GEAR UP FOR YOUR BEST SEASON YET

Tips, tools and expert advice to keep you at your best.

SPORTS MEDICINE
888-716-WAKE | WakeHealth.edu/SportsMedicine
Expert sports medicine care

At Wake Forest Baptist Health, our goal is to get you back in the game and to keep you active. We work with patients to develop a plan to prevent, treat, and rehabilitate injuries.

No matter the performance level or age, all athletes benefit from the care of an experienced sports medicine team. Our team includes board-certified orthopaedic and primary care sports medicine doctors, physical therapists and other specialists. Each athlete receives the same advanced techniques and high standards of care that we provide to college and professional athletes.

We offer a range of nonsurgical treatments. However, if surgery is necessary, our doctors are trained in the latest minimally invasive techniques so you can recover faster. We are excited to announce that we now offer one of the newest advanced healing technologies — PRP — Platelet Rich Plasma Therapy (see pg. 9).

Our services

► Sports injury evaluation and treatment
► Return-to-play management
► Concussion care
► Nonsurgical treatments
► Injection therapies
► Platelet rich plasma (PRP) therapy
► Arthroscopy
► Minimally invasive surgical repairs
► Musculoskeletal imaging and diagnostic imaging
► Management of medical conditions in athletes (diabetes, asthma, illness)
► Sports cardiac clearance in young athletes
► Pediatric sports medicine
► Women’s sports medicine
► Sports psychology
► Sports nutrition
► Sports physicals
► VO2 max and fitness assessments
► Massage therapy

Physical therapy

► Injury prevention and training
► Sports-specific rehabilitation
► Sports conditioning and athletic training
► Bicycle and running analysis
► 2-D motion analysis for a variety of sports
► Biomechanical evaluation and orthotics
► Dry needling / manual therapy
► Cupping therapy
► Kinesio taping
► Golf evaluations and injury rehabilitation (Titleist Performance and Golf Fitness-certified therapist)

GO WHERE THE ATHLETES GO

We regularly treat college and professional athletes and dancers. The following universities and sports teams have chosen us for their health care:

► Wake Forest University Demon Deacons
► Winston-Salem State University Rams
► Winston-Salem Dash
► UNC School of the Arts
► Winston-Salem Open
► Salem College
► Carolina Thunderbirds
► Twin City Youth Sports Association
► Regional High School Athletics (see pg. 10)
Conditioning and avoiding injury

As competitive levels increase in youth sports, it is important that parents and coaches know about proper conditioning programs and when athletes should rest to prevent unnecessary and avoidable injuries.

10 PRINCIPLES OF CONDITIONING

1. WARM UP/COOL DOWN
   Warm up with a light jog to get blood flowing. Cool down by stretching after your workout.

2. MOTIVATION
   It’s OK if training is fun. Be creative with workouts and practices to keep interested.

3. OVERLOAD
   Work harder than normal to place stress on your body (within limits). Your body will adapt and improve.

4. CONSISTENCY
   Create a set schedule for your workouts to be effective.

5. PROGRESSION
   Gradually increase the intensity of your workout over a period of time. Keep in mind your limits.

6. INTENSITY
   Work hard for shorter periods rather than longer periods of time.

7. SPECIFICITY
   Be specific in your drills to match the skills needed for your sport.

8. INDIVIDUALITY
   Every athlete is an individual. Each athlete needs individual attention!

9. MINIMIZE STRESS
   Athletes need at least 1 to 2 days of rest during the week.

10. SAFETY
    Make sure the environment where you are training is safe and learn proper techniques to avoid injury.

Many injuries can be prevented if you are properly conditioned. An athlete may be physically fit for one sport or position, but that does not mean they are adequately prepared for another.
Overuse Injuries

Why do overuse injuries occur?
The human body has a tremendous capacity to adapt to physical stress. We tend to think of “stress” as a negative effect on our emotional wellbeing, but physical stress can be caused by exercise and activity. Physical stress is beneficial for our bones, muscles, tendons and ligaments, making them stronger. However, there is a fine balance between the breakdown and buildup of tissue. When the breakdown of tissue occurs more rapidly than buildup, an overuse injury occurs.

