

# HISTORY OF THE MASSACHUSETTS GENERAL HOSPITAL SPORTS MEDICINE SERVICE

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The history of sports medicine at the Massachusetts General Hospital begins with Augustus Thorndike, MD, a general surgeon who is regarded as the father of the sports medicine in the United States. Dr. Thorndike joined the staff at the MGH in 1921, and in 1926, he began lending his services to the Harvard University athletic department. In those days, athletic competition, particularly in contact sports, was far more dangerous than it is today. Athletes did not have the benefit of protective equipment and they regularly played with serious, and often undiagnosed, injuries. Dr. Thorndike recognized the special risks and dangers athletes faced, and so he set out to improve medical care for athletes. [Figure 1]



Fig. 1. Dr. Augustus Thorndike (center) demonstrating football taping at the American Academy of Orthopaedic Surgeons in 1940 (from Collegiate Digest, 1940)

The principles Dr. Thorndike developed in his work with Harvard and MGH laid the foundation for the modern discipline of Sports Medicine. Dr. Thorndike mandated that only physicians, and not coaches, should determine whether an athlete is healthy enough to play. He made it a rule that a physician must be in attendance at every athletic contest that involved physical contact. He required all Harvard athletes to undergo routine physical examinations before the start of each season, and he barred any athlete who had suffered three concussions from further participation in contact sports. Dr. Thorndike also made innovations with protective equipment, inventing the plaster cast and Thorndike shoulder brace, improving taping and bandaging techniques to better protect joints and ligaments from injury, and developing the suspension helmet for football players. These principles and innovations, which Dr. Thorndike established, became the basis of sports medicine, and remain standard practice in the care of athletes today.

Carter R. Rowe, MD, an orthopaedic surgeon and world-renown shoulder specialist continued Dr. Thorndike's legacy of exceptional care for athletes at the MGH. Dr. Rowe was one of the first to recognize multidirectional and voluntary shoulder instability, and the value of the Bankart procedure. He was president of the American Orthopaedic Association and the American Shoulder and Elbow Surgeons. In the 1960s, Dr. Rowe forged a relationship with the Boston Bruins, serving as the hockey team's orthopaedic consultant, and operating on such hockey legends as Bobby Orr and Phil Esposito. In 1972 Dr. Rowe was a founding member of the American Orthopaedic Society for Sports Medicine.

In 1976 Dr. Rowe invited Dr. Bertram Zarins to join him on the staff at the MGH. [Figure 2] Zarins had treated ski



Fig. 2. Dr. Carter R. Rowe (left) and Dr. Bertram Zarins in 1976.

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injuries at the Vail Valley Medical Center in Colorado for one year prior to coming to Boston for his orthopaedic residency. He completed the Edwin F. Cave Traveling Fellowship in 1975, studying sports injuries and the promising new technique of arthroscopy. Dr. Zarins started the first Sports Medicine Clinic at MGH in 1976, and added a Runner's Clinic in 1979.



Fig. 3. Dr. Dinesh Patel was one of the pioneers in arthroscopy.



Fig. 4. Dr. Zarins performing arthroscopic surgery in 1977 viewing directly through the arthroscope at a time before video cameras for arthroscopy had been developed. A teaching attachment allows another observer to see.

Dr. Dinesh Patel was one of the pioneers of arthroscopy. [Figure 3] This new concept, though still in its developing stages, was rapidly gaining momentum in the United States in the mid 1970's. Dr. Patel and Dr. Zarins started performing knee arthroscopy at MGH and made many contributions to the evolution of the arthroscopic surgery, developing new techniques and instruments at MGH and teaching arthroscopy around the world. [Figure 4]

In 1976 Dr. Zarins was named orthopaedic consultant to the Boston Bruins. When MGH general surgeon Dr. Earl Wilkins stepped down as the team physician for the Bruins in 1986, Dr. Zarins was appointed head physician. In 1982, Dr. Henry Mankin named Dr. Zarins the chief of the Sports Medicine Service, formally launching the Sports Medicine Service at MGH. In that same year, the New England Patriots football team appointed Dr. Zarins its head team physician, a position he would hold for the next 24 years.



Fig. 5 Dr. Arthur Boland has been a leading figure in sports medicine in the United States. He has been team physician for Harvard University more than 35 years.

