Hughston Health Alert

1989 - 2008

20th Anniversary Issue

Reflections from our Past Editor

Like most of Dr. Hughston's visions, the *Hughston Health Alert* was born out of a desire to educate and inform patients about their health and fitness. From the first issue and still today, the Health Alert is distributed to patients, coaches, students, and to anyone who requests a free subscription. Additionally, issues are shipped to the YMCA, girls and boys organizations, and fitness centers in our area.

The *Hughston Health Alert's* theme issues cover conditions related to sports and specific musculoskeletal disorders and injuries which allows distribution to specific organizations and specific events. For example, our soccer edition has been distributed at the Georgia High School Soccer Association Championships; our osteoporosis edition has been distributed at medical meetings for the elderly, Girls, Inc., and the Girls Club; and our bike edition has been distributed at Bike Ride Across Georgia and at the Tour de Georgia.

The *Hughston Health Alert* has developed a strong Web presence on the Hughston Web site at www.hughston.com/hha. Millions of visitors (locally, nationally, and internationally) have read our articles online and hundreds of thousands of issues and articles have been printed from the site.

The *Hughston Health Alert* continues to be an excellent way to communicate with patients, coaches, students, healthcare professionals, referrals sources, and specific groups within our community. Whether we draw readers from around the world or down the street, we bring them to the Hughston name, which makes Dr. Hughston's vision a reality.

Fred Flandy, MD
Columbus, Georgia

Reflections from our Editor

I recently picked up a copy of the very first *Hughston Health Alert,* Volume 1, Number 1 - Winter 1989. With that issue, we applied the principles of providing helpful information to readers in an understandable format. Today, we apply those same principals; yet, over the years, the *Hughston Health Alert* has continued to grow and evolve.

The most obvious changes are in the physical appearance. It is now published in color and on higher quality paper, giving it a much deserved, enhanced appearance. Each publication is now dedicated to one specific topic so we can provide our readers with comprehensive and complete information about one particular subject.

We continue to place a high emphasis on our electronic format by having the *Hughston Health Alert* sent to people via e-mail and it is also available on our Web site. Our original circulation was just a few hundred paper copies via US mail only. But since that first issue, we have published hundreds of thousands of issues. Our current annual circulation is 76,000 printed and 13,000 electronic e-mail. Additionally, we receive twice those numbers in Web visits per month and have had millions of readers visit and read the *Hughston Health Alert* online since we began the Web site.

Although most of the names of the editorial board have changed, the board's commitment to this publication has not. Dennise Brogdon continues to do a superb job as Managing Editor. The only name that has not changed on the editorial board is that of Bill Etchison. His dedication and contributions over the past 20 years are greatly appreciated. As Dr. Hughston often said, "When you are green, you are still growing. When you are ripe, you are next to rotten." The *Hughston Health Alert* continues to grow.

David C. Rehak, MD
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Hughston Health Alert

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20 YEARS OF PATIENT EDUCATION

VOLUME 20, NUMBER 1 - WINTER 2008

Inside...

Fig. 1. Use of a computer navigation system during total knee replacement surgery helps the surgeon align the implant correctly.

Advances in Total Joint Replacement

NEW TECHNIQUES, MATERIALS, AND ANESTHESIA

Total joint replacement procedures, such as total knee and total hip arthroplasty, are among the most successful operations that we have in orthopaedic surgery. Often, the operations provide significant pain relief for patients who have debilitating arthritis and severe symptoms. Surprisingly, both procedures have changed very little over the past 30 years. The total knee and total hip replacement components and techniques we use are very similar to the original techniques that were described in the 1970s. However, numerous advances have occurred over the years. Occasionally, it has been 2 steps forward and 1 step back, as some of the so-called advancements proved not to be beneficial over time. In general, however, substantial improvements have occurred. These advances could be categorized as advancements in technique, orthopaedic materials, and anesthesia.

Technique

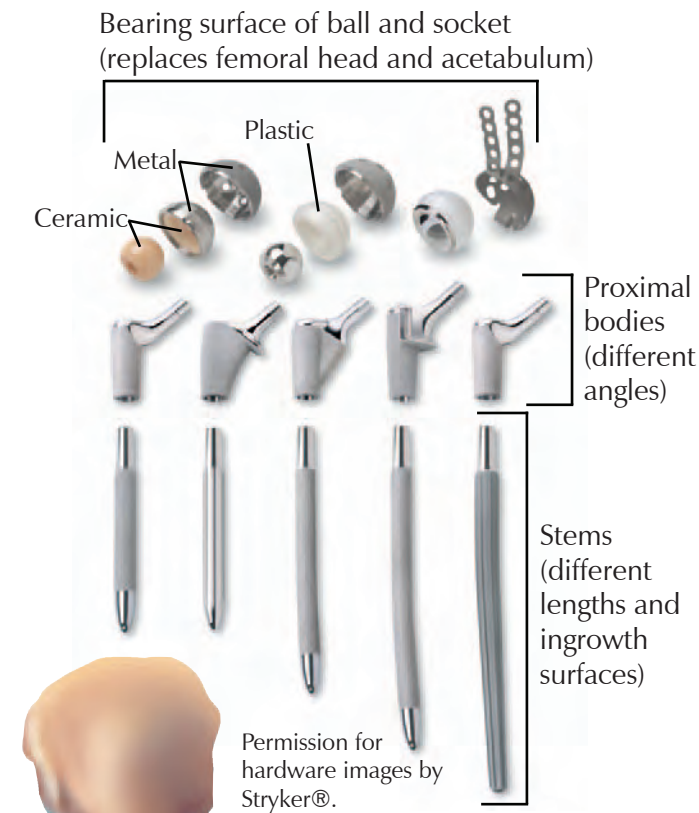
Minimally Invasive Surgery. One of the advancements in total joint replacement surgery that has received considerable media attention in the last 5 years is minimally invasive surgery. The minimally invasive technique of total hip replacement surgery was developed several years ago by Dr. Richard Berger in Chicago. The surgery involves the use of smaller incisions to insert the hip replacement components and results in less pain after surgery, less blood loss, and a faster recovery. Soon after, the technique of minimally invasive total knee replacement surgery was pioneered with the concept of smaller incisions and less muscle dissection, leading to faster recovery as with the total hip replacement.