What factors cause overuse injuries?
Training errors are the most common cause of overuse injuries. These errors are a result of rapid acceleration of the intensity, duration or frequency of activity. Overuse injuries can also happen in athletes who are returning to a sport or activity after injury and try to make up for lost time by pushing themselves too quickly. Proper technique is critical in avoiding overuse injuries.

Some people are more prone than others to overuse injuries. Imbalances between strength and flexibility around certain joints predispose individuals to injury. Body alignment, such as knock-knees, bowlegs, unequal leg lengths, and flat or high arched feet also impact overuse injuries. Many athletes also have weak links due to old injuries or incompletely rehabilitated injuries. Other factors include equipment, such as the type of running shoe or terrain.

What is the treatment for overuse injuries?
► Cutting back the intensity, duration and frequency of an activity  
► Adopting a hard/easy workout schedule and cross-training with other activities to maintain fitness levels  
► Learning about proper training and techniques from a coach or athletic trainer  
► Performing proper warm-up activities before and after your activity  
► Using ice after an activity for minor aches and pain  
► Using anti-inflammatory medications as necessary

If symptoms persist, a sports medicine specialist can create a more detailed treatment plan for your specific condition. Physical therapists and athletic trainers can also help when you are beginning an exercise program, or sport, to help you prevent chronic or recurrent problems. They will modify your program to help you maintain overall fitness levels in a safe manner while you recover from an injury. You should return to play only when clearance is granted by a health care professional.

Follow these seven steps before returning to play:
► Allow healing: Use ice on the area that is bruised and sore. Ice packs can help minimize swelling around the injury, reduce bleeding into the tissues, and reduce muscle spasm and pain. If you insist on exercising to stay in shape while an injury heals, you should consult your doctor to see if activity puts stress on the injured area.
► Restore full range of motion and function to the injured area: Athletes should do the exercises recommended by their sports medicine specialist or athletic trainer. If they fail to do so, they may never get back full range of motion.
► Regain normal gait: After a leg injury, many athletes find they have lost their usual gait (the normal way they walk). No athlete should return to sports if they are still limping. When athletes are walking and running normally, they are likely to be ready to return to sports.
► Regain muscle strength: After resting from an injury, you need to rebuild strength in the rested muscles. A sports medicine specialist can give you weight-training exercises to build up weakened muscles.
► Regain endurance: Most healthy athletes, especially children, quickly regain endurance. To do this, the athlete should do activities such as swimming, running in the water, biking or rowing. Working out three times a week for 30 minutes each time should be enough.
► Regain skills: If you are away from your sport for a period of time, your skills will not be as sharp as they were before the injury. Work to regain your skills before playing competitively again.
► Regain confidence: When you suffer an injury that keeps you out of your sport for an extended time, you may suffer psychological loss. It’s important to be psychologically ready to return to your sport. An athlete who returns too soon risks re-injury, injury to a different part of the body, depression and/or decreased performance.
Concussions

A concussion may occur when there is a forceful bump, blow or jolt to the head or body that results in rapid movement to the head. This may or may not involve physical contact and can occur with whiplash or when the head strikes the ground. Concussions can occur with or without loss of consciousness. In fact, only five to ten percent of people with concussions are knocked unconscious.

An undiagnosed, unrecognized or poorly treated concussion can significantly prolong recovery and may cause permanent brain damage, or even have fatal consequences.

Every coach, parent and athlete should be able to recognize the signs of a concussion and the steps to take after receiving one. A concussion might not be immediately obvious, because each concussion is unique and can cause multiple symptoms.

**Concussion signs observed by coaching staff, parents and players**

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior or personality changes
- Can’t recall events before or after the hit or fall
- Has seizures or convulsions

**Concussion symptoms reported by athletes**

- Headache or “pressure” in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light and/or noise
- Feeling sluggish, hazy, foggy or groggy
- Concentration or memory problems
- Confusion
- Does not “feel right” or is “feeling down”

**Suspected concussion action steps**

- Immediately remove athlete from play
- Talk to your school’s certified athletic trainer, team doctor or school nurse if a concussion is suspected
- Keep athlete with suspected concussion out of physical activity until they are seen by a medical professional
- Get written permission to return from a medical professional trained in concussion management

Often, symptoms will worsen over a matter of days, and it is common for new symptoms to appear. Symptoms may also worsen when the brain is stressed (e.g., when the athlete is studying or participating in a physical activity).

