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# Letter from the Editor:

It is with great honor that we present to you our 35th Anniversary issue of the Hughston Health Alert. This commemorative issue honors the memory of three "Giants" in the field of orthopaedics and the Hughston Clinic: Jack C. Hughston, MD; Champ L. Baker Jr., MD; and Stephen C. Hunter, MD. In this issue, we feature three articles written by these physicians for their patients. These doctors played a crucial role in launching and sustaining the Hughston Health Alert and we are forever grateful for their devotion to the publication. We continue their legacy today with good quality articles that our readers learn from and enjoy.

Photo 1. Stephen C. Hunter, MD; Jack C. Hughton, MD; and Champ L. Baker, Jr., MD, participating in the ground breaking ceremony.Photo 2. Three-D collage created for the 50th Anniversary of the Hughston Clinic.



Dr. Hughston started the Hughston Orthopaedic Clinic in 1949, and soon thereafter, began his sideline coverage of ballgames. Immediate treatment of the athlete, and accurately and acutely diagnosing injuries became a major reason he is often called the "Father of Sports Medicine." Today, we take sideline coverage for granted. Just about every team in high school, collegiate, and professional sports now has a team physician. This fundamental idea was born out of Dr. Hughston's desire to treat injured athletes. As many accolades that Dr. Hughston has to his name, I know in his humble and kind demeanor, he would rather me be writing about something that benefitted patients than writing about him. "Take care of your patients and they will take care of you" was one of his regular sayings, and we hope the articles in each issue play a part in "taking care of our patients."

Dr. Baker, Jr. trained under Dr. Hughston at the Hughston Clinic and went on to practice here for the rest of his career. Following in Dr. Hughston's footsteps, he became a pioneer in the field of sports medicine and arthroscopy. Along with Dr. Hughston, Dr. Baker trained many sports medicine fellows. I had the privilege of training under him and was his last fellow before he retired. I still put his wisdom to use in my practice today. Dr. Baker's son, Champ Baker III, MD, is one of my partners at the Clinic and not a week goes by that we do not share "a Big Baker" story.

Dr. Hunter, an orthopaedic surgeon devoted to sports medicine and young athletes his entire career, trained under Dr. Hughston as well. Through the Hughston Foundation, Dr. Hunter was a founding member of the Institute of Athletic Health Care and Research and served as Chairman of the Hughston Institutional Review Board. The Institute continues to provide low cost, preparticipation screenings for area high school athletes and the Hughston Institutional Review Board oversees and monitors research according to Federal regulations. Dr. Hunter also mentored the first primary care physicians who trained at the Hughston Clinic. Besides sports medicine, Dr. Hunter also treated patients with foot problems and knee injuries. He had special interest in treatments that included internal fixation of problem fractures and total joint replacement, as well.

Being from the Columbus area, I had the opportunity to know all three of these men growing up and I was fortunate enough to be able train under and practice alongside Dr. Baker before he retired. The Hughston Clinic was founded on physicians like these three men and we continue to strive to hold to that standard. We hope you enjoy this anniversary issue.

Garland K. Gudger, Jr., MD Fditor

#### **Giant Accomplishments from Hughston Physicians**

#### **Sports Medicine**

- Established sports medicine as a subspecialty in orthopaedic surgery.
- Created the concept of team physician sideline coverage of athletic events in 1949.
- Lobbied and voted for rules to eliminate crack back block in football.
- Lobbied and voted for rule to use mouth guards to prevent dental injury and reduce concussions in sports.
- Promoted the disciplines of athletic training and physical therapy in the care of athletes.
- Developed the pre-season screening exam model.
- Established the American Journal of Sports Medicine 50 years ago, first 20 years edited by Dr. Hughston in Columbus, GA, and our physicians continue to publish medical articles today.
- A primary center instrumental in developing modern-day video-arthroscopic surgery.
- Partnered to open the first specialty hospital devoted to orthopaedic sports medicine.

#### **Post Graduate Medical Education**

- Established one of the first, and became the longest continuous, fellowship training program in sports medicine.
- Trained hundreds of physical therapists and athletic trainers.

#### Scholarly work

- Published over 760 peer-reviewed medical journal articles.
- Published text books on knee surgery and sports medicine.
- Published numerous book chapter contributions.
- Presented thousands of national and international podium, video, and poster scientific presentations.

#### Patient Education

• Publication of the *Hughston Health Alert* for 35 years.

#### **Community Service**

- Provided pro-bono coverage of regional high school athletics for seven decades.
- Provided pro-bono pre-season screening physical examinations for over four decades.
- Provided Saturday Sports Injury Clinic for high school athletes for decades.
- Provided medical coverage for major sporting events in Chattahoochee Valley for decades.

