OAK Orthopedics Newsletter FALL 2015

OAK Sports Medicine UPDATE

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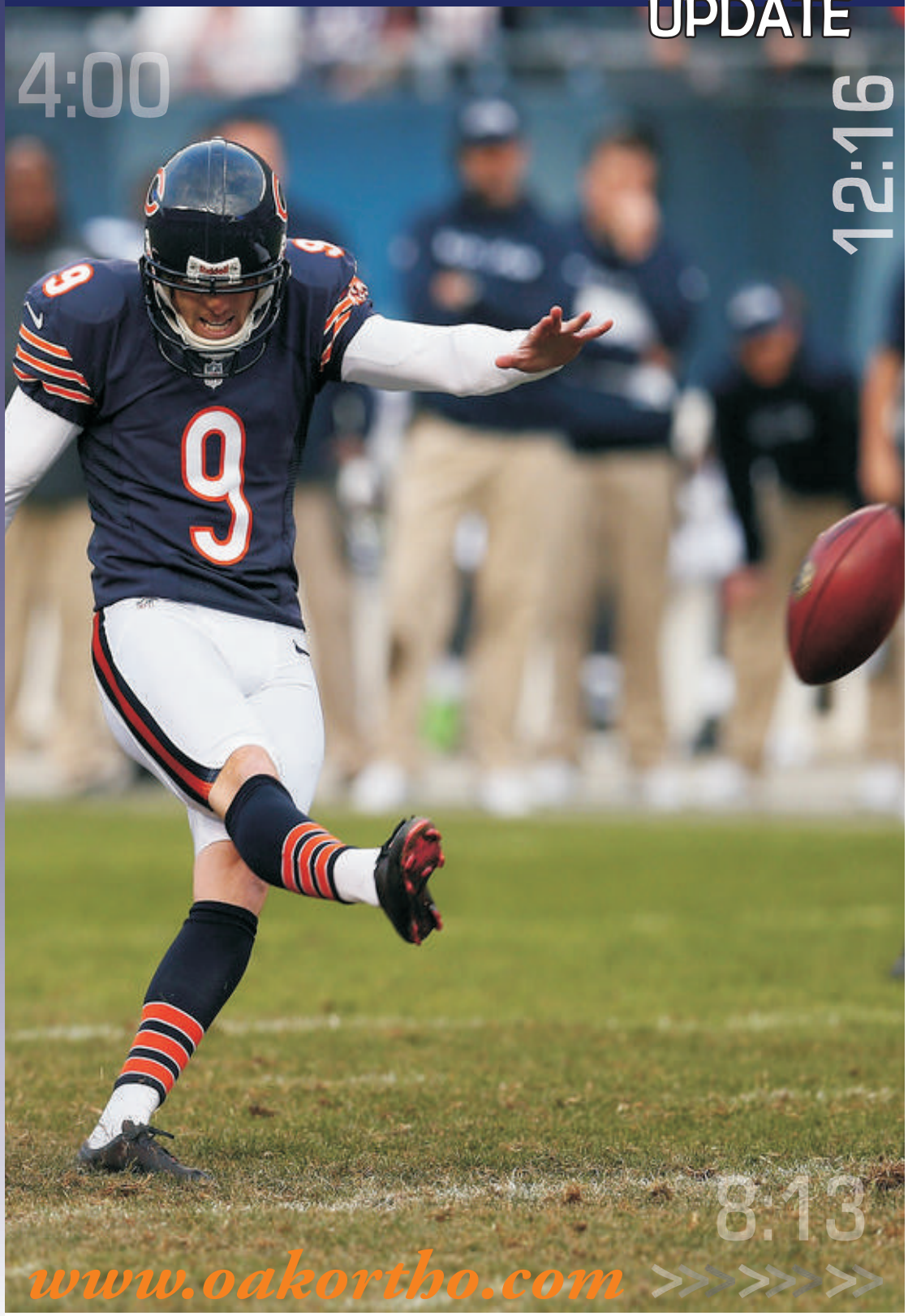

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OAK Sports Medicine Update is a publication of OAK Orthopedics. This newsletter is intended for those healthcare professionals, coaches, and athletic directors who are interested in the diagnosis, prevention, treatment and rehabilitation of sports injuries.

Cover photo courtesy of zimbio.com

Saturday Sports Injury Clinics

OAK ORTHOPEDICS will once again offer its Saturday morning Sports Clinic to area athletes. The Bradley clinic will be staffed by an orthopedic physician, an x-ray technician, and a physical therapist or an athletic trainer. The Frankfort clinic will be staffed by an orthopedic physician and x-ray technician. We will be able to do x-rays, braces, MRI, physical therapy and other tests that may be rendered by the physician.

The sports clinic is offered to all athletes, all ages. It begins at 9:00 a.m. on Saturday mornings. The clinic in Bradley will run year round and the clinic in Frankfort will run through the fall sports season.