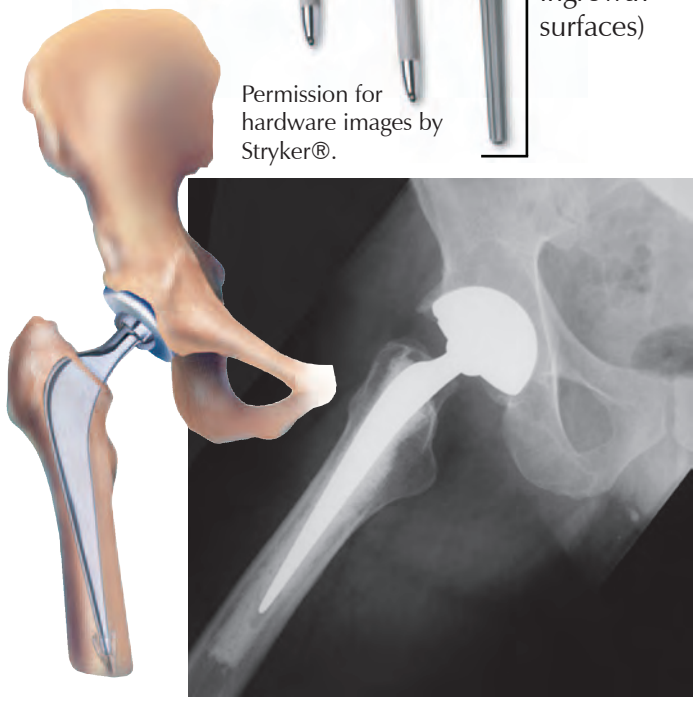
When the techniques were initially developed, they were met with enthusiasm by orthopaedic surgeons and their patients. In the early days of the minimally invasive technique, certain pitfalls and problems associated with the procedure were not forseen and complications arose. Since that time, we have come to recognize the technique limitations and are now able to determine which patients are the best candidates for the surgery. It has also been shown that the benefits of the procedure are not as dramatic as were initially believed. One thing is certain, however, surgeons now realize that our incisions can be smaller, which decreases, but does not eliminate, postoperative pain and speeds recovery. Not all patients are good candidates for less invasive surgery. Patients who are significantly overweight, who have had previous surgery, or who have advanced osteoporosis, or weakening of the bones, are not appropriate candidates.

Computer Navigation. Another exciting advancement in total joint replacement surgery involves the use of computers. Although we have not yet advanced to the use of "robotic surgery," surgeons are beginning to use computers to assist them in the operating room.

Slight malalignment of the limb after surgery can sometimes occur and can lead to premature wearing of the hip or knee replacement parts necessitating further surgery. A computer is used in the operating room as a tool to help surgeons to perform their operation more precisely (Fig. 1). While performing the surgery, the surgeon looks at the video monitor where he or she sees a display of the hip or the knee during the surgical procedure.

Fig 2. Hip replacement components





Hip replacement implant in place.

There are some disadvantages to the use of computer navigation in the operating room; however, the disadvantages are far outweighed by the benefits of improved alignment of the limb, which can prolong the life of the joint replacement.

Materials

Bearing Surfaces. The original total hip replacement and total knee replacement involved the use of metal and plastic parts (Figs. 2 & 3). The typical implant had smooth bearing surfaces that were shaped like the end of the thighbone, in the case of a knee, or like the top of the thighbone, in the case of the hip. These parts rub against a hard plastic liner, creating a hard smooth surface for movement of the joint. We still use the original plastic material today that was used in the late 1960s and early 1970s for many procedures. However, refinements in the material have been made through the years, including the use of x-ray beams to improve the strength and life expectancy of the plastic. This material is called highly cross-linked polyethylene. In addition, newer materials have been developed to use instead of the classic steel ball and plastic socket, including ceramic materials for the hip and the use of a metal socket instead of a plastic socket (metal-on-metal hip replacement). It is thought that the newer materials will prolong the lifespan of the joint replacement and put off the need for further surgery on the joint.

Bone Ingrowth Surfaces. Many types of joint replacements rely on the patient's bone to grow into tiny pores in the prosthesis. This process, called ingrowth, takes several weeks to occur. Once it does, the implants are firmly anchored to the bone. However, some patients have bone that is damaged or of poor quality. This condition is often found in patients who are undergoing operations on their hip or the knee for the second or third time. In these patients, the typical metal used for bone ingrowth may not always work. Therefore, new materials have been developed to improve the chances of ingrowth. One such material, called trabecular metal, is a metal that if looked at under a microscope has a honeycomb pattern. This surface stimulates bone to grow into the tiny honeycomb webbing. Research has shown that bone grows into this metal at a faster rate than into traditional metal surfaces. This new material has greatly improved our success in patients undergoing repeat hip and knee surgery.

Anesthesia

Finally, improvements in our anesthesia techniques have significantly improved the overall patient experience after total hip and total knee replacement surgery. For patients undergoing these operations, the pain after surgery is one of the most unpleasant aspects of the procedure. In the past, the patients were put to sleep, and after surgery they

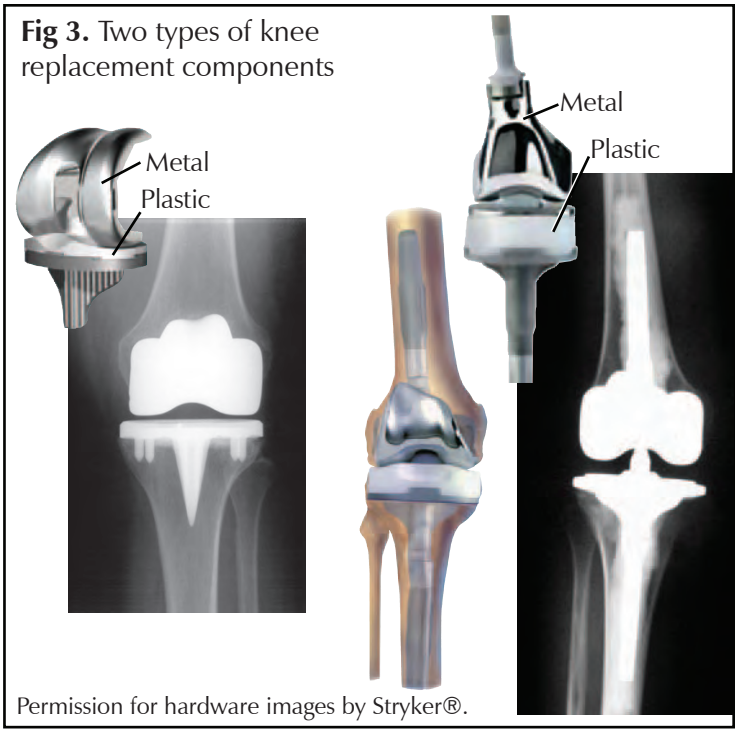


Fig 3. Two types of knee replacement components

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would experience significant pain that had to be controlled with pain medication. Although this is still done in a significant number of cases, some patients are candidates for regional anesthesia. An example of regional anesthesia is spinal anesthesia, in which a needle is introduced into the back to inject numbing medicines to block pain from the waist down. This process has been done for many years, but is currently being done more often to improve pain after surgery even in patients who have had general anesthesia. Additionally, a nerve block can be used. A nerve block involves injecting a local anesthesia medicine around one of the large nerves in the leg to numb the hip or knee and to decrease the pain that the patient experiences after surgery.

