



Concussions In Sport
What You Can Do For Your Child



Concussion is the most common head injury in athletics.

In US, there are 300,000-350,000 concussions suffered per year due to **participation in sports**. We believe there are many more and they are often underreported.

Once an athlete has been concussed, he or she is **four to six times likely** to sustain a second concussion.

Once an athlete has suffered an initial concussion, he or she is vulnerable to **permanent injury**, or in rare cases fatality, if the second concussion is suffered before the effects of the first concussion has abated.



Symptoms of Concussions

What is a concussion?

A concussion is a brain injury caused by a force to the head, or direct force to the face or neck that is transmitted to the head. Concussions are the number one head injury among athletes. They are most likely to occur in football, boxing, hockey, wrestling, gymnastics, lacrosse, soccer and basketball. People can also get concussions from falls, accidents, and physical violence, such as fighting.

What are the signs and symptoms of a concussion?

Early symptoms of a concussion are headaches, dizziness, confusion, ringing in the ears, nausea, vomiting, and visual changes. Not everyone will experience these symptoms. Late symptoms include memory disturbances, poor concentration, irritability, sleep disturbances, personality changes, and fatigue. Cognitive symptoms may include unawareness of what is

happening around the person (e.g., game score, opponent or period if playing football), confusion, amnesia, loss of consciousness and inability to detect time, date or place. Physically, someone with a concussion may experience loss of consciousness, impaired conscious state, poor coordination or balance, convulsions/impact seizure, problems walking, slowness in answering questions or following directions, distraction, problems concentrating, nausea/vomiting, vacant stare, glassy eyes, slurred speech, personality changes, and decreased playing ability.

When is medical treatment necessary?

Seek immediate medical attention if you think someone has had a concussion. Untreated symptoms may lead to complications. Some of these complications can be fatal.

Our Team Approach to Concussion Management

The Cooper Concussion Program uses a team approach in the diagnosis and treatment of concussion. Its team members consist of sports medicine physicians, neuropsychologists, neurologists, neurosurgeons, and sports psychologists. These specialists use a multi-disciplined approach to concussion based upon the individual patient's symptoms.

Patients are usually initially evaluated at the facilities at the Cooper Bone and Joint Institute offices in Voorhees, Cherry Hill, or Camden, NJ or in Newtown Square, Pennsylvania. Less serious concussions are usually treated with rest, observation, and gradual release to return to play.

More serious or multiple concussions often require further intervention. If neuro-

imaging is necessary, Cooper University Hospital has state of the art facilities including the latest technologies in EEG, CT or MRI scanning. Focal brain injury can be addressed by the specialists in neurology and neurosurgery at Cooper University Hospital.

Cooper Bone and Joint Institute is a Credentialed ImPACT Provider and uses it frequently as a tool of the program. ImPACT (Immediate Post-concussion Assessment and Cognitive Testing) is a computerized testing program designed to assist in the management of the concussed athlete by giving the physician an idea of the effect of a concussion on the cognition of the injured athlete.

The program looks at various aspects of brain function including memory, brain processing speed and visual motor skills and can be administered right in the office following injury. This test is best used after obtaining a baseline test on an athlete which is a test before an athlete is injured, so that the baseline can then be compared to a test following injury. Care and return to play decisions can be made more clear by use of this test. For athletes with more serious concussive symptoms, formal neuropsychological testing can be administered by the experts at Cooper University Hospital.

Once testing is obtained, treatment is individualized to the athlete depending on symptom presentation and past history of concussion. Treatment often involves mental and physical rest as activity often worsens the symptoms of concussion. Medications are often used depending on what type of symptoms which may be affecting the athlete. As depression



Cooper Bone and Joint Institute's Sports Medicine Team. Back Row: Director of Sports Medicine, John P. Salvo, MD; Director Cooper Bone and Joint Institute, Lawrence S. Miller, MD; Front Row: Assistant Director of Sport Medicine, R. Robert Franks, DO; David B. Gealt, DO; Missing: Mark A. Pollard, MD

often accompanies severe symptoms of depression, the experts at Cooper University Hospital in psychiatry and sports psychology are often called upon to help athletes with these symptoms.

Cooper Bone and Joint Institute's sports medicine physicians will construct a safe and progressive return to play program for the athletic patient once the patient is asymptomatic, not taking any medicines, and returns to baseline on physical and neuropsychological testing. These physicians would be happy to work with the athlete's athletic trainers in the implementation of this program.

The goal of the physicians at the Cooper Bone and Joint Institute is the safe return of all athletes to their chosen sport emphasizing a gradual and safe return to activity. Prevention of recurrent injury is also stressed by our sports medicine specialists.

Doctor Credentials

R. Robert Franks, D.O.

R. Robert Franks, D.O. is Assistant Director of Sports Medicine and Co Director of the Concussion Program at Cooper Bone and Joint Institute. He received his medical degree from the University of Medicine and Dentistry-School of Osteopathic Manipulative Medicine at UMDNJ-SOM Kennedy Health System. Dr. Franks received his Fellowship training in Primary Care Sports Medicine at the University Hospitals Health System in Cleveland, Ohio.



Dr. Franks' specialty is in the area of medical orthopaedics and sports medicine. He has lectured nationally on various sports medicine topics, published several articles, and is involved in active research in the topic of weight loss, diet, and nutrition in the sport of wrestling and concussion in athletes. He currently serves as Team Physician for the Philadelphia Wings as well as team physician for various high schools throughout Southern New Jersey and Pennsylvania.