The clinic will be held at the Bradley and Frankfort offices listed below.

BRADLEY: 400 S. Kennedy Dr., Suite 100
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High Ankle Sprain: A Difficult Athletic Injury

by Eric Lee, M.D.

Eric Lee, M.D.

Ankle sprains are among the most common musculoskeletal injuries in athletes, both competitive and non-competitive, accounting for anywhere between 10-30% of injuries. Indeed, the NCAA Injury Surveillance Survey demonstrated that it was the most common injury in college athletes, accounting for 15% of reported injuries. The medical cost of treating ankle sprains in athletes and the general population is extremely large, has been estimated to be greater than one billion dollars per year (US Consumer Products Safety Commission). Most people have some knowledge of the "classic" low, or inversion, ankle sprain and appropriate diagnostic, treatment, and rehabilitative measures. However, less is understood about the high, or syndesmotic, ankle sprain even though multiple studies have demonstrated that high ankle sprains cause more morbidity, dysfunction, and greater time to return to sport or activity. Epidemiological studies point out that between 11-17% of all ankle sprains are high/syndesmotic sprains. Due to the different mechanism of injury than low ankle sprains, they are found to be most common in high velocity collision sports, such as football, hockey, rugby, and lacrosse. Wrestling, due to the nature of the moves required to compete, also has a higher rate of high ankle sprains. There is not a clear consensus on the best approach to treating high ankle sprains, which also lends confusion to the overall management of these injuries. Because of this, it is important for the health care provider to distinguish between low and high ankle sprains with a careful history, examination, and appropriate imaging. In this article, we will take a look at the high ankle sprain - the anatomy of the syndesmosis, the mechanisms behind the most common causes of syndesmotic injuries, the diagnosis, and finally the treatment/management of high ankle sprains.

ANATOMY

The syndesmosis plays an important role in maintaining the structural stability of the ankle joint, both between the tibia and talus (ankle bone), as well as between the tibia and fibula. It is made of up both bony and soft tissue structures. For the purpose of this article, we will focus on the soft tissue complex, which includes an interosseus membrane and four ligaments: the anterior inferior tibiofibular ligament (AITFL), posterior inferior tibiofibular ligament (PITFL), inferior transverse (tibiofibular) ligament (ITL), and the interosseus ligament (IOL). Fig. 1.

The deltoid ligament, on the medial side of the lower ankle, also plays a role in helping to stabilize the ankle syndesmosis in addition to its role as the primary ligamentous stabilizer of the entire ankle joint. It is important to include examination of this ligament whenever you suspect a syndesmotic ankle injury, as injury to the deltoid ligament usually indicates a more serious injury.

MECHANISM OF INJURY

Because the syndesmosis is so stable, it takes a large force to cause a significant injury; therefore it is not surprising that many syndesmotic injuries are accompanied by a fracture. The most common mechanism of injury is forceful external rotation of the foot and ankle, most often when the foot is dorsiflexed and slightly pronated, as is seen when 1) an athlete rapidly pivots internally off of a foot planted in external rotation, 2) when contact with another player applies a valgus load to the leg while the foot is planted, or 3) when a direct blow to the lateral aspect of the heel forces the foot and ankle of a kneeling or fallen athlete into external rotation (toward the ground).1 Less commonly hyperdorsiflexion, as is seen, for example, when a gymnast underrotates on a landing or dismount, can cause syndesmotic injury by forcing the talus up into the syndemosis, driving the tibia and fibula apart. A number of other mechanisms of injury have been reported, including eversion of the ankle, inversion of the ankle with foot in plantarflexion (more commonly seen with low ankle sprains), and internal rotation of the foot and ankle.

HISTORY/EXAM

As with all injuries, a careful history is important as it can yield many clues to a diagnosis of syndesmotic injury. The patient's or another observer's report of the mechanism of injury and description of the symptoms is important, as is whether any risk factors, such as rigid ski boots or skates, participation in high velocity collision sports, or history of flat foot, were involved. Most athletes are not able to ambulate immediately after the injury. If they can ambulate, it is usually with a protected gait pattern avoiding both full heel strike and full push off. The exam of the ankle may or may not demonstrate swelling and/or bruising. Isolated sprains to the distal tibiofibular ligaments (AITFL, PITFL) often have a small amount of swelling directly over the area, whereas more extensive injuries involving tears of the interosseus membrane and/or deltoid ligament will often have more substantial swelling of the ankle and distal leg. Most patients will have tenderness over the anterior syndesmosis, just above the ankle joint line, and it may extend proximally between the tibia and fibula as much as six inches. Studies have shown that there is a significant association between how far tenderness extends up the leg and how much time is lost from competitive sports. 2 There may be tenderness