Newer oral medications are also being used to help control pain after surgery, including Cox-2 inhibitors such as the drug Celebrex®. These medications are in a special category of nonsteroidal anti-inflammatory medications. They decrease pain by decreasing inflammation around the joint.

Hip and knee replacement surgery remain as some of the most successful operations in orthopaedic surgery. Patients are very satisfied in the vast majority of cases. However, we are always looking for ways to improve our results. We hope the advancements in total joint replacement surgery will continue and can make the procedures even better for patients in the future.

James E. McGrory, MD
Columbus, Georgia

Advances in Knee Surgery

IMPROVED TREATMENT AND OUTCOMES

Over the past decade, orthopaedic sports and knee injuries have been the subject of a great deal of research, which has lead to numerous advances. Following the principles of evidence-based medicine, this research has helped to improve both treatment and outcomes.

Prevention

The ultimate goal of orthopaedic research is, in fact, prevention of injury. For example, the high incidence of anterior cruciate ligament (ACL) tears in female athletes has been the subject of a great deal of investigational research. Specific studies have led to effective treatment protocols and neuromuscular training programs that improve jump landing mechanics and have produced significant injury rate reductions in female athletes. The preparticipation physical exams for ACL tears and other sports injuries in athletes has been an excellent source of data on injury rates. The exams have also proven to be an extremely valuable tool in identifying athletes who are at risk of injury and in tailoring a rehabilitation program to treat problems and reduce further damage. The Hughston Foundation-sponsored Institute of Athletic Health Care and Research began performing preparticipation physical exams in 1976. The database, on over 50,000 athletes, allows us to conduct research to identify the at-risk athletes and helps us to institute programs of treatment to reduce the likelihood of injury.

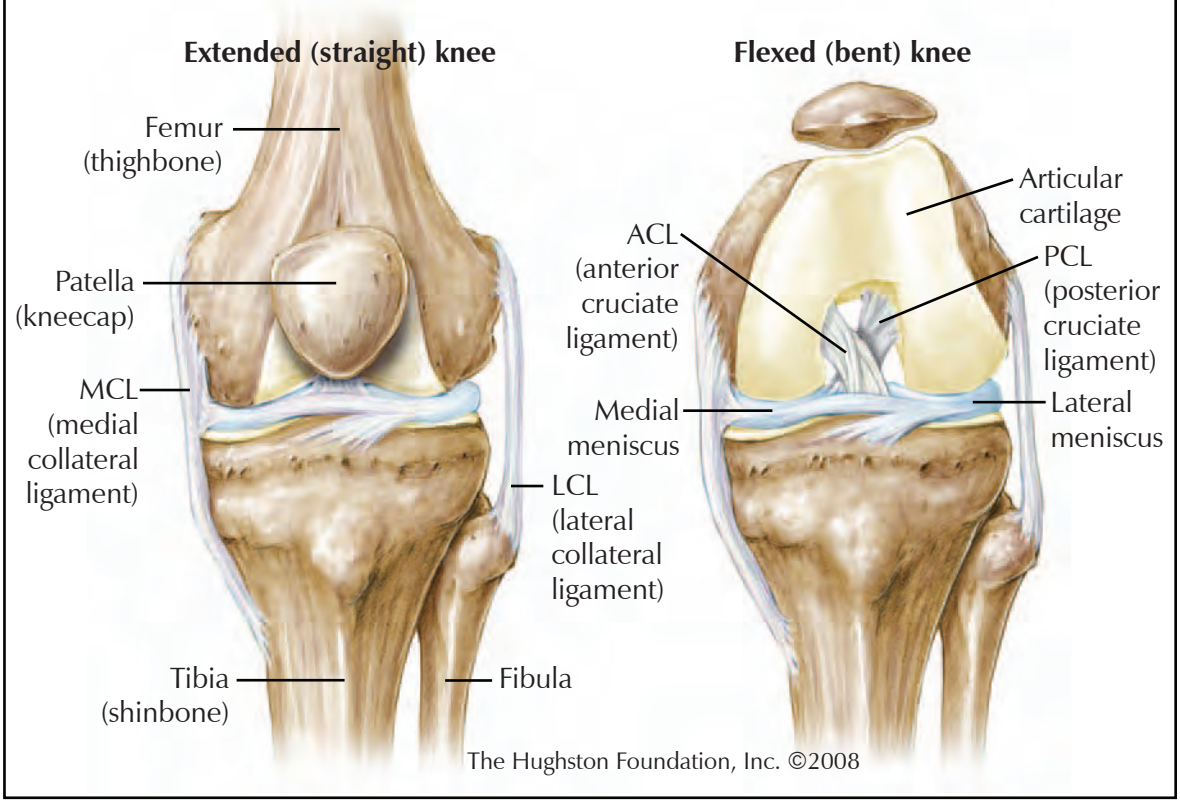
Diagnosis of knee injuries

Numerous advances have been made in magnetic resonance imaging (MRI) technology for the diagnosis of orthopaedic injuries. MRI technology uses a coupled magnetic field to create a scan of the bones, muscles, tendons, and ligaments. Enhancements to machine design have improved patient comfort and the speed and quality of the scans. Additionally, specific imaging protocols have led to great advances in the accurate interpretation of injury. MRI shows a higher definition of the injury, which correlates with clinical improvements and treatment outcomes whether they are operative or nonoperative.

Equipment

As in the case of conventional television, arthroscopic images have undergone evolutionary improvements in quality and detail, approaching high definition TV resolution. Better visualization of the knee during surgery greatly benefits the surgeon. In addition, numerous instruments and implants have been developed to allow many procedures to be done through the arthroscope that were all done through a large open incision 10 years ago.