Athletes are much more likely to sustain a concussion if they’ve had one before, so prevention is even more important following a head injury. Athletes should get the rest needed to completely heal. Talk to your doctor about safety precautions to help prevent concussions or to minimize their effects.

**Concussion Clinic**

Wake Forest Baptist Health provides expert care for concussions. We conduct extensive research on brain injuries that athletes suffer. This gives our staff important data that can more effectively diagnose, treat and respond to brain injuries.

If you suspect that an athlete has a concussion, contact the Wake Forest Baptist Health Concussion Clinic where we have medical professionals trained in concussion management.

**Contact:** 336-716-WAKE
Burnout

The pressure of being a successful athlete involves the non-stop activity of games, practice and physical conditioning. Recent research has shown that each year, 35 percent of children who participate in organized sports drop out. The physical conditioning and skill development, along with the pressures of school work, can overload student athletes. This can create a condition of chronic stress, both physically and mentally. The attitude of “more is better” is often tied to individual or team success in today’s sports world, starting at the youth level and continuing through college levels. In contrast, professional sports mandate time off for athletes to recover from the demands of their season.

Burnout is a response to chronic stress of continued demands in a sport or activity without the opportunity for physical and mental rest and recovery. This leads to staleness, overtraining and eventually burnout. Many athletes experiencing burnout report feeling trapped by their sports participation and overwhelmed. They are often encouraged by their coaches, teammates or parents to push through symptoms and continue with a demanding schedule in order to feel a part of the team or maintain their starting position. Other athletes self-induce their burnout with personal motivation for success. For some athletes, burnout may trigger or aggravate a mental health disorder that negatively impacts the athlete’s life and relationships.

Knowing the signs and symptoms is important to prevent the start or worsening of a mental health disorder in an athlete.

Whenever an athlete exhibits some signs and symptoms of burnout, a doctor’s evaluation is recommended. The athlete may need to have their activity modified or seek psychological evaluation and care.

Signs and symptoms of burnout

► Leveling off or diminished performance or conditioning, including strength and stamina losses, chronic fatigue
► Physiological signs such as having a higher resting heart rate and blood pressure
► Cognitive issues such as difficulty concentrating or diminished work in school, forgetfulness
► Illnesses as a result of suppressed immune system
► Emotional issues such as disinterest, moodiness, irritability
► Low self-esteem, increased anxiety and depression as a result of falling short of sport demands
How to beat the heat

According to the Centers for Disease Control, it is estimated that 240 people die each year in the United States of heat-related illness. Heat stroke is ranked third in cause of death (behind head and neck injuries and heart conditions) of U.S. high school athletes. This becomes an even greater concern in younger athletes.

How to recognize heat-related illness

Kids are susceptible to heat-related illness because their small bodies generate more heat than their few sweat glands can handle. Plus, they don’t always drink enough to replace the fluid they lose in sweat, leading to dehydration. Here are signs and symptoms for the most common heat illnesses:

► **Heat cramps**: Painful leg or stomach cramps are caused by dehydration and a loss of minerals. Massaging tight muscles helps relieve the pain. However, if pain persists for an hour, get medical attention.

► **Heat exhaustion**: Fatigue, headache, nausea, and pale or clammy skin indicates a child is becoming seriously overheated. If symptoms last more than an hour despite your efforts, get medical attention.

► **Heat stroke**: If a child is disoriented, has hot dry skin, a rapid pulse or is unconscious, his or her temperature-regulating system has failed. Core temperature may even rise to 106 degrees. Call for emergency help immediately.

► Find more information on how to protect your child from a heat related illness at cdc.gov.

What should be done?

The basic first aid for heat cramps and heat exhaustion is to cool the athlete as quickly as possible. Fluid replacement by drinking water or a sports drink is the first step. Cool the athlete rapidly by moving him or her to a cool location (shade, air conditioning, etc.), remove sweat saturated clothes (if appropriate), and apply cold towels/water/ice to the athlete’s body. If heat cramps or heat exhaustion go untreated for too long, the condition can gradually progress to a full blown case of heat stroke.