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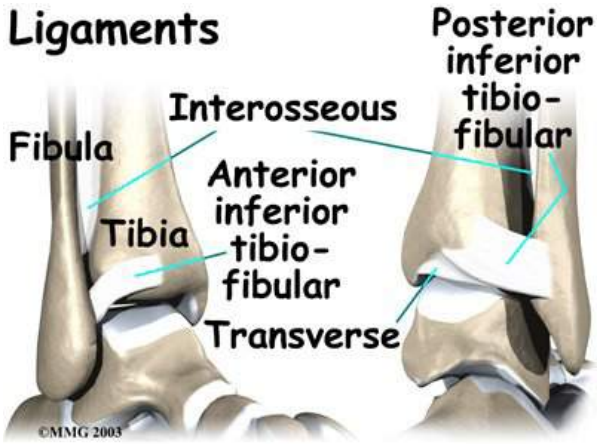

Fig. 1 Anatomy of Ankle Syndesmosis

High Ankle Sprain cont.

posteriorly over the PITFL as well. The deltoid ligament should be checked for tenderness, and depending on the mechanism of injury, tenderness may be noted over the lateral ligaments. Palpating the bony structures about the ankle as well the entire fibular shaft is important to help rule out fracture.

A number of tests have been used to assess the syndesmosis including the Cotton test, crossed-leg test, fibular translation test, stabilization test, squeeze test, and external rotation stress test. All of these tests aim to apply a stress to the syndesmosis. However, subsequent reviews and studies have demonstrated that none of the tests accurately predict the degree of instability of the syndesmosis. Only the external rotation test has good reliability for diagnosing an actual sprain and can be predictive of the time it takes to return to activity. In my practice, I use the external rotation test to gauge for pain, and have found it to be useful in following the athlete's progress in rehabilitation. It is administered by having the patient sit on a table with the knee flexed to 90 degrees and grasping the lower leg to stabilize. The ankle is slightly dorsiflexed and externally rotated, without inverting the foot. (Fig. 2) It is positive if it causes pain in the syndesmotic area. However, in the acute setting, the external rotation test is often too painful to attempt.

Figure 2. External Rotation Test

IMAGING

If there is a suspected syndesmotic injury, xrays of the ankle and of the entire tibia and fibula are obtained to rule out fractures and to look for any abnormalities in ankle joint spacing. Traditionally, if there has been a question of ankle joint instability, stress xrays were recommended. However, recent studies have demonstrated that they may not add much to normal, non-stress views, especially in the acute setting where pain and swelling may limit the ability to stress the ankle. MRI has been shown to be very sensitive and specific in identifying injuries to the soft tissues of the syndesmosis. In my practice, I always obtain xrays to rule out a fracture. If there is a question of syndesmotic disruption which may lead to instability, I obtain an MRI, as treatment can be surgical in these cases. MRI is also very helpful in ruling out injuries to the deltoid and lateral ligaments.

MANAGEMENT/TREATMENT

One of the difficulties in treating syndesmotic ankle injuries is that there is not universal agreement on one treatment approach, and there are not scientifically validated studies which detail the optimal rehabilitative program. In addition, despite following a logical treatment plan, patients often are left with residual pain or feelings of instability following a return to activity after a high ankle sprain. Even with a logical rehabilitative program, experienced therapist, and motivated patient/athlete, the time to return can still vary from between 10 to 60 days.

Frank disruption of the ankle joint, displaced fracture, or Maissoneuve fracture (fracture of the proximal fibula due to rotational stress at the ankle joint at time of injury) are indications for operative repair. Recent research has suggested that operative screw fixation of the distal syndesmosis in complete tears of the interosseus ligament, even without disruption of the ankle joint, can allow athletes to return to their sport much quicker than non-operative treatment (as early as six weeks vs. twelve to fourteen weeks). Clinically, I have found this to be the case and will usually obtain a surgical consult in this instance.

When the ankle syndesmosis is sprained, but stable, as confirmed by exam and imaging studies, I follow a three phase progression of rehabilitation. The goal of the first phase is to reduce swelling and pain and protect the ankle from further injury, usually by limiting external rotation. If the patient is having pain or trouble with weightbearing, or the injury is suspected to be on the more severe end of the spectrum, he is placed in a CAM boot to allow the ankle to rest. Crutches are used in addition to the boot if weightbearing is painful. Ice, compressive wrap, and elevation are used to control swelling. If the patient does not have a limp or painful gait, or the injury appears to be quite mild, he may be placed in a lace up tri-lock ankle brace for support and allowed to weightbear. The ability of the patient to protect the ankle within the gait cycle also plays a role in the extent of initial immobilization. As swelling and pain subside, I will have the patient start gentle, pain free range of motion exercises about the ankle.

The goal of the second phase of treatment is to restore normal range of motion to the ankle and build strength for simple daily tasks such as walking or doing stairs. The goal is to normalize gait, and allow the ankle to begin to take some light stress. Strengthening progresses from low-intensity, high repetition sets to higher intensity, low repetition sets. Closed chain functional tasks and light balancing exercises are helpful as well as the patient progresses. If there is access to a pool, aquatic therapy is a useful adjunct in this phase. Some authors have suggested a time based progression through phases in return. However, because of the variability of healing time with these injuries, I prefer a functional capacity progression. The patient can progress out of phase two when functional strength for normal tasks is achieved, such as walking normally or hopping on one foot without pain or significant dysfunction.

