

Kickin' It with Podiatry

This sport is particularly hard on the feet.

BY KEITH LORIA



According to editors at *Black Belt Magazine*, nearly five out of every 100 Americans engage in some sort of martial arts, meaning approximately 16 million people are taking classes at the more than 40,000 martial arts schools around the country.

There are many disciplines of martial arts and it can refer to anything from karate to Bok Fu to Judo to Jiu Jitsu to Kung Fu to Tae Kwon Do to countless others. While each has its own distinguishing factors, the one thing they all have in com-

mon is that people training in them often get injured. Many of these injuries and problems can be relieved by visiting a podiatrist, and there are several foot experts in the

field who specialize in dealing with martial arts athletes.

Alan Ng, DPM, surgical skills chairman for the American College of Foot and Ankle Surgeons, doesn't

in the '90s and fought in many competitions and tournaments," he says. "I still train to this day. It's my stress relief and way of staying in shape. I still train but I don't compete any-

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Dr. Ng

just treat martial arts athletes, he competes at a high level in several disciplines. Currently, he holds a second degree black belt in Shotokan karate, a second degree black belt in Enshin karate, and was the 1994 KyukToo Ki bare knuckle full contact heavy-weight champion. He has also trained in Muay Thai for the past 15 years.

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more. I think it definitely helps me understand what my patients are going through and knowing what to look for when they come in complaining of pain."

Ng says that martial arts gives way to a variety of injuries that aren't often seen with other athletes. They can range from very minor

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things (contusions, toenail trauma and uncomplicated fractures) to severe debilitating ones.

For those involved in more aerobic-type martial arts, common podiatric-related injuries include plantar fasciitis, Achilles tendonitis, sesamoiditis, and ankle sprains. Martial arts participants more involved in traditional methods—such as striking pads, a heavy bag, and/or another student—have more extensive injuries that include fractures, hematomas, and dislocation of joints and tendons.

“Most of the time what I am seeing in patients are small contusion-type injuries, little sprains, ankle sprains and twists, mostly from impact,” Ng says. “Then there are ligament injuries from direct impact, such as kicking or hitting the bag wrong or someone catching impact in the wrong spot. I see a lot of front joint contusions and sprains from that.”

One common thing he sees from martial arts athletes is improper form when kicking the bag, perhaps from a roundhouse kick, causing metatarsal injuries. Impact into the bag with improper force causes partial strains, swelling and discomfort in ligaments. These can take any athlete out of training for a while. “Due to the constant pivoting and elevation of the foot while performing kicks, plantar fasciitis and plantar fascial injuries often occur in martial arts training for more serious athletes,” Ng says. “The pain will be located at the inside of the heel and at the bottom of the heel when this type of injury occurs.”

He explains that the mechanics of performing a front or roundhouse-type kick involves the supporting leg pivoting on the ball of the foot, while the other leg is in the air striking the target. The fascial injury can occur on the supporting leg due to the strain on the fascia, or a fascial injury can occur to the striking leg due to the repetitive pushing off and tightening of the fascia when beginning the kick, or when the kick is concluding, which causes the kicking foot to return to

the ground, resulting in tightening of the fascia.

Ng sometimes deals with patients with sesamoiditis, another type of repetitive motion-related injury that happens due to kicking exercises. Someone kicking a heavy bag while one foot is elevated onto the metatarsal heads pivots

though most do not complain and seek out treatment (they are usually seeing me for different reasons), cuts and bruises are readily treatable, and simple wound care or cold compresses are usually prescribed. Other injuries can be specific per the sport. An example would be Brazilian jiu jitsu, where broken toes are a hazard due

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the supporting leg. The long bone behind the big toe has two small round shaped bones underneath the head of the bone, and they can become irritated and inflamed and cause pain just behind and under the big toe.

Since the Achilles tendon is involved in bringing the foot into position for many of the kicks necessary in martial arts, Achilles tendonitis comes into play. Someone practicing karate may engage in as many as 400-500 kicks during a training session so an overuse injury to the Achilles tendon can result in Achilles tendonitis as well.

“Ankle sprains are very common in martial arts training,” Ng says. “The abundance of side-to-side motion and one limb support while kicking makes this injury a common one when training.”



Jay Sung

Jay Sung, faculty and attending physician for White Memorial Medical Center, Los Angeles, California is a board certified, fellowship-trained foot and ankle surgeon. He says the variety of injuries in martial arts is great but the most common injuries for these sports have to be cuts and bruises.

He says, “For my practice, I have encountered patients training in martial arts to have a high number of bruises to the legs and ankles. Al-

to the ground grappling.”

For ankle sprains, which can occur in martial arts but more likely during sparring than during training, Sung recommends rest, icing, compression and elevation (RICE). Ankle sprains, especially the very common lateral ankle sprain, occur most often during sparring when an athlete is changing positions quickly, as quick changes in direction during sparring can result in being caught off balance.

“Depending on the severity, bracing may be required for three or four weeks, and swelling can last over one to two months,” he says. “Most times, an x-ray is taken to rule out other pathologies, but there are generally very little to no long-term sequelae after the ankle sprain has healed.”