Heat stroke is a medical emergency and Emergency Medical Services (911) should be contacted immediately. Emergency Services should transport the athlete to the nearest hospital for specialized treatment. While waiting, bring the athlete indoors and sponge him or her in cool water or put them in a tub of cool water. Do not give fluids.

How can heat illness be prevented?

► Athletes should gradually acclimate or adjust to the heat. A graduated conditioning program should be implemented.

► Athletes should wear light-colored, lightweight athletic clothing. (Darker clothes attract more heat.)

► Water breaks should be taken at least every 15 to 30 minutes (every 10 minutes in more humid weather). Encourage athletes to drink water even if they are not thirsty.

► Modest salting of food at meals can help to replenish sodium lost due to sweating.

► Identifying more at-risk athletes (i.e. those who are overweight, out of shape, seem to sweat less) is also important to help prevent heat-related illnesses.
Nutrition for athletes

Young and adult athletes need optimal nutrition for fueling and recovery from training. However, young athletes must also meet energy demands for growth and maturation.

► Focus on carbs for energy: Choose whole-grain bread, crackers, cereal, pasta and potatoes for lasting energy. Save sports drinks for an energy boost during endurance sports or training sessions lasting more than an hour.

► Spread out protein foods: Active bodies need protein to support growth and build and repair hardworking muscles. Spread protein foods throughout the day, having some at each meal and with most snacks. Examples of meals with protein include eggs and whole-grain toast with fruit for breakfast, or a sandwich with low-sodium deli meat on whole-grain bread with yogurt and raw veggies for lunch. Plant-based protein foods like tofu and beans also are great choices.

► Use caution with fatty foods: Fatty foods slow digestion, which is not ideal for an athlete facing a competition. Greasy, fried foods and fatty desserts are filling and may leave you feeling tired and sluggish.

► Eat with food safety in mind: Nothing will slow you down more than food poisoning – having stomach cramps, nausea, vomiting or diarrhea after eating. Make sure you store snacks at proper temperatures to prevent spoilage.

► Flow with fluids: Good hydration should begin early in the day before you even set foot on the playing field. Stay hydrated by drinking plenty of water during the day leading up to a game, especially in the two to three hours before game time. Continue to drink during the game (about 1/2 cup every 15 minutes) and afterward to rehydrate after sweat loss. Water should still be your go-to drink for exercise that’s under 60 minutes.

► Timing is everything: When you eat is just as important as what you eat. Your body needs two to three hours to digest a regular meal before an athletic event. A small snack such as a granola bar can be eaten 30 minutes to an hour in advance of an event. Load up at meals but don’t over eat. Keep snacks light as you get closer to game time.

► Topping it off with milk: In addition to water, fat-free and low-fat milk are smart ways to help young athletes meet their fluid needs. But that’s not all. Just one cup of milk packs 15 to 24 percent of the protein most school-aged kids need in a day. It also delivers important nutrients of which most young athletes don’t get enough, such as calcium and potassium. Calcium is critical for building strong bones, transmitting nerve impulses, and helping muscles contract.

GREAT MEALS TO EAT 3 TO 4 HOURS BEFORE COMPETITION

Chocolate Peanut Butter Smoothie Bowl

Ingredients:
- ¼ cup Fairlife® 2% Chocolate ultra-filtered milk
- ½ cup ice
- 1 small frozen banana
- 1 tablespoon Smucker’s® Creamy Natural Peanut Butter
- 1 scoop chocolate protein powder (optional)

Toppings:
- ¼ cup nuts
- 1 tablespoon flax or chia seed
- ¼ cup berries or fruit
- ¼ cup granola or muesli
- Sprinkle of shredded coconut
- ¼ cup dried berries

Directions:
- Add soft, high-moisture foods (liquids, fresh fruit, veggies, etc.) to blender.
- Add protein powder (optional).
- Add solid foods last (frozen fruit, ice, nuts).
- Blend and pour into bowl.
- Top with your favorite fruits, nuts/seeds, muesli or granola.