The goal of the third phase is return to sport and increased activity. As the patient progresses to full functional strength in his every day activities, higher level neuromuscular and sport specific activities are added in. These will focus on neuromuscular control, higher level functional strength, and sport specific stresses. As stated earlier, the time to return is quite variable, which is why progression through the phases is determined by functional capacity of the ankle rather than by strict time measures. Throughout the process, good communication between the athlete, trainers, physical therapist, and physician is essential.

High ankle sprains can be a discouraging injury for an athlete and a frustrating injury to manage for physicians, trainers, and therapists. Managing the athlete's expectations regarding return to play is important, as is regular communication between all involved in the patient's care. With a prompt diagnosis, early initiation of treatment, and a logical rehabilitation program which progresses as the athlete proves he is ready, we can provide the athlete the best chance at resuming his activity as quickly as possible.

1. Williams et all. Rehabilitation of Syndesmotic (High) Ankle Sprains. Sports Health: A Multidisciplinary Approach. December 2010. Vol. 2 No. 6. Pg. 460-70.
2. Ibid.

Finger Injuries in Sports: The "Jammed Finger"

Kermit Muhammad, M.D.

Sports injuries of the fingers are common. Sports involving catching and throwing present a particular vulnerability to the fingers. Many adults live with the residual effects of these injuries that were not treated or, treatment was delayed. The goal in managing these injuries, particularly in the young athlete, is to obtain prompt diagnosis and treatment to avoid any long-term consequences.

The ubiquitous nature of the athlete with the "jammed" finger makes it difficult to discern the true nature of the injury at first glance. There is significant variability in severity and outcome. Injuries included under this heading could include simple dislocations, fractures, and complex variations of these two. The treatment depends on the exact pathology; which cannot be entirely determined by physical examination alone.

The purpose of this paper is to address common finger injuries encountered in sports; and thereby raise awareness of players and trainers of the nature of these conditions. The goal is to avoid the situation where the player is treated with temporizing measures to allow return to play, but does not seek additional follow-up.

Common injuries that occur under this heading include, phalangeal fractures, Extensor tendon avulsions (mallet and boutonneire deformities), Proximal interphalangeal joint (PIP) fracture dislocations, simple dislocations, and flexor tendon avulsions (Jersey finger).

Phalangeal Fractures

Phalangeal fractures may have an innocuous appearance or significant deformity. Direct blows to the finger, axial loading, and twisting can produce characteristic fracture patterns. This may be accompanied by a rotational deformity of the finger where it appears to overlap the neighboring digit. There may be a significant angular deformity where the finger appears to be grossly malaligned. Many phalangeal fracures present with mild swelling and no apparent deformity . Radiographic exam (X-ray) is required when any of the signs and symptoms are present.

Recognizing these injuries early offers many advantages. Primarily, the ability to reduce (re-align) the fracture appropriately is greatly enhanced. Malunited fractures can result in permanent rotational or angular deformity. Functionally this will result in reduced grip strength, dexterity, and ultimately decreased performance. Intra-articular fractures are of particular concern. Disruption of the smooth gliding surface of the joint can lead to chronic pain and early post-traumatic arthritis.

Treatment varies based on the severity and location of the injury. Diaphyseal (shaft) fractures that are stable can be treated with splinting and early motion.. Unstable or displaced injuries may require reduction and surgical stabilization. Intra-articular injuries are the most problematic and may require surgical stabilization and early motion with dynamic external fixation. The key is correct initial diagnosis and elimination of a delay in care.

Proximal Interphalangeal Joint Dislocations

Dislocation of the PIP joint occurs frequently , varying in severity and complexity. Commonly these injuries are reduced by the athlete themselves and sometimes the trainer. The majority of these injuries are straight forward and do well without significant intervention. A short period of splinting followed by buddy-taping with early motion is usually sufficient. However, it is the unrecognized collateral ligament tears, tendon ruptures, and fractures which can leave an athlete with a potentially debilitating injury.

All of these injuries warrant radiographic examination in the acute phase. There are many varieties of dislocation; volar , dorsal, radial/ ulnar and rotatory. Dislocations that are difficult to reduce or result in a digit with some residual deformity must be followed with immediate imaging to rule out associated injury. Occasionally, interposed soft tissue will not allow adequate reduction and may require surgical intervention. This can include interposition of the collateral ligaments , volar plate and occasionally flexor or extensor tendons.