Fig. 1. Normal knee anatomy



Articular cartilage

The articular cartilage, (hard slippery surface that covers the ends of bones in a joint) has been the subject of a great deal of research. New techniques have been developed to restore function to injured articular cartilage. For example, treatment options to resurface injured articular cartilage run the gamut from debridement to microfracture. Debridement entails removing a flap, or unstable portion, of the damaged cartilage. And microfracture involves using a small calibrated awl to penetrate the bone beneath the cartilage to release cells from the bone marrow that can then come to the surface and grow and heal the cartilage. Certain cartilage defects also lend themselves to transplantation of small plugs of cartilage from nonweightbearing areas of the knee that can be used to fill defects in weightbearing areas. In addition, current technology allows the harvesting of cartilage cells from a patient's knee to be grown in a culture and later reimplanted into the bone to grow a new cartilage surface. With larger defects, new allograft techniques allow replacement of both cartilage and bone with a transplant from another source other than the patient's own tissue.

Knee meniscal injuries

The medial and lateral menisci are very important structures located between the femur and the tibia (Fig.1). These structures help stabilize the knee, absorb impact, and provide shock absorption to the knee. When injured, the evolution and use of both clinical and MRI technologies allows us to determine the extent of injury to the meniscus. We can identify small tears that do well with nonoperative care. We can see the injury in more detail and, in many cases, that allows the surgeon to repair the torn meniscus, rather than having to remove a portion of it. Preserving the meniscal tissue leads to improved stability, decreased wear and tear, and longevity of the knee.

Knee ligament injuries

The anterior and posterior cruciate ligaments are subject to significant stress and strain during the performance of numerous athletic events. Through modern treatment techniques injuries to these ligaments can often be repaired or the ligaments can be reconstructed in a very timely fashion, allowing athletes to return to active participation in sports. Improved understanding of the anatomy, graft choices for ligament reconstruction, and rehabilitation techniques have all led to improved clinical outcomes. Although these injuries continue to be a challenge in terms of treatment, much advancement has been made.

Collateral ligament injuries have also been studied and new treatment options are now availiable to treat these often debilitating injuries.

Rehabilitation

Physical therapy and rehabilitation remains a critical part of the process of treating injuries. Rehabilitation has numerous roles, to prevent further injury, treating injuries that do not need surgery, and strengthening muscles and restoring function after surgical treatment. Today, we are better able to work with Mother Nature and design earlier and more aggressive forms of rehabilitation with appropriate guidelines to shorten recovery time and to improve results.

Although many improvements have been made over the years, we remain dedicated to the research of sports injury as we look for ways to prevent injury and improve outcomes for our patients.

Kurt E. Jacobson, MD
Columbus, Georgia

Managing Disorders of the Spine:
PAST, PRESENT, AND FUTURE

The successes in diagnosing and treating disorders of the spine that have occurred over the past 100 years are primarily due to the parallel gains in knowledge and technical improvements in the fields of spinal imaging, the basic sciences of anatomy and physiology, and spinal surgical instrumentation.

Past

Following the discovery of x-rays in 1895 by William Konrad Roentgen, the first half of the 20th century saw slow, but deliberate, progress in radiographic imaging. The earlier forms of oil-based myelography (x-ray taken with dye for contrast injected into the spinal column to examine the spinal cord and canal) from 1930 to 1950 were associated with significant adverse reactions and low diagnostic sensitivity. It was not until the 1970s that water soluble contrast agents were developed and computed tomography, or the CT scan, was first used to study the spine. Computed tomography provided a means of evaluating spinal anatomy that was new, extensive, and more accurate than myelography or epidural venography (method that shows veins after injection of contrast agent).

During the 1950s and 1960s, improved research techniques gave additional insight into the innervation of the spine which further refined the understanding of patient's symptoms, as well as normal and diseased anatomy. When combined with the evolving imaging developments that occurred during the next decade, this knowledge gave clinicians a new insight into the causes of spinal pain and opened up new and promising therapeutic options. For example, the intervertebral disc, once thought to be the sole cause of back pain, was found to be only a part of the diagnostic picture.

Fig 1. X-ray of the lumbar spine with an artificial disc implanted to simulate spinal motion.

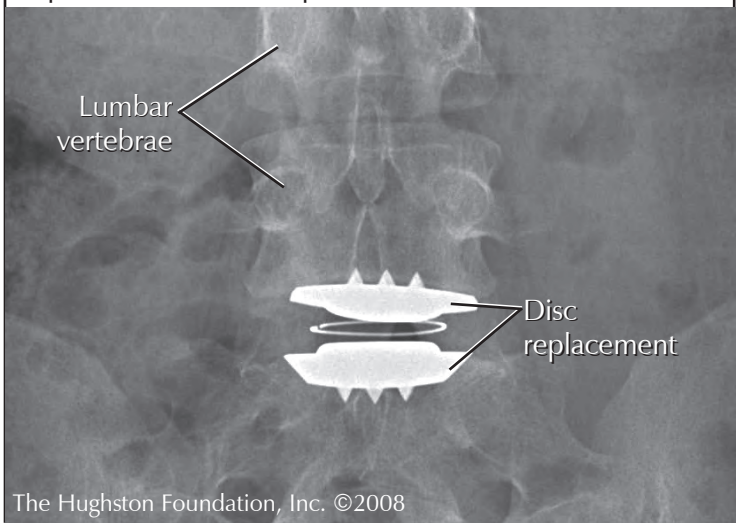
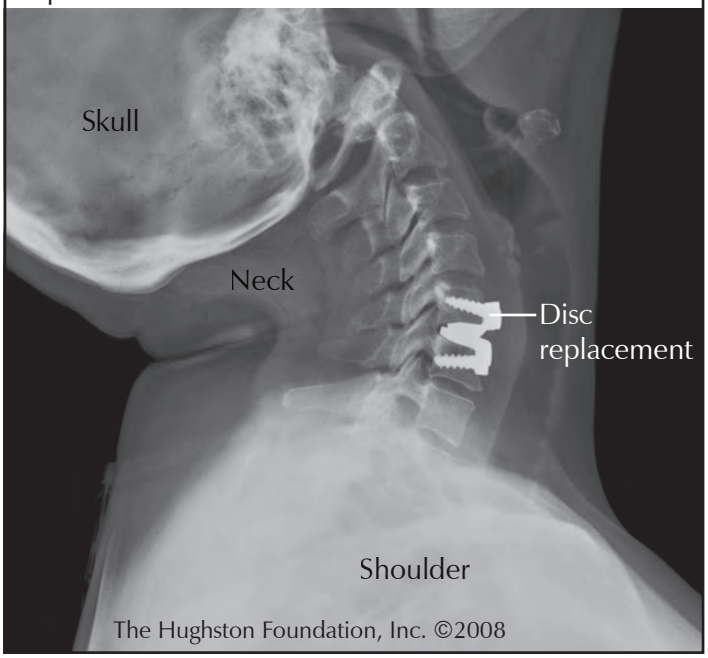


Fig 2. X-ray of the cervical spine with an artificial disc implanted.