Chicken and Veggies Couscous

Ingredients:
- 1½ cups dry whole wheat couscous
- 2 cups vegetable broth
- 1 teaspoon dried Italian herbs
- 1 package chicken sausage
- 1 small onion, chopped
- 3 cloves garlic, minced
- 2 tablespoons balsamic dressing
- 1 oz. grated Parmesan cheese

Directions:
- Boil the vegetable broth. Place the couscous and herbs in a heat-safe bowl and pour the boiling broth over the top. Stir and cover for 5 minutes. Fluff with a fork and set aside.
- Cook chicken sausage in a pan according to the package directions. Slice sausage into ½-inch-thick pieces and set aside.
- In the same pan, cook onion for 3-4 minutes until translucent.
- Add cauliflower and sliced red pepper and cook for 3-4 minutes. Add chopped kale, minced garlic, asparagus and baby bella mushrooms, and cook for 5 more minutes.
- Add the chicken sausage and couscous to the pan, stirring to incorporate.
- Drizzle with balsamic dressing and stir to moisten the mixture.
- Top with grated parmesan cheese.

Recipes courtesy of Kate Ruley, M.Ed, RD, CSSD, Director of Sports Nutrition, Wake Forest University Athletics
Leaders in sports medicine treatment and research

As an academic medical center, we are training tomorrow’s leaders in sports medicine treatment and care in our fellowship programs. Our sports medicine doctors are experts in their field. Most hold subspecialty certification in Orthopaedic Sports Medicine from the American Board of Orthopaedic Surgery.

Many of our sports medicine experts participate in leading-edge research to find better sports injury treatment options. For example, they are investigating ways to rebuild the meniscus and are exploring tissue engineering to repair cartilage defects. In addition, our sports medicine specialists are participating in the nation’s largest study evaluating injuries in runners. They are also conducting clinical trials that might help provide crucial treatments and cures for common sports medicine injuries. Find out more at WakeHealth.edu/BeInvolved.

Offering PRP therapy

Platelet-rich plasma (PRP) therapy has been available for years and is becoming a more common treatment for arthritis and various tendon and ligament issues. PRP therapy helps regeneration of natural tissue and decreases the likelihood of repeat injuries. PRP therapy also helps patients who have tried traditional treatments with minimal success as well as people who want to avoid or postpone surgery.

During PRP therapy, blood is drawn and spun in a centrifuge, a process that separate the various components of the blood. This isolates the platelets, a solid component in the blood, from other blood cells. The platelet-rich solution is then injected back into the body.

VO2 max testing

VO2 max testing is a fitness assessment that gets athletes to their maximum exertion level. Athletes perform a graded exercise test on a treadmill or cycle while monitored by medical specialists. The exercise intensity begins at a low level and advances in stages depending on the athlete’s fitness level. The test generally takes between eight and 15 minutes.

The test will gather the athlete’s heart rate and uses a mask to measure oxygen output. These results are used to determine the athlete’s fitness and endurance levels and how they can improve their training or become more physically fit. This test is ideal for athletes who have been exercising regularly for at least three months or more and are looking to improve their performance.

Pediatric expertise

When your child is complaining of pain after sports practice, make sure they see one of our pediatric orthopaedic experts. Wake Forest Baptist pediatric specialists are trained to care for children with broken bones, sprains and other injuries. They know that kids aren’t “little adults,” and account for how children grow.

Pediatric ED

Our Pediatric Emergency Department is the only Level 1 Pediatric Trauma Center in the region. Our staff has received highly specialized training in caring for children experiencing any type of pediatric emergency. We are located at Wake Forest Baptist Medical Center, Medical Center Boulevard, Winston-Salem. Open 24 hours a day, 7 days a week.
What is a certified athletic trainer?

The number of students playing sports has increased to over 8 million in high school, and there are many others in middle school and summer sports leagues. The increased sports participation has brought a sharp rise in the chance of injury as today’s student athletes are encouraged to become bigger, faster and stronger. For these reasons, certified athletic trainers are needed now more than ever.

Certified athletic trainers specialize in preventing and managing athletic injuries. They are some of the most comprehensively prepared medical professionals, with more than 70 percent having master’s or doctoral degrees (NATA 2018).

Each high school has a dedicated Wake Forest Baptist athletic trainer that keeps student athletes safe and healthy. Athletic trainers work with the coaching staff, school nurses, physical therapists, athletic administrators, parents and Wake Forest Baptist sports medicine specialists to provide expert level care to student athletes.