Jersey Finger

Avulsion of the flexor tendon from the distal phalanx is commonly referred to as a jersey finger. This nomenclature relates the injury to a football tackle but it can occur in other scenarios. The mechanism of the avulsion injury occurs when the athlete grabs the jersey of a player that is running away. This applies an eccentric load to the finger that is attempting to maximally flex. In this manner the tendon is literally avulsed from the bone.

These injuries often present in a delayed manner, which is extremely problematic. The player complains of pain and inability to flex the distal interphalangeal (DIP) joint. There may be a palpable lump in the finger or palm which represents the level of tendon retraction. The player may not seek immediate attention because the finger can actively flex at the PIP joint because the sublimis tendon is still intact.

The level of retraction becomes a key component of treating this injury. Treatment is always surgical and requires reattachment of the tendon to the bone. This is sometimes facilitated by and associated avulsion fracture which limits tendon retraction. In general, immediate repair is necessary.

There is a 2 week window in which these injuries can be repaired successfully without undue complications. This depends on the level of tendon retraction. Injuries presenting at 4-6 weeks are generally not repairable. There are many variables that govern the success of the repair. The overriding principle is that these must be recognized and treated immediately.

Extensor Tendon

Avulsion of the terminal tendon of the distal phalanx (mallet finger), and avulsion of the central slip from the middle phalanx (boutonneire) are both injuries associated with axial loading of the finger. The avulsion of the terminal extensor tendon from its insertion site on the distal phalanx creates and extensor lag, or droopy finger. Left untreated, this imbalance can lead to a deformity in which the PIP joint hyperextends as well (swan neck deformity). The avulsion of the central slip from the middle phalanx causes an inability to extend the PIP joint. This leads to the charactersistic boutonneire deformity in which the PIP joint is hyperflexed and the DIP joint is extended.

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ACL Overview

by Tom T. Ankowiak, M.D.
Orthopedic Surgeon
OAK Orthopedics

Tom T. Ankowiak, M.D.

Knee injuries can be devastating to any athlete and with athletic seasons in full swing they are unfortunately common. The most dreaded of these injuries is the anterior cruciate ligament (ACL) tear. This injury can leave young athletes sidelined for months as they work to recover from her injury. Although surgery is not always necessary, an ACL tear leaves the knee feeling unstable making cutting and pivoting sports almost impossible. When an athlete desires to return to such sports, an ACL reconstruction is often necessary.

The ACL ask as a link between the thigh bone (femur), and the lower leg bone (tibia). By linking the two bones together it prevents abnormal motion between the two. It allows the knee to flex and extend but prevents abnormal rotation or forward motion of the tibia against the femur. When this link is torn an athlete will feel unstable especially when cutting, pivoting or jumping. This instability puts the knee at risk for other injuries including tears of the cartilage/meniscus.

Athletes are often surprised to hear that an ACL can be torn without any impact to the knee. In fact, the most common mechanism for ACL tear is a non-impact twisting injury. This can occur when a player lands in an awkward position from a jump or plants the foot while twisting around the knee. ACL tears can also occur when the knee is hit from the side like during a tackle in football or soccer. When the ACL tears athletes will often feel a pop in the knee and usually have pain. Often times however, an athlete will be able to stand up, walk and sometimes will even try to return to play. When they do, they often feel instability and the knee may give out on them.

There are several sidelined tests that an athletic trainer or physician can perform to help diagnose an ACL tear. Ultimately, athletes will require a MRI to assess the ACL and other structures in the knee. In many cases, there may be associated injuries to the meniscus or cartilage of the knee. When the diagnosis is confirmed, athletes and their physicians need to discuss whether surgery is necessary. If an athlete desires to return to athletic activity especially pivoting, cutting, and jumping sports then an ACL reconstruction is recommended. If the patient is not interested in athletics they may be treated without surgery.

When surgery is chosen, it is important for athletes to understand that the ACL cannot be repaired but is, in fact, replaced. The replacement ACL can come from the patient or from a donor. Young athletes tend to have better results when the new ACL comes from their own bodies. This is called an autograft. Autografts can either be taken from a tendon in the front of the knee called the patellar tendon or from tendons in the back called the hamstrings. Both grafts are very strong and work well. Each has its unique pros and cons and these are important to discuss with your surgeon. In lower demand or older athletes donor grafts can be used. These donor grafts (allograft) are often easier to recover from as they require slightly less surgery.

Regardless of the graft choice, recovery from ACL surgery usually takes 6-10 months. This timeline is mostly based on the time required for the body to strengthen the new graft. In the first few weeks after surgery athletes work on strength and range of motion. After several months they begin to work on endurance, speed, and agility. Our goal after surgery is to make the operative leg at least as strong if not stronger than the other leg. After several months it is easy to become impatient as the surgical knee feels relatively normal, and athletes feel as though they could return to play. This is a dangerous time because the new ACL graft is still weak and prone to injury. Athletes are eager to return to play but must be patient with their progress.