In 1986 Dr. Arthur Boland, who had been working at the Brigham and Women's Hospital, joined the MGH orthopaedic staff. Dr. Boland had been appointed surgeon for the Harvard athletic department in 1969 and head team physician for Harvard University in 1975. [Figure 5]

Dr. Zarins initiated a fellowship in sports medicine at MGH in 1979. Dr. Boland also had a fellowship, which he merged with the MGH program in 1986 and became the MGH fellowship co-director. The fellowship grew, gained accreditation from the ACGME and became the Harvard/MGH Sports Medicine Fellowship program. Dr. Gill assumed directorship of the fellowship in 2004.

Over the next two decades, the MGH Sports Medicine Service firmly established itself at the forefront of sports-injury care, and its staff and list of affiliations with professional teams, collegiate and high school athletic departments continued to expand. In 1996 Dr. Zarins became head team physician for the New England Revolution soccer team, and in 2000, he assumed responsibility for care of the athletes at Curry College. Dr. Thomas Gill, who joined the MGH Sports Medicine staff in 1999, soon became the team physician for the Boston Breakers professional women's soccer team and Weston High School. Dr. Gill was appointed medical director for the World Champion Red Sox baseball team in 2005, [Figure 6] and head team Physician for the New England Patriots in 2006. In 2006, Dr. Peter Asnis joined the Service and was named head team physician for the Suffolk University Athletic Department. Dr. Boland has continued his work caring for Harvard's athletes.



Fig. 6. Dr. Thomas Gill, medical director for the Boston Red Sox

Dr. Boland was elected President of the American Orthopaedic Society for Sports Medicine (AOSSM), and in 2000 he was the recipient of this organization's "Mr. Sports Medicine Award." In 2005 Dr. Boland was inducted into the AOSSM's Hall of Fame, the Society's highest honor.

The United States Olympic Committee appointed Dr. Zarins head physician for the XIV Winter Olympic Games in Sarajevo in 1984. The American Academy of Orthopaedic Surgeons appointed him Chairman of its Committee on Sports Medicine. The Journal of Bone and Joint Surgery named Dr. Zarins Consulting Editor for Sports Medicine, a position he still holds today.

The AOSSM honored Dr. Gill in 2003 with its "Excellence in Research Award," a remarkable achievement to attain four years after completing fellowship training, and also presented him with the Hughston Award.

In the 1990s Dr. Zarins had a basic research laboratory that was funded by the Ellison Foundation and a clinical research unit supported by Madeline and Edward Redstone. Dr. Gill took sports medicine research to a new level when he established the Sports Medicine Research Program. The Program works in close collaboration with the Orthopaedic Bioengineering Laboratory under the direction of Guoan Li, PhD, and with the Laboratory for Musculoskeletal Tissue Engineering, under the direction of Mark Randolph, M.S. The Sports Medicine Service has concentrated on studying biomechanics of the knee and shoulder, with particular focus on in-vivo kinematics of the cruciate ligaments

in their intact, injured, and reconstructed states. Their goal is to develop reconstructive procedures that will restore knee function and prevent the onset of osteoarthritis. The Service is also investigating tissue-engineering approaches to biologic repair of meniscus and articular cartilage injuries.

In 2006 as a fitting tribute to their father, Nicholas and John Thorndike, along with family, friends, and former patients, established in the Augustus Thorndike, MD, Professorship in Orthopaedic Surgery at Harvard Medical School and Massachusetts General Hospital. In May 2007, Dr. Zarins was named the first incumbent Thorndike Professor.

Today, under the leadership of the Chief of Orthopaedics, Dr. Harry Rubash, the Massachusetts General Hospital continues to strengthen its commitment to sports medicine care.

In September 2006 the MGH opened a state-of-the-art Sports Medicine Center at 175 Cambridge Street in Boston. [Figure 7] The new center enables the service to offer comprehensive care to people at all levels of activity, with space for orthopaedic surgeons and primary care physicians. There are adequate patient examination rooms, a full-time radiology department, conference room, library and a well-equipped rehabilitation center supported by an in-house sports physical therapy staff.

In June 2007, Dr. Zarins stepped down after 25 years as Chief of the Service, and Dr. Thomas Gill was named his successor. Dr. Gill's exceptional skills as an orthopaedic surgeon and his dedication to sports medicine research and teaching ensure that the legacy of Dr. Augustus Thorndike will live on at MGH for many years to come.



Fig. 7. The new MGH Sports Medicine Center at 175 Cambridge Street, which opened in October 2006.