Paul Harrington's development of a rigid stainless steel rod (Harrington Rod) provided a means for surgical correction of spinal deformity, such as scoliosis, and for stabilizing spinal fractures. His pioneering efforts, which began in the mid-20th century, started a revolution in spinal instrumentation that continues to evolve and flourish.

In the latter half of the 20th century, basic science, spinal imaging, and spinal surgery have continued their parallel courses of further development and refinement. Research in genetics and biochemistry has provided better insight into the natural history of congenital (at birth) and idiopathic scoliosis (spine curve due to unknown cause), Scheuermann's kyphosis (increased round back) and neuromuscular scoliosis (caused by poor muscle control or weakness due to disease). Improvements in research methods have resulted in treatment options that are effective for degenerative disc disease and spinal stenosis. The innervation of the spine has been further refined so that pain sensitive neural structures and neurochemical receptors have been identified allowing a more accurate picture of the pain sensitive structures and syndromes causing spinal pain.

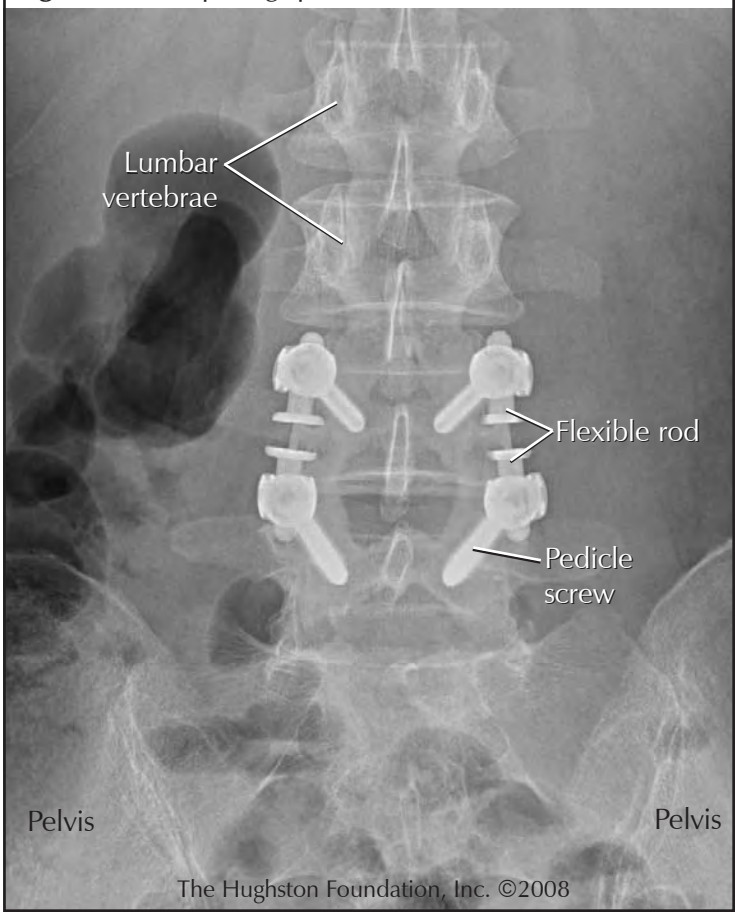
Present

Spinal imaging continues to evolve with magnetic resonance imaging (MRI) allowing accurate assessment of the neural, bony, and paraspinal anatomy. Advances in anesthesia, intraoperative spinal cord monitoring, and the latest generation of spinal instrumentation allow present day spinal surgeons to undertake operations of the spine that were considered impossible 15 or 20 years ago. The basic sciences have contributed a whole array of artificial

materials that allow for spinal fusions without having to harvest bone from the patient.

Artificial disc replacement in the cervical and lumbar spine is routinely performed today. (Figs. 1 and 2). The latest concepts of alleviating pressure on the neural elements and stabilizing the spine with "motion preservation" are new procedures that are being evaluated (Fig. 3). With the aid of intraoperative imaging, minimally invasive spinal procedures, image and robotic guided procedures are beginning to evolve.

Fig 3. Motion sparing spinal instrumentation.



This revolution of knowledge has allowed for improvements in the nonoperative treatment of spinal disorders. Manual and manipulative techniques, spinal rehabilitation, and injection procedures continue to provide nonsurgical remedies for spinal pain.

In spite of these remarkable developments, there are concepts and truths that are as valid today as they were 100 years ago. Clinicians of spinal disorders are required to obtain a detailed medical history from a patient, and then perform a thorough physical examination and obtain the appropriate imaging studies so that an accurate diagnosis can be achieved. Most disorders of the spine respond to simple measures such as exercise and physical reconditioning.

Even with the advances in spinal surgery, careful selection of patients for surgical intervention is still necessary to ensure that the patient is an appropriate candidate for surgery and that the surgery is appropriate for the patient. Unfortunately, there seems to be a growing number of patients seeking care at pain management facilities. This observation underscores the need to continue research into the causes of spinal pain so patients will receive the most effective treatment.

Today, most physicians who treat spinal disorders are trained from neurosurgical or orthopaedic residency programs. Because of the rapid advances in this field, many spine surgeons continue their training after residency in a spine fellowship where they focus their learning experience exclusively in spinal diseases.

Future

Looking to the future, there are some exciting prospects ahead. The trend towards minimally invasive surgical procedures will continue to evolve. This technique will allow complex operations to be performed through small incisions. The field of tissue engineering promises to provide a means of restoring health to diseased tissues, such as the disc. By injecting cellular components into a diseased disc, for example, it will be able to regenerate to a healthier and less painful state. Repairing damaged nerves and promoting regeneration of injured spinal cords seem feasible in the immediate future.

Irrespective of all of the wonderful advances in medicine and spinal care, patients will still need to retain control over their health by making good choices about lifestyle. Having regular health checkups, exercising regularly, maintaining ideal body weight and dietary discretion, and avoiding risk factors such as tobacco use are proactive steps toward a healthy spine.

Thomas N. Bernard, Jr., MD
Columbus, Georgia

For A Healthier Lifestyle

100-year-old truths that ring true today

- Eat a balanced diet with lots of fruits and vegetables
- Don't smoke
- Exercise at least 3 times a week
- Sleep a full 8 hours
- Drink alcohol in moderation

Improved Techniques for the Treatment of Wrist Fractures

A distal radius fracture occurs when the long bone that connects the elbow to the wrist, called the radius, breaks close to the wrist. Often, the fracture occurs when falling and landing on an outstretched hand (Fig. 1).

