important part of successful chiropractic intervention—they help to restore proper firing patterns and further break the cycle of muscle imbalance and joint dysfunction. Daily activation of inhibited muscles, stretching, and the use of aids such as foam rollers can mobilize the hypertonic or facilitated muscles and improve overall muscle function.

This active care phase of rehab is critical in developing strength, flexibility, endurance, proprioception, and balance following acute and chronic injuries. Without it, even the most skilled chiropractor's manual adjustments won't produce maximum results, as lingering muscle imbalances and the inevitable return of joint dysfunction will leave the athlete at risk for further injury. Many sports chiropractors have good working relationships with physical therapists, athletic trainers, and others who carry out the rehab phase of care, and some even work together in the same offices.

FORMING A PARTNERSHIP

If you're thinking of adding a sports chiropractor to the treatment offerings in your program, it's important to familiarize yourself with the extensive "alphabet soup" of credentials and

continuing education that exists in the field. Finding a qualified chiropractor with specific knowledge of how to treat athletes is usually not difficult, but you have to know what you're looking for.

DC stands for Doctor of Chiropractic, and this is the degree all chiropractors receive after completing their education. Most DCs have a bachelor's degree or complete a BS shortly after entering chiropractic college, since most schools require at least three years of pre-med studies before a prospective student enrolls. Chiropractic college is typically a four-year professional training program.

For chiropractors who want to work

in sports, the most common credential you'll see is the CCSP, or Certified Chiropractic Sports Physician. This involves a 120-hour postgraduate course in sports injury diagnosis, treatment, and rehabilitation. A DC with this credential has passed a written exam and must complete 12 continuing education unit hours each year. This is considered the minimum standard of postgraduate education in chiropractic sports injury care.

The next credential to look for is the DACBSP, which denotes a Diplomate of the American Chiropractic Board of Sports Physicians. This credential is more advanced, requiring at least 320 hours of postgraduate study, plus written and practical exams, practical experience, and publishing a paper in a peer-reviewed journal. In addition, the DACBSP must complete 24 CEUs a year in sports injury care and maintain current CPR certification.

The chiropractic profession has several diplomate programs in rehabilitation, orthopedics, nutrition, neurology, pediatrics, radiology, and other specialties. For instance, both the DACRB (Diplomate of the American Chiropractic Rehabilitation Board) and the DABCO (Diplomate of the American Board of Chiropractic Orthopedics) programs contain extensive training in the management of sports injuries and rehab.

When looking for a sports chiropractor, you may also see the designations ART (Active Release Techniques), GT (Graston Technique), and CKTP (Certified Kinesiotaping Provider). Many sports chiropractors also possess the well-known CSCS, NASM-CES, and NASM-PES credentials. Professionals who have earned these certifications show a commitment to athlete care that goes beyond the borders of chiropractic medicine, and they would be a valuable asset to any sports medicine program.

Beyond these established credentials, the U.S. Olympic Training Center recently added a new sports medicine fellowship program for chiropractors. The center continues to run a sports medicine volunteer program for chiropractors and other healthcare providers, offering additional experience in sports medicine and multidisciplinary teamwork.

For this past summer's Olympic Games, the U.S. Olympic Committee selected four chiropractors to join the U.S. Olympic medical staff to serve the

athletes in Beijing. Also, for the first time, the USOC selected a sports DC to serve on the U.S. medical team for the Paralympic Games in Beijing. Today, sports chiropractors are part of the medical staffs for most teams in the NFL, NBA, MLB, NHL, and MLS, and also provide services to the PGA Tour, Senior PGA Tour, ATP Tour, USA Track and Field, the X-Games, Ironman triathlons, and many other sporting endeavors.

Sports chiropractic is an emerging field and is becoming an integral part

of sports medicine and rehabilitation in countless settings. Our hands-on approach to care is valuable for correcting faulty biomechanics caused by joint dysfunction, assessing and correcting muscle imbalances, and helping athletes successfully return to play following injury. Having access to a qualified sports DC, on staff or on a referral basis, can add a new dimension to your department, helping to improve athletic performance, prevent and manage injuries, and expand the overall quality of care your athletes receive. ■

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