Recovery from ACL surgery requires a team approach. This includes participation from the patient, family members, physical therapist, athletic trainers, coaches, doctors and nurses. Each has an important role to play in getting the athlete back to their sport and stronger than ever. Our goal with ACL surgery is to get patients back to the activities that they love feeling strong and confident about their knee.

Jammed Finger cont.

The mainstay of treatment of mallet finger is full time extension splinting of the DIP joint. This regimen applies whether or not this injury presents in the acute or subacute setting. Treatment consists of full time splinting for 6 weeks or until the integrity of the extensor mechanism is regained. Surgical treatment has limited indications. One clear indication for surgical treatment of a mallet finger is when there is an associated avulsion fracture of the distal phalanx (bony mallet). Treatment includes closed reduction and pinning and occasionally open reduction and internal fixation. Normal DIP joint motion and finger extension are dependent on proper reduction and fixation of the avulsion fragment. Radiographic examination is required to differentiate between these injuries.

Treatment of central slip injuries is somewhat complicated by the propensity of the PIP joint to develop contractures. Injuries that present early are splinted with the PIP in full extension and the DIP is allowed to flex to accomplish rebalancing of the extensor mechanism. Patients with delayed presentation are usually found to have a PIP flexion contracture , this adds significant difficulty to treatment. In these cases the contracture must be corrected first prior to addressing the tendon injury.

Conclusion

This review has addressed some of the most common manifestations of the “jammed finger”. Of course there are many subsets of these injuries and additional findings that can be further explored. The take home message is that these injuries can present in a benign fashion, but can lead to significant disability if not treated appropriately in the acute phase. Any persistent swelling, deformity, or decreased motion after such an event warrants a radiologic exam and appropriate physical exam by an orthopaedic specialist. In this way we can avoid permanent disability and facilitate a return to play.

Physician Spotlight

Kermit S. Muhammad, MD

Kermit Muhammad, M.D.

Dr. Kermit Muhammad is completing his tenth year of practice at OAK Orthopedics where he has brought his expertise and surgical skills in hand and upper extremity. A 1995 graduate of Morehouse College in Atlanta, Georgia Dr. Muhammad attended medical school at Wake Forest University in Winston-Salem North Carolina and completing his medical degree in 1999. He then attended Howard University for his orthopedic surgery residency which was completed in 2004, then it was on to completing a Fellowship in Hand and Microsurgery from the University Of Pittsburgh School Of Medicine in 2005. An extremely well prepared surgeon Dr. Muhammad additionally completed his Certificate of Advanced Qualification in Hand Surgery in 2008, in addition to ABOS Board Certification.

Dr. Muhammad has served the Kankakee region as a fellowship trained hand surgeon for the past ten years, and in an industrial and agricultural area his expertise is of the utmost importance. His abilities and skill have allowed hundreds of patients form the area to receive world class care hand care on a timely basis. Dr. Muhammad has traveled to various locations to explore additional medical knowledge and new techniques which include; Zurich Switzerland, Dublin Ireland, Zliten Lybia, Seoul South Korea and Singapore. Dr. Muhammad has presented internationally on several hand surgery techniques and procedures and is very interested in medical mission work in underserved countries.

Dr. Muhammad has staff appointments at Riverside Medical Center, Presence St. Mary's Hospital and OAK Surgical Institute. Dr. Muhammad sees patients in the Bradley office and appointments can be made by calling (815) 928-8050.

Athletic Trainer Spotlight

BJ Geasa, ATC

Head Athletic Trainer Olivet Nazarene University

BJ Geasa, Athletic Trainer

Athletic Trainer BJ Geasa is well traveled do to the military background of his family. but he calls Braidwood Illinois his childhood home. A graduate from Olivet Nazarene University in 2003 with a Bachelor of Science degree in Athletic Training was then followed-up with a Masters of Arts degree from Morehead State University in Recreation and Sports Administration.

BJ always wanted to be involved in the medical field and work with active and motivated patients/athletes that had a desire to return from injury and continue their active life style. Athletic training was the perfect fit and this profession has allowed for something new each day. The challenge of risk assessment, injury prevention, and recognition of injury and course of action is something BJ truly enjoys on a daily basis.

Receiving his National Athletic Trainers Association certification in 2003 BJ has been in the athletic training field for 12 years with the last 10 years serving as the Head Athletic Trainer at Olivet Nazarene University. Overseeing 5 certified Athletic Trainers in 18 intercollegiate sports and accounting for over 600 athletes provides many challenges and rewards, but BJ certainly wants it no other way. In addition he is in charge of facility management and oversight of the university's 3 athletic training centers. His duties don't stop there as BJ is an assistant professor in the Athletic Training Education program for undergraduates and teaches classes over the course of the academic year. A strong advocate for his profession BJ is currently the Athletic Training Chair for the Chicagoland Collegiate Athletic Conference.

Married to Chelsie for the past 6 years, BJ and Chelsie have two children, Van 4 and Brynn and in their spare time they enjoy attending and watching other sporting events BJ is not covering and most of all those fishing days with family.