Contact is obviously a large part of some martial arts mediums—hitting a punching bag, an opponent or sometimes a block of wood—and that results in many fractures to the foot and ankle, especially digital and metatarsal fractures. These can result in an inability to put weight on the foot, and swelling and bruising will most likely appear.

Sung says, “The most common foot fractures occur as spiral oblique injuries of either the digits or the metatarsals. They are usually the result of the torsion generated by the impact of the moving foot hitting a fixed object, such as an opponent.”

Another very common injury

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with those practicing martial arts is hematoma formation, which occurs when the foot or leg strikes a target improperly or strikes a target that is not padded well. Sung explains that by striking an object incorrectly, multiple vascular structures are disrupted, causing bleeding inside the foot or leg and swelling of the foot. The primary treatment for hematoma is rest, ice, compression, and elevation.

Dislocation of the toes is a common occurrence in martial arts since many of its disciplines are done without the use of footgear. Tendon dislocation is another problem that many podiatrists see.

Ng says, "The characteristic of this injury is that the tendon which is usually behind the fibula will pop around the outside of the bone when the foot is pushed up. The injury will feel much like an ankle sprain. If you notice the tendon displacing in this way, or you notice that what you thought was an ankle sprain is not getting better, you should visit your podiatrist for further evaluation."

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A common sprain to the foot is a hyperextension injury to the first MPJ, often the result of sparring and changing directions rapidly. The hallux becomes forcibly dorsiflexed while the athlete lunges forward to attack an opponent, resulting in a sprain of the first MPJ.

With kids, Ng says, he sees a lot of the same things, but usually not a break or sprain. Bruises and overuse injuries are more likely with the young ones, and fractures or ruptured tendons are rare.

Training Time

One thing that all of the podiatrists agree on is that proper stretching and preparation is vital for keeping martial arts injuries at bay. With stretching, the number of minor soft tissue injuries, including muscle strains and tendon strains, will decrease.

Ng says, "I recommend that stretching be done for at least 20 minutes before performing any kicking or punching techniques. Sung adds that he has treated many martial arts athletes who didn't properly prepare for a training session or match.

Sung says, "Conditioning is important even for daily life routines, but vital for martial arts. By conditioning through aerobic exercises or strength training programs, it allows the practitioner of martial arts to better prepare

and see results in their art. Conditioning also helps prevent sloppy technique which can lead to injury due to fatigue."

Dr. Ceasar Irby, a podiatrist with the Northeast Medical Group in Stratford, Connecticut adds that most nagging strains and sprains can be avoided with a proper post-workout routine as well, stretching one's feet and ankles after training. Other tips Irby gives for proper foot care are to clean feet with warm soapy water and dry thoroughly to prevent foot fungus, moisturize feet to prevent skin fissuring that can lead to athlete's foot, and apply lotions/creams after showering, avoiding the areas between the toes.

The age of participants should also be considered when warming up. Ng says that knowing one's body limits is important, claiming he can't do the same thing now that he could in his twenties and thirties. He says, "Most of the population are not professional fighters and they hurt. There's a reason they are hurting. They don't do this for their livelihood and without preparing correctly and at pace you can handle, tendons can pop."

A slow progression of training is essential to promote increased balance, flexibility and strength while reducing the risks of foot and ankle sprains.

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Equipment Matters

With concussions becoming more of a conversation topic due to the NFL and sports media, it's important to realize the importance of headgear in martial arts. Sung says, "Although it may be uncomfortable and unrealistic to daily life routines, headgear can help prevent trauma and swelling around the brain by providing an extra cushion against falls, punches, kicks, etc. Specifically with the foot, protective footwear can help (if participants are not training with

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bare feet.) Savate (a form of karate in which savateurs kick with their toes) has a special shoe where the toes and heels are enforced, while kick boxing has special boots required."

Investing in a great pair of training shoes is never a bad idea. A shoe should provide comfort, protection, and support during activities.

Seeking Help

Sung thinks it's important that martial arts athletes seek out a podiatrist for help, even if they think their problem is minor. If any injury is severe enough to limit an athlete's ability to walk, it should be seen by a podiatrist so x-rays of the area can be taken. "As any practitioner knows, preventing injury starts with knowledge and who better to consult with about foot and ankle injuries than a podiatrist?"

According to Ng, besides help with foot and ankle problems, you can offer preventative tips, plus advice on proper training and warming up, "Most of the time, injuries can be prevented with supervision and an understanding of how you're supposed to do techniques, not overtraining, and not going too wild. People start out and they do too much or go too hard too fast and don't limit themselves. Technique is important. If you do something the wrong way, it can hurt, but do it the right way and you can avoid problems." **PM**



Keith Loria is a freelance writer who has written about everything from baseball to corporate mergers to healthcare, with a little entertainment thrown in the mix. Recent notable interviews include legendary actor William Shatner, heart surgeon pioneer Dr. Marc Dedomenico and Pez Candy CEO Joe Vittoria.