The techniques used to treat wrist fractures have improved tremendously over the past 10 years. Before now, there were multiple ways to treat a distal radius fracture; they included closed reduction and casting, pinning techniques, external fixation, and internal fixation. Additionally, the internal fixation could be performed in a variety of ways. Each technique had its pros and cons and possible complications, such as infection, stiffness, and pain. No one technique had shown itself to be favored by a majority of surgeons; therefore, all were acceptable methods of treatment. However, over the past 10 years, the technique of volar/anterior (palmar side) plating of distal radius fractures has proved to be an extremely reliable and successful technique that is now being used by the majority of orthopaedic surgeons.

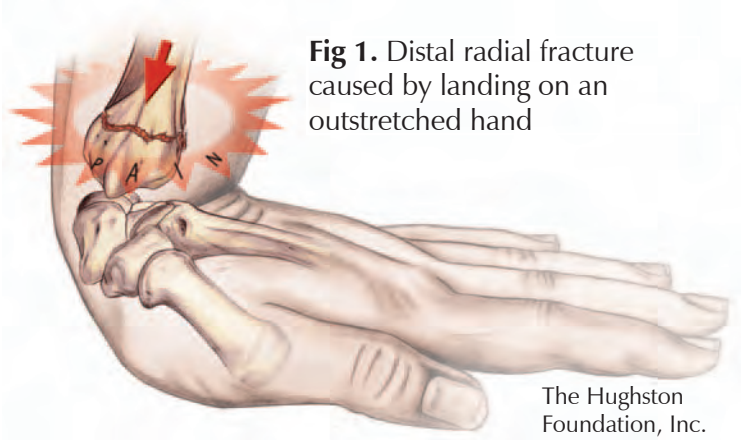


Fig 1. Distal radial fracture caused by landing on an outstretched hand

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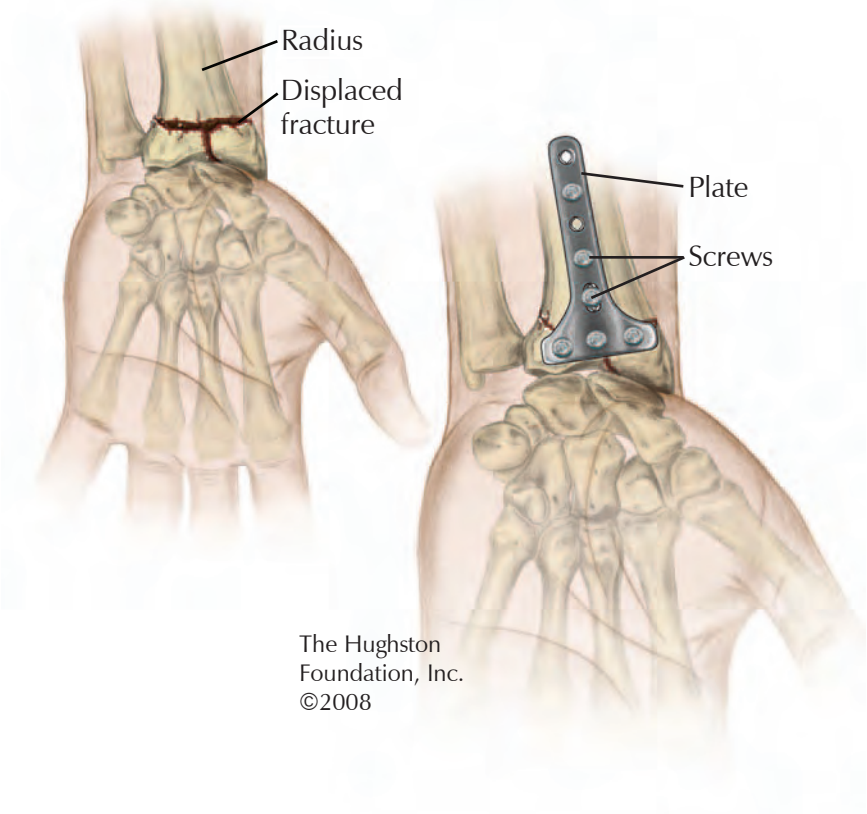
Fractures have many different degrees of severity. A broken bone, or fracture, can be nondisplaced, which means the bone fractures, or cracks, but the pieces do not move apart from each other. Displaced fractures occur when the bone breaks and the broken pieces move, or displace, away from each other. A simple, nondisplaced fracture can often be treated with immobilization (usually a cast) for 4 to 8 weeks. Displaced fractures, however, often require more complicated treatments because the displaced, or separated, bone pieces need to be repositioned back to their correct alignment. Once the bone pieces have been placed back into the correct position (known as reduction or manipulation), they need to be held, or stabilized, in alignment until the bone heals.

Fig 2. Distal radial fracture and repair with plate and screws



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With this technique, an incision is made on the anterior volar (palmar) side of the wrist and a metal plate and screws are used to hold the broken bones in their correct position while they heal (Fig 2). This method has been shown to have multiple benefits. The first is that the plates and screws allow the bones to be put back into near-perfect alignment. Consequently, the bones heal in that position. It also eliminates the need for a postoperative cast and allows for early range of motion and rehabilitation. Long-term stiffness is one of the major problems with wrist fractures and their treatment. Early range of motion and rehabilitation significantly reduce the amount of stiffness that can occur. The elimination of a cast also allows for an earlier return to function.

The surgical technique is an outpatient procedure; the patient comes in and has surgery and typically goes home that day. Range-of-motion exercises of the fingers are started immediately and range-of-motion exercises of the wrist are usually started within 1 week. A lightweight plastic splint is the only immobilization that is required as opposed to a cast.

In the future, we hope to continue improving on our techniques for treating distal radius fractures by possibly using smaller incisions, and medicines and materials that promote more rapid bone growth and healing.