Dr. Franks is an active member of the American Osteopathic Academy of Sports Medicine and American Osteopathic Association, as well as various state and local medical societies. He currently serves on the New Jersey Brain Injury Association and has been a Governor appointment to the New Jersey Steroid Task Force. He has been recognized on two occasions by South Jersey Magazine as a "Top Doc".

David B. Gealt, D.O.

David B. Gealt, D.O. is Assistant Director of the Concussion Program at Cooper Bone and Joint Institute. He received his medical degree from the University of Medicine and Dentistry-School of Osteopathic Medicine at UMDNJ-SOM Kennedy Health System. Dr. Gealt received his Fellowship training in Primary Care Sports Medicine at the University Hospitals Health System in Cleveland, Ohio.



Dr. Gealt's specialty is in the area of medical orthopaedics and sports medicine. He has lectured nationally on various sports medicine topics and published several articles. He currently serves as Team Physician for the Philadelphia Wings, Haverford College as well as team physician for various high schools throughout Southern New Jersey and Pennsylvania.

Dr. Gealt is an active member of the American Osteopathic Academy of Sports Medicine and American Osteopathic Association, as well as various state and local medical societies. He currently serves on the New Jersey Brain Injury Association.

John P. Salvo, M.D.

John P. Salvo, Jr., M.D., is the Director of Sports Medicine at Cooper Bone and Joint Institute. He is board certified by the American



Board of Orthopaedic Surgeons and has expertise in arthroscopic procedures of the shoulder, knee, hip, and elbow. He specializes in knee ligament (ACL) reconstructions, shoulder instability, rotator cuff repairs and hip arthroscopy. He has lectured both nationally and internationally and has published several articles in peer-reviewed journals as well as book chapters on these topics.

Dr. Salvo attended Jefferson Medical College in Philadelphia, PA and did his residency in orthopaedic surgery at Albert Einstein Medical Center in Philadelphia. He completed his fellowship training in sports medicine at the University of Miami in Miami, Florida. During fellowship, he served as assistant team physician for the Tampa Bay Buccaneers as well as a team physician for the Florida International University Golden Panthers and the University of Miami Hurricanes. Before coming to Cooper, he served as assistant team physician for the Philadelphia Eagles, the Philadelphia Flyers, and the Philadelphia Phantoms. He currently is a team physician for the Philadelphia Wings lacrosse team and team physician/consultant for several local high schools and organizations. He is a Fellow of the American Academy of Orthopaedic Surgery and a member of the American Orthopaedic Society for Sports Medicine and the Arthroscopy Association of North America.

Mark A. Pollard, M.D.

Mark A. Pollard, MD, who is part of the Sports Medicine Team at Cooper Bone and Joint Institute graduated from Pennsylvania State University, then attended the Medical College of Pennsylvania/Hahnemann University School of Medicine, graduating in 1999. He completed an internship at Summa Health Systems/Akron City Hospital in Akron, Ohio. He then completed an orthopaedic surgery residency at Hamot Medical Center in Erie, Pennsylvania. Dr. Pollard then completed an orthopaedic sports medicine fellowship at the American Sports Medicine Institute in Birmingham, Alabama.



Dr. Pollard is a board eligible orthopaedic surgeon with expertise in sports medicine and arthroscopic surgery of the shoulder, elbow and knee. He has published multiple articles in peer-reviewed journals. He has also presented talks, both local and national, on hand and knee problems. During his residency, he assisted in the care of multiple sports teams as well as the Erie Otters minor league hockey team in Erie, Pennsylvania. During his fellowship, he served as team physician for the Samford University Bulldogs and for the Shades Valley High School Mounties, both in Birmingham, Alabama. He also worked with NFL Europe players and staff. Dr. Pollard is a member of the American Academy of Orthopaedic Surgeons, the American Orthopaedic Society for Sports Medicine, and the Arthroscopy Association of North America.

Lawrence S. Miller, M.D.

Lawrence S. Miller, M.D. is Chief of Orthopaedics at Cooper University Hospital and the Director of Cooper Bone and Joint Institute. He graduated from Haverford College in 1975 and then attended Jefferson Medical College graduating in 1979. After his internship at The Bryn Mawr Hospital he returned to Thomas Jefferson University Hospital completing his Orthopaedic Residency in 1984. Dr. Miller then attended the world renowned Kerlan Jobe Orthopaedic Clinic, in Los Angeles, for his sports medicine fellowship training from 1984-1985.



Dr. Miller joined the medical staff at Lankenau Hospital in 1985. Over the past seventeen years he has developed one of the regions leading sports medicine practices, specializing in the treatment of injuries to the shoulder, elbow, and knee. As a faculty member of the Thomas Jefferson University residency program, Dr. Miller, a clinical assistant professor, has been instrumentally involved in the training of orthopaedic residents and sports medicine fellows. Dr. Miller pioneered the development of the Sports Medicine Fellowship programs at Lankenau and subsequently at Jefferson. Additionally, he is actively involved in clinical research, lecturing and has authored many peer review publications.

Dr. Miller is board certified by the American Board of Orthopaedic Surgeons. He is a member of many medical societies including the American Academy of Orthopaedic Surgeons, the American Society for Sports Medicine, the American Academy of Sports Physicians, and the Arthroscopy Society of North America. He has been recognized on six occasions by Philadelphia Magazine as a "Top Doc" and has received numerous other awards of recognition.



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