Clinic Spotlight – Dr. Smit's Clinic

Clinical Coordinator Cheryl M. along with Kelci S., and Chris K. keep's this highly organized and efficient clinic running at full speed. Specializing in total joints Dr. Smit along with Physician Assistant Josh Johnson and the staff have and continue to meet and exceed the needs of their total joints patients. From the patient's initial evaluation, determined treatment plan and course of action Dr. Smit's clinic prides themselves on communicating and educating the patient. With the formation of The Total Joint Center a number of years ago Dr. Smit created a model orthopedic program that has gained national recognition and been duplicated many times throughout the country. As President and Senior partner at OAK Orthopedics Dr. Smit and his staff continue to set the standard of patient care at OAK. This doesn't come easy, but with a dependable staff and a clinical coordinator in Cheryl M. and her 38 years of service to OAK one can see why it all works.

Lt. to Rt.: Kelci S., Cheryl M., Chris K., Dr. Smit and Josh Johnson PA-C

Nutrition Requirement for Wrestlers

Jeff Weber, MS, CSCS
Director OAK Athletic Development

Jeff Weber, MS, CSCS

Wrestlers that regularly tend to cut weight often deny their bodies the needed nutrients to perform on the mat. The reality is most youth wrestlers know very little about performance nutrition and are commonly lacking in key nutrients which fuel performance. The undeniable facts are very straight forward: poor nutrition will limit performance; there is simply no way around it. Commonly used cutting strategies that need to be avoided are:

Self dehydration- Dehydration of only 1-2% begins to negatively affect function and performance. The bigger the loss the larger the overall affect on your body's ability to perform and function.

Fasting- When there is no incoming fuel source, the body begins to use stored nutrients and weight loss will occur, but fasting can cause your blood sugar to drop, which in turn robs your brain and muscles of available energy to fuel performance. If your muscles do not have adequate fuel not only will they perform at a sub-par level but you will risk the loss of muscle, making yourself weaker.

Yo-Yo dieting- Consistent eating habits are the best way to maintain a healthy body weight. Regular extreme fluctuations in eating habits can take a toll on your body's metabolic system and in-turn make it more difficult to bit weight when needed.

Diet pills- Using water pills and laxatives are a sure way to become dehydrated and rob your body of very important nutrients. In addition, diet pills can have many adverse effects. It is strongly advised to avoid these types of products

The best method to make and keep weight begins with deciding what your "best" wrestling weight should be. The number one question you should be asking is, "what is the maximal amount of weight I can lose and still perform like I want?" You should never have to sacrifice your health or good nutrition to make a weight class.

To identify your "minimum" safe weight for competition it is advised to have your body fat tested. If possible it is recommended to use one of the more accurate testing methods such as the BOD POD to test body composition levels. The goal of safe weight loss should be to lose "excess" fat weight on your body. The body fat test will allow you to see exactly how much fat you have on your frame and how much you could safely lose. The leaner a wrestler is the less weight they can lose before: 1) they start to lose muscle, 2) their body fat levels dangerously low, past essential levels. Six to seven percent body fat is considered the lowest healthy level of a teenage male. If a teenage male drops below this level they are likely to lose muscle, strength and endurance.

Once you have determined a weight class you should develop an eating plan for making and maintaining your ideal weight. If you have decided your ideal weight is 10 pounds lighter than you currently weigh, plan on losing no more than 2-3 pounds per week at max. Eating a balanced diet on a consistent basis is the best method to aide performance and wrestle at your "best" weight.

Nutritional requirements are broken down between water, carbohydrates, protein and fat, vitamins and minerals in the daily diet. Primary considerations for the high school wrestler are:

1) Rehydrate lost fluids from practice. One regularly used method is to weigh before and after practice to determine how much water needs to be consumed to get back to normal hydration levels.
2) Aim for complex carbohydrates breads, grains, pasta
3) Focus on getting lean protein every meal
4) Work on including more healthy fats in your daily diet such as nuts, fatty fish, dairy and olive oil.
5) Eat enough for your goal. The average teenage male needs about 15-19 calories per day to maintain weight. In a two hour practice upwards of 1200 calories can be burned up.
6) Be consistent and strive to develop supportive habits and routines

Wrestling and Skin Conditions: What Is THAT?

Courtesy of www.nationwidechildrens.org

All of these skin diseases MAY NOT BE COVERED FOR COMPETTION! Report anything suspicious to your athletic trainer or physician ASAP so you can stay competitive!

Herpetic Lesions

Herpetic lesion (aka herpes simplex, herpes zoster, herpes gladiatorium, cold sore/fever blister) is a viral infection transmitted by direct contact and may appear ANYWHERE ON THE BODY.