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## Lipogems: New Advances in Orthopaedic Treatments QUESTIONS FOR A SPECIALIST

#### What is Lipogems?

An FDA cleared system, Lipogems is used by physicians to treat patients who experience pain and swelling from an array of orthopaedic conditions and injuries (**Box**). This sterile medical device and closed-loop processing system is used by physicians to remove adipose (fat tissue) from a patient's body and then transfer it via an injection into the patient's injured or diseased joint or soft tissue.

#### Why not use bone marrow instead?

Your own fat is loaded with reparative cells that can assist with healing orthopaedic conditions that affect your joints, ligaments (tissues connecting 2 bones), tendons (tissues connecting muscle to bones), and muscles (**Fig. 1**). The Lipogems procedure uses fat because it has regenerative properties that can help heal soft tissues or cushion a joint, which may delay a more traumatic treatment, such as total joint replacement. In fact, fat has a great number of reparative cells, they are easier to get to, and the procedure is more comfortable for patients, especially when compared to harvesting bone marrow.

#### How is the procedure performed?

The entire Lipogems procedure usually takes less than an hour and is performed in a hospital or doctor's office using local anesthesia. The physician makes a tiny puncture through your skin to harvest a small section of fat from your midsection. The physician then processes the collected fat in the Lipogems device using a sterile saline solution. This occurs through a very gentle process called micro-fragmentation, during which your fat is washed, rinsed, and resized into smaller clusters while maintaining the natural beneficial properties of your fat. The system removes blood, inflammatory cells, and fatty oils, leaving only the desirable concentrated fat. Next, the physician injects the resulting cells into the treatment site. The reason why it works is that the cells inside your own fat stay intact and act harmoniously in the body to repair, cushion, and support the tissue while it heals.

#### What are the benefits of the procedure?

The procedure is minimally invasive, only takes about an hour, and can boost healing after a surgical procedure or physicians can use it as a stand-alone treatment to encourage soft tissue healing. It can also be used to cushion the joint because the fat tissue tends to stay together; therefore, it can be used as a procedure that delays the need for total joint replacement. This is especially useful Fig. 1. Knee pain associated with osteoarthritis (left) and injection of fat tissue into affected joint (below)

Device

Saline

The Hughston Foundation, Inc. ©2023

Fat tissue

**Box.** Some injuries and conditions treated with Lipogems:

- Joints affected by osteoarthritis
- Rotator cuff tears and labrum tears of the shoulder
- Meniscal (cartilage) tears in the knee
- Stiffness of the shoulder

Side view

of the knee

- Multiple painful joints treated during a single setting
- Sports or overuse injuries to the muscles, tendons, and ligaments, such as tennis elbow, plantar faciitis, and quadriceps and patellar tendon tears

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for patients who are young and want to delay a total joint replacement to avoid a later need for revision surgery. Additionally, multiple joints can be treated at one time, such as injecting both knees to reduce pain and swelling. It is also ideal for patients who cannot undergo an extensive surgery due to other health conditions.

#### Who will benefit from Lipogems treatment?

Lipogems can provide relief if you suffer from an injury or ailment that limits your normal daily or physical

activity, or if you have a soft tissue defect or tear in your tendon, ligament, or a muscle. If you had other treatments such as physical therapy, NSAIDS, or steroid injections that did not provide significant or long-lasting relief, Lipogems may be a viable solution. You may want to try Lipogems if you would like to explore a minimally invasive alternative to a major surgical intervention. Presently, insurance does not cover Lipogems as well as other new biologic treatments offered today; however, patients have weighed the benefits and have decided to self-pay for the procedure. Lipogems is not suitable for everyone. Your doctor will determine if the procedure will be beneficial to use in addition to your surgery or as a standalone treatment.

The treatment is helpful to many people participating in sporting activities. Whether you are a young athlete participating in high school sports or a weekend warrior, most athletes want a faster return to sports. It also offers an alternative for athletes who do not want a more extensive surgery that requires longer recovery. Using Lipogems during tissue repair surgery, such a meniscus or labrum repair, can promote healing after surgery.

Many patients suffering from orthopedic pain are not ready for invasive surgery like a total joint replacement. They are also looking for longer lasting alternatives to cortisone injections and one that has fewer side effects. Patients can become frustrated with the duration of relief of other nonsurgical options, such as medications and physical therapy. This is why using an individual's own fat tissue to help them heal is appealing, especially since 1 treatment is usually all that is needed.

#### Does this treatment have side effects?

The risk of side effects exists for most medical treatments and Lipogems is no different. Rare, but possible, complications caused by the fat transfer include an allergic reaction to the local anesthetic, damage to the underlying structures, infection, and hematoma or seroma (an accumulation of blood or fluid under the skin that may require removal). Additionally, you can experience a blood clot at the treatment or donor site, changes in sensation, calcification, discoloration, an indentation in the area of the tissue harvest, scar tissue, and unsatisfactory results that may necessitate additional procedures.