David C. Rehak, MD
Columbus, Georgia

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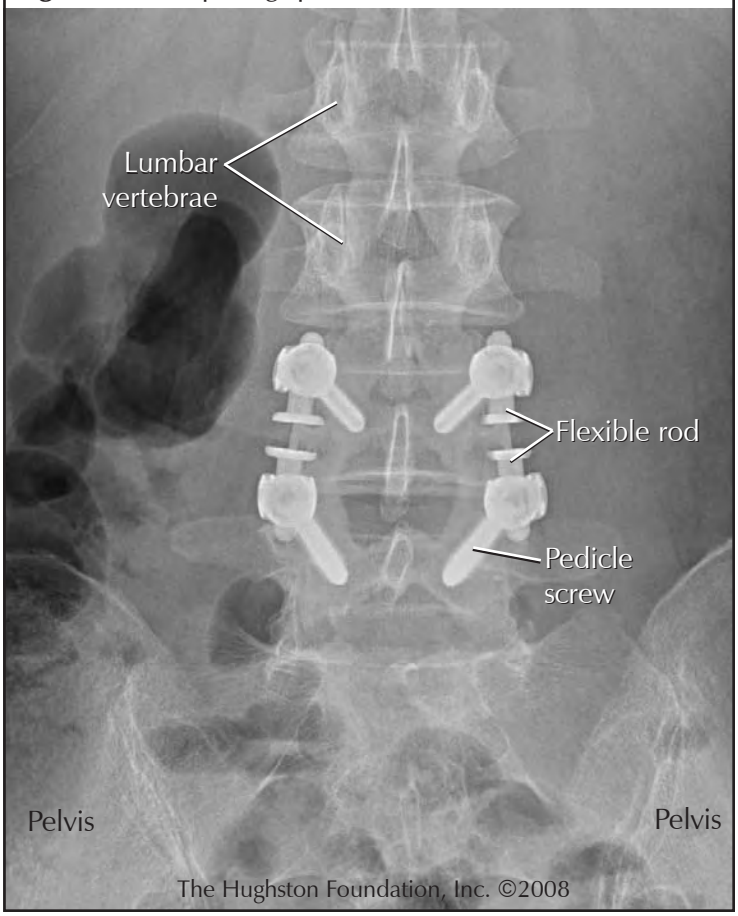

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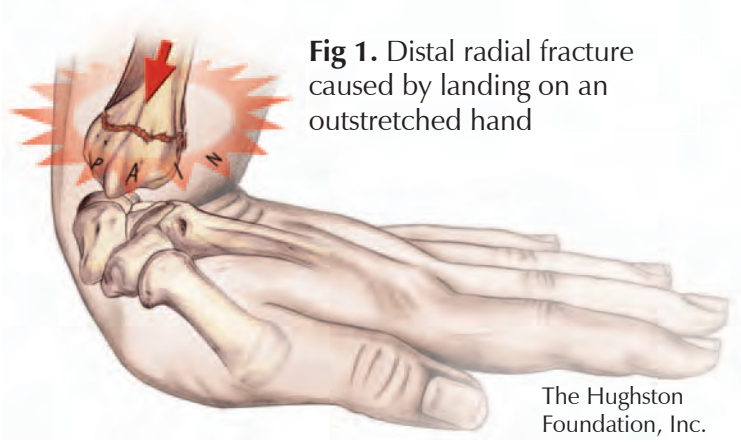

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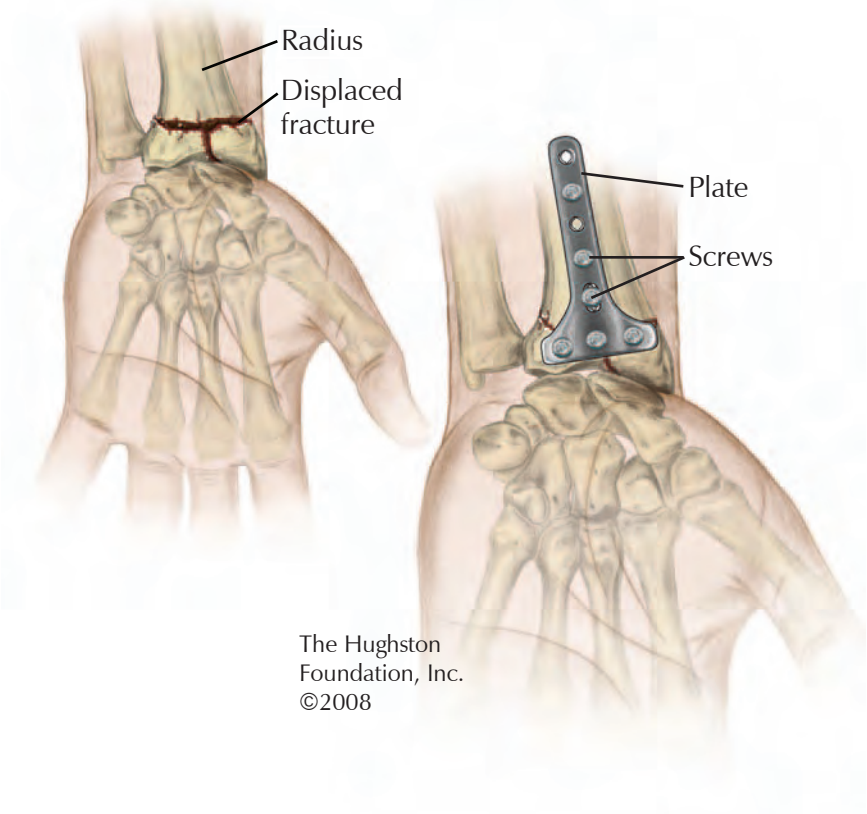

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With this technique, an incision is made on the anterior volar (palmar) side of the wrist and a metal plate and screws are used to hold the broken bones in their correct position while they heal (Fig 2). This method has been shown to have multiple benefits. The first is that the plates and screws allow the bones to be put back into near-perfect alignment. Consequently, the bones heal in that position. It also eliminates the need for a postoperative cast and allows for early range of motion and rehabilitation. Long-term stiffness is one of the major problems with wrist fractures and their treatment. Early range of motion and rehabilitation significantly reduce the amount of stiffness that can occur. The elimination of a cast also allows for an earlier return to function.

The surgical technique is an outpatient procedure; the patient comes in and has surgery and typically goes home that day. Range-of-motion exercises of the fingers are started immediately and range-of-motion exercises of the wrist are usually started within 1 week. A lightweight plastic splint is the only immobilization that is required as opposed to a cast.

In the future, we hope to continue improving on our techniques for treating distal radius fractures by possibly using smaller incisions, and medicines and materials that promote more rapid bone growth and healing.

David C. Rehak, MD
Columbus, Georgia

Expanding Dr. Hughston's Vision

Built in 2006, The Jack Hughston Memorial Hospital is a beautiful 110,000 square-foot facility. All of our patient rooms are spacious and private, and equipped with a 27-inch flat screen television. Only minutes separate The Hughston Clinic and the Jack Hughston Memorial Hospital; but, our electronic medical records system links the two instantly. Wireless Internet throughout, a dining hall with outdoor terrace, and floor-to-ceiling windows are all designed to make our patients and their families feel welcome. Additionally, our outpatient services, paper-free admissions process, and digital x-rays reduce tension, save time, and enhance our stress-free atmosphere. We offer all the high-tech equipment, professional staff, and the specialists you have come to expect from Hughston. Patients, of course, will receive world-class orthopaedic care, but the Jack Hughston Memorial Hospital also offers the Chattahoochee Valley an intensive care unit, emergency services, and a state-of-the-art diagnostic imaging department.