Signs and Symptoms:

Lesion: Numerous clustered vesicles (blisters) filled with clear fluid on a reddened background. The vesicles continue to develop for 7-10 days and eventually become dry, crusted lesions. Recurrent outbreaks are sometimes preceded by irritability, headache, and tingling, burning and/or itching of the skin at the site of recurrence.

Other symptoms may mimic a mild viral illness with fever, joint aches and pains, sore throat, and inflammation of the eyes.

Return to play guidelines:

- Must be free of fever, malaise (feeling ill), etc.
- No new blisters developed in past 72 hours (3 days). Existing lesions must be covered in a dry crust.
- Completed a minimum 120 hours (5 days) systemic antiviral therapy as prescribed by physician.

Tinea aka Ringworm

Tinea aka Ringworm is a fungal infection that can be seen anywhere but is most commonly found on the head(tinea capitis) or upper body

continued on the following page

(tinea corporis) i.e. neck, trunk, and arms.

Signs and Symptoms:

Lesion: Round, reddened, scaly plaque with raised borders. Though normally circular in shape, the lesion may present with a more irregularly shaped border in athletes.

Return to play guidelines:

• Oral or Topical fungicide medicine as prescribed by physician for at least 72 hours (3 days) for tinea corporis or 14 days for tinea capitis .

• Lesions must be adequately covered when the athlete is cleared to return to activity.

Molluscum Contagiosum

Molluscum Contagiosum is a viral infection transmitted by skin-to-skin contact.

Signs and Symptoms:

Lesion: flesh-colored to light-pink pearly papules with a dent or depression in the middle.

Return to play guidelines:

Lesions must be curetted (scraped out) by a physician at least 24 hours prior and subsequently covered for competition.

Impetigo

Impetigo is a superficial bacterial infection most commonly found on the face, neck, and upper extremities. It is highly contagious and MAY NOT be covered for competition.

Signs and Symptoms:

Lesion: begins as a thin-walled vesicle that ruptures to expose a raw surface covered in a yellowish-brown or honey-colored crust. In the early stages it may also present as superficial blisters that rupture easily.

Return to play guidelines:

• No new skin lesions for at least 48 hours (2 days).

• Completion of a 72 hour (3 day) course of directed antibiotic therapy.

• No further drainage from the wound.

Folliculitis

Folliculitis is an infection of the hair follicles that appears in areas of high friction and perspiration and is caused by a bacteria (most commonly Staphylococcus aureus). Furuncles (boils) and carbuncles (larger boils) are complications of this infection. Active infections MAY NOT be covered for competition.

Signs and Symptoms:

Folliculitis: red or white bumps at the base of the hair follicles, especially in areas that have been shaved, taped, or abraded.

Furuncle lesion: tender, red, nodular swelling.

Carbuncle lesion: when multiple furuncles join, a mass of pus filled tissue develops with localized redness and swelling. A fever may also be present.

Return to play guidelines:

• No new skin lesions for at least 48 hours (2 days).

• Completion of a 72-hour (3 day) course of antibiotic therapy.

• No further drainage from the wound.

MRSA aka Methicillin-Resistant Staphylococcus Aureus

MRSA aka Methicillin-Resistant Staphylococcus Aureus is a severe bacterial infection that common antibiotics cannot treat. MRSA lesions often look like spider bites. This highly contagious and potentially dangerous infection MAY NOT be covered for competition.

Signs and Symptoms:

Lesion: Initially is very similar to folliculitis/furuncle/carbuncle infections. Develops quickly from small pustules into larger pustules or abscesses with swelling, redness, and possibly black markings.

Other symptoms may include systemic infection symptoms such as fever, fatigue, etc.

Return to play guidelines:

• No new skin lesions for at least 48 hours (2 days).

• Completion of 72-hour (3 day) course of directed antibiotic therapy.

• No further drainage from the wound.

Prevention:

• Perform a daily full-body skin check and report any suspicious lesions to your athletic trainer or physician as soon as it appears!

• Have all game and practice gear laundered daily.

• Follow good personal hygiene practices:

• SHOWER with antimicrobial soap immediately after practices and games and wash hands frequently.

• AVOID sharing towels, razors, athletic equipment, water bottles, and hair clippers.

• AVOID body shaving

• AVOID entering common whirlpools or tubs if skin lesions are present

REPORT IT!

The sooner you report it, the sooner you get treatment and the sooner you return to play!

• These diseases are all highly contagious. Hiding or failing to notice them could have serious consequences, such as…

• The disease may be passed to your teammates and/or opponents.

• Some of these diseases, like Herpes, stay with you for life.

• If not treated, some of these diseases can lead to potentially dangerous complications – and thus more time out of practice and competition.

MRSA Photo Courtesy of Bruno Coignard, M.D., Jeff Hageman, M.H.S and the CDC

Tinea (Ringworm) and Molluscum Contagiosum Photos Courtesy of Dermatology at Nationwide Children's Hospital

Herpetic Lesions and Impetigo Photos Courtesy of Sports Medicine at Nationwide Children's Hospital

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