#### How long do I have to wait to resume my daily activities?

Return to work and activity restrictions will be dependent upon your treatment and the specific activities you typically do; however, patients often begin to notice an improvement in reduced pain and increased function within 2 to 8 weeks following the procedure. Depending on the harvest and injection sites, your physician may restrict high-impact and strenuous activities for a couple of weeks. Lipogems is often a chosen treatment because it allows the patient to return to work without much loss of time. Most patients are able to return to their normal activities within 1 to 2 months. The recovery from the procedure is minimal when compared to a more invasive surgery.

Whether Lipogems is used as a simple nonsurgical option or part of a surgical procedure, the physician and patient can decide what fits best with their lifestyle and current medical situation. Adding the Lipogems procedure as a treatment option has given patients another choice when it comes to managing their orthopaedic condition. Ultimately our goal is to get the patient back to living life and spending time doing the things that they love.

A remembrance of *Champ L. Baker, Jr., MD (1946-2022)* Celebrating his life and legacy, 1 year since his passing.

Reprinted from the Hugshton Health Alert Volume 30, Number 3, Summer 2018

## In Perspective: Anterior Cruciate Ligament Tears

In 1992, Dr. Jack C. Hughston (1917-2004), one of the world's most respected authorities on knee ligament surgery, shared some of his thoughts regarding injuries to the ACL.

"You tore your anterior cruciate ligament." On hearing your physician speak those words, you are filled with a sense of dread. You envision the end of your athletic life, even recreational sports.

Today, a torn ACL (**Fig. 1**) has almost become a household word. Through friends, newspapers, television, sports magazines, and even our physicians, we are inundated with the hype that the knee joint will deteriorate and become arthritic if the ACL is not operated on as soon as possible.

You have been convinced that to save your knee you must have an operation immediately to repair the ligament. Your surgery is scheduled for the following day. You are scared. But there is an old truism in orthopaedic surgery that says, "no knee is so bad that it can't be made worse by operating on it."

For many years, torn ACLs were treated as an emergency and were operated on immediately, even before the initial pain and swelling of the injury subsided.

The trauma of the injury, plus the trauma of the operation added insult to injury, often resulting in the formation of scar tissue. Sometimes the results were stiff, painful knees without normal motion or function. The result was knees that caused the patient disability, even with simple walking.

Over the years, I have had to try to correct these problem knees. Those that were less stiff often responded to concentrated



rehabilitation exercises and regained acceptable functional status. Others, however, required surgical release, and some had to have multiple operations to remove scar tissue to loosen the joint.

Isn't there an alternative to this all too common scene? Another treatment approach that isn't as frightful? The answer is a definite "YES"! In many instances, nonsurgical treatment is successful. In other cases, surgery is necessary. Immediate surgery may be needed to repair other ligaments and torn menisci in the knee. But if only the ACL is torn, immediate repair is not necessary.

If the knee is shown to be loose during the physical exam, then most likely other ligaments in addition to the ACL have been damaged (**Fig. 2**). These other ligaments, when torn badly enough, may need to be surgically repaired within the first week. After they have been repaired and after a good rehabilitation program of 6 or more months, the decision to reconstruct the ACL can be made. If, at this time, there is a functional need for a ligament replacement, the operation can be done without the risk of subsequent stiffness and disability that can result from emergency repairs of the ACL.

If only the ACL is torn, it may be difficult for your physician to confirm any looseness or instability of the knee joint by physical exam (**Fig. 3**). I have seen cases where the ACL tear was only diagnosed by MRI or some other form of imaging study, and based on those findings, the patients were advised to have immediate surgery to repair the ligament. Be wary of this sort of advice. If your knee is not loose enough for your physician to be able to physically demonstrate the instability to you, then you should get a second opinion before having surgery.

In other cases, when the ACL and other ligaments are damaged and there is significant joint instability, surgery can be planned when the pain and swelling have subsided and knee motion has returned to almost normal. This usually occurs 6 weeks or more after the injury, in the meantime, you will have been performing prescribed daily rehabilitation exercises and using crutches to aid with your walking. When the knee is re-examined, there will be less discomfort and your physician will be able to perform a better evaluation. If the looseness is severe enough, an ACL reconstruction can be performed and the chance of complications is less than with an emergency operation.

The important thing to remember in all of this is that you don't need to be frightened that your knee will be ruined forever if the torn ACL is not repaired immediately. On the contrary, a torn ACL by itself is not a reason for emergency surgery. Rather, it is time for calm, conservative management and appropriate follow-up. If this does not seem to be the approach your physician is taking, don't hesitate to get a second opinion.



A remembrance of *Jack C. Hughston, MD (1917-2004)* Celebrating his life and legacy, 19 years since his passing.