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The *Hughston Health Alert* is a quarterly publication of The Hughston Foundation, Inc. The Foundation's mission is to help people of all ages attain the highest possible standards of musculoskeletal health, fitness, and athletic prowess. Information in the *Hughston Health Alert* reflects the experience and training of physicians at The Hughston Clinic, P.C., of physical therapists and athletic trainers at Hughston Rehabilitation, of physicians who trained as residents and fellows under the auspices of The Hughston Foundation, Inc., and of research scientists and other professional staff at The Hughston Foundation, Inc. The information in the *Hughston Health Alert* is intended to supplement the advice of your personal physician and should not be relied on for the treatment of an individual's specific medical problems.

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ISSN# 1070-7778

Hughston Health Alert

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6262 Veterans Parkway P.O. Box 9517
Columbus, Georgia 31908-9517

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Reflections from the Foundation President

The Hughston Foundation is a unique asset to the Chattahoochee Valley and the Southeast in general. The Foundation is a non-profit research and education endeavor with a facility that houses a medical library, meeting rooms, an auditorium and a research and education lab. Historically, it was the first of its kind in the United States; dedicated to the subspecialty of sports medicine, studying sports injuries, as well as the care and treatment of athletes. Over the past 40 years, The Hughston Foundation has continued to evolve and has become a leader in the health care field as a quality full service orthopaedic foundation. The Foundation building includes a state-of-the-art auditorium and conference rooms. The entire facility is equipped with an advanced digital communication system allowing educational presentations, which can be enhanced by live surgical video broadcast directly from hospital surgical suites or the research and education laboratory. All of our education programs can be broadcast to remote sites anywhere in the world using teleconferencing or satellite transmission.

The surgical education center is a fully equipped bio-skills laboratory that contains the latest in arthroscopy equipment and allows for hands-on training in the field of orthopaedic endoscopy. It is also equipped to handle cadaveric and non-arthroscopic surgical exercises on all parts of the human body.

More than 400 physicians have received training through the Hughston Sports Medicine Fellowship Program since its inception. This Fellowship is a yearlong program with hands-on clinical and research training, sponsored by the Foundation.

The Foundation continues to be at the forefront in the treatment of musculoskeletal injuries and disease.

Carlton G. Savory, MD, FACS
Columbus, Georgia

Reflections from the Clinic President

The Hughston Clinic has been a part of Columbus for nearly 60 years. During that time, Columbus has changed from an industrial mill town to a technological hub with advances in banking, in international commerce, and in health care. Like Columbus, we haven't forgotten our roots or our history. Today, we strive for excellence in research, education, and patient care by using the most advanced technology available.

Sound patient care requires well-trained and experienced physicians, and the latest advances in facilities, equipment, and services. The treatment of a patient does not stop for a surgeon once surgery is complete. The patient's recovery extends to and is greatly affected by his or her over-all health and rehabilitation after surgery. For that reason, The Hughston Clinic offers a top-notch diagnostic center, rehabilitation facility, and health and wellness fitness center to meet the needs of our patients. Our facility offers convenience, innovative treatments, a professional staff, and a desire to educate patients concerning their own health.

We are still growing, adding equipment, facilities, and services to improve our patient care, such as our new digital MRI unit that provides high-definition images almost instantly, our new hospital that carries the Hughston name, and new and innovative satellite clinics that serve both Georgia and Alabama.

The Hughston Clinic and The Hughston Foundation have been viable icons in our community for decades. Today, we continue looking for better ways to serve our community, to keep our residents healthy, and to improve their quality of life.

John I. Waldrop, MD
Columbus, Georgia

Jack Chandler Hughston, MD, & The Hughston Foundation, Inc.

Photo by Jim Cawthorne - Camera 1

After completing an orthopaedic residency at Duke University, Jack Hughston, MD, began his orthopaedic practice in Columbus in 1949. A Florence, Alabama native and an Auburn University graduate, he is now generally regarded as the "Father of Sports Medicine." Dr. Hughston redefined the concept of the athlete. He saw the athlete not only as a professional-level sports participant, but also as the young boy or girl playing school sports, the weekend golfer or tennis player, and as the employee in the workplace and industrial setting. He believed that we are all athletes of one sort or another. Dr. Hughston applied injury prevention and treatment, once reserved for athletes, to create a medical specialty that addresses the treatment of injury for all orthopaedic patients, and focuses recovery not only on healing the injury, but also on the return to function.

Dr. Hughston once said that he would rather be remembered as an educator than a physician because education had a larger impact on the world. With education as a goal, Dr. Hughston created The Hughston Foundation, Inc. in 1968. Unlike any other facility in the Chattahoochee Valley, The Hughston Foundation supports a research department, a medical illustration and photography department, a medical writing department, and a medical television department. Working together, the departments create multimedia presentations, videos, newsletters, brochures, scientific journal articles, medical books, 3-D animations, and surgical training videos. Using the most up-to-date technology available, The Hughston Foundation informs and educates physicians, allied health-care professionals, and the community of the newest research, treatments, and rehabilitation techniques available for patients with orthopaedic injuries and musculoskeletal diseases.

In sports medicine, as in sports, Dr. Hughston emphasized teamwork among medical and health-care professionals—physicians, physical therapists, athletic trainers, and administrators—each working together toward a common goal. Dr. Hughston established a sports medicine fellowship program to train orthopaedic residents at the clinic. Additionally, The Hughston Foundation has developed a master's level training program for athletic trainers at Columbus State University and Auburn University.

Dr. Hughston was known for his mentoring and nurturing of the physicians who joined him at the Hughston clinics whether as residents, fellows, or staff physicians. Not only did he have a strong commitment to the development of young athletes, but also a strong belief in community outreach, research, and the publication of research results. In addition to seeing patients and performing surgery, the Hughston physicians teach, mentor residents and fellows, conduct research, write and publish scientific papers, conduct pre-season physical screenings for student athletes, and they volunteer their professional services to area, regional, and state-wide high school, college, and professional sports teams and sporting events. Perhaps there is no better testimony to Dr. Hughston's influence than that which comes from the physicians who, today, make up the Hughston team.

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