Reprinted from the *Hugshton Health Alert* Volume 4, Number 4, Fall 1992.

### **Soccer Players** SPRAINS, STRAINS, AND BREAKS

Soccer is enjoyed by millions of athletes each year. Generally, it is a safe and effective form of exercise; however, injuries such as sprains and strains often occur. Soft tissue (ligaments, tendons, and muscles) injuries are the most common injuries in soccer. These injuries include minor contusions (bruising a ligament, tendon, or muscle), sprains (stretching or tearing a ligament), and strains (stretching or tearing a muscle or tendon). Fractures (broken bones) occur far less often but, commonly are more serious.

#### 10 facts about soccer injuries<sup>1</sup>

The greatest risk factors for injury seem to be the level of play and how often the athlete is exposed to the game. On the other hand, there appears to be no compelling evidence that position or technique is associated with a higher risk of injury. Here are some interesting facts gathered by the American Academy of Pediatrics regarding sprains and breaks that occur in soccer:

1. The occurrence of injury increases with the age of the players.

2. Seventy percent of sprain and break injuries occur in the lower extremity with 25% of these involving ligament and fracture injuries of the knee, and the other 25% involving sprains of the ankle (**Fig. 1**).

3. Head and facial injuries account for as much as 22% of all soccer injuries, of which approximately 20% are concussions.

4. More injuries occur during games than during practice.

5. Fractures account for only 4% of soccer injuries and they occur most often in the upper extremity.

6. Girls have a greater incidence of sprain and strain injuries than boys. These injuries could be related to the lack of conditioning.

7. Most often, injuries from player-to-player contact occurs during tackling.

8. There appears to be no association between soccer positions and injury rates except youth goalies have a higher rate of injury than other youth players.

9. Indoor soccer has a higher risk of injury than outdoor soccer.

10. Soccer is the second leading cause of facial and dental injuries in sports, preceded only by basketball.

#### **Risk Factors**

A number of factors are related to a higher risk of injury for soccer players. Players who lack flexibility have an increased incidence of injury. Previously injured players are at a higher risk to repeat the injury. Many injuries are related to poor or no equipment, such as shin guards. Poor field conditions are often responsible for sprains and breaks, and rule violations can also result in injuries. Sprained ligament

in the ankle

Strained muscle in the thigh Fractured bone in the foot

#### Prevention

Preventive steps can be taken to decrease the risk of sprains, strains, and breaks in soccer players. The most effective prevention plan includes a flexibility program. To reduce injury, a player should always warm up and stretch before every game and every practice. To improve flexibility, players can warm up with kicking drills and then engage in a stretching program before running and shooting drills. Attention should be paid to stretching the abductor and adductor muscles of the hip and the iliopsoas and quadriceps muscles in the thigh (**Fig. 2**). Hamstring and back muscles should be stretched, and finally, the calf muscle should be kept supple.

Wearing the proper equipment, which includes shin guards and properly fitted footwear that are in good condition, reduces injury. Wearing shoes with molded cleats or ribbed s oles and using nonabsorbent balls that do not become water-logged and heavy when wet prevent lower extremity and other injuries.

An injured athlete should be completely rehabilitated before he or she returns to play. Recurrence of injuries can be a major concern if the player is not completely reconditioned. Protection by taping an old injury may be effective in preventing the recurrence of an injury, specifically, ankle injuries.

A good playing field can prevent many injuries. The playing surface should be

kept in good condition for both practice and games. Holes on the playing field should be filled and bare spots reseeded with grass. Debris should never be left on the field and the goals should be well padded and properly secured.

#### Treatment

Treatment of sprains and strains in soccer players follows the guidelines of most sports injuries. Because the majority of these injuries are minor, the concept of R.I.C.E., rest, ice, compression, and elevation of the injury is appropriate. Breaks require the care of a physician. An injured athlete should not hesitate to consider medical evaluation if the pain from the injury increases or is persistent, if there are joint injuries, or if there is loss of function of the involved extremity.

Injuries occur in all sports, including soccer. Fortunately, most soccer injuries are minor and are easily treated. A warm up and stretching program, proper equipment, and a safe field are the keys to avoiding the majority of these injuries.

A remembrance of Stephen C. Hunter, MD (1942-2002)

Celebrating his life and legacy, 21 years since his passing.

Reprinted from the Hugshton Health Alert Volume 14, Number 4, Fall 2002

#### Reference:

1. American Academy of Pediatrics. Injuries in Youth Soccer: a subject review. Pediatrics. 2000;10:659-661.



#### Fig. 2. Hip and thigh muscle groups which should be stretched (right leg)







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- Providing training materials at meetings for healthcare professionals, such as occupational health nurses, and future healthcare providers.
- Materials distributed at sporting events, such as the Georgia High School Soccer Association Championship, and Safe Kids programs to educate the public about safety concerns for our youth.

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