Wake Forest Baptist Health certified athletic trainers:
► Evaluate, treat and rehabilitate injuries and athletic-related illnesses
► Recognize and evaluate head injuries and concussions
► Provide acute, emergency and on-field care
► Design and implement injury prevention programs
► Understand general medical conditions, disabilities and health and wellness
► Know how nutrition can help injuries and illnesses
► Prepare athletes for practices and games
► Monitor field, environment and weather conditions (e.g., heat index and lightning)
► Attend all home athletic events, matches and games (including practices)
► Develop return-to-play programs for injured athletes
► Communicate with physicians, parents, and coaches about injuries
► Develop emergency action plans for schools

Athletes in the Winston-Salem/Forsyth County School (WS/FCS) system, Wilkes County School system and Lexington Senior High School receive treatment and injury prevention guidance through the Wake Forest Baptist Health certified athletic trainer program.
Our SPORTS MEDICINE team

Kevin Coates, MD
Orthopaedic Surgery

Cristin Ferguson, MD
Orthopaedic Surgery

John Hubbard, MD
Orthopaedic Surgery

David Martin, MD
Orthopaedic Surgery

Gary Poehling, MD
Orthopaedic Surgery

Allston Stubbs, MD
Orthopaedic Surgery

Alysha Taxter, MD
Orthopaedic Services

Christopher Miles, MD
Family Medicine

Daryl Rosenbaum, MD
Family Medicine

Heath Thornton, MD
Family Medicine

Amanda Tipton, PA-C
Orthopaedic Services

Brian Waterman, MD
Orthopaedic Surgery

Laura Lintner, DO
Family Medicine

Brad Fowler, PT
Physical Therapy

David Popoli, MD
Orthopaedic Surgery (Pediatric)

Betina Gyr, MD
Orthopaedic Surgery (Pediatric)

Andrew Koman, MD
Orthopaedic Surgery (Pediatric)

Matthew Ravish, DO
Orthopaedic Surgery (Pediatric)

Alysha Taxter, MD
Orthopaedic Services (Pediatric)

Scott Wilson, MD
Orthopaedic Surgery (Pediatric)

John Frino, MD
Orthopaedic Surgery (Pediatric)

David Martin, MD
Orthopaedic Surgery

Matthew Ravish, DO
Orthopaedic Surgery (Pediatric)

Per Kristian Moerk, PT
Physical Therapy

Denise Tickle, PT
Physical Therapy

Michael Way, PT
Physical Therapy

John Hubbard, MD
Orthopaedic Surgery

Ralph Moore, MD
Orthopaedic Surgery

Ralph Moore, MD
Orthopaedic Surgery

Dana Bifolck, PA
Orthopaedic Services

Chad Parker, MPT
Physical Therapy

Stephen Lucey, MD
Orthopaedic Surgery

Allston Stubbs, MD
Orthopaedic Surgery

Heath Thornton, MD
Family Medicine

Laura Lintner, DO
Family Medicine

David Popoli, MD
Physical Medicine and Rehabilitation

Chris Ina, MA, LAT, ATC
Athletic Training Coordinator/Athletic Trainer

Jordan Case, MD
Orthopaedics - Premier (High Point) and Proehlific Park (Greensboro)

Ralph Moore, MD
Orthopaedic Surgery

Dana Bifolck, PA
Orthopaedic Services

Chad Parker, MPT
Physical Therapy

Stephen Lucey, MD
Orthopaedic Surgery

Greensboro and High Point teams

Same-day/next business day appointments: 336-716-WAKE (9253) | WakeHealth.edu/SportsMedicine 11
Scientists at Wake Forest Baptist have developed technology that measures the intensity of impacts to football players’ heads. This technology, Risk Weight Cumulative Exposure, works by placing sensors in the helmets of football players. Researchers study the players and evaluate how probable an injury is when participants receive different intensities of impacts. These helmets help identify a concussion that may have gone unnoticed. Joel Stitzel Jr., PhD, senior study author, said, “We know that young players are constantly experiencing low-level hits that don’t cause visible injury but there hasn’t been a good way to measure the associated risk of concussion.”

A study funded by the Childress Institute of Pediatric Trauma used this technology to measure the impacts of 40 high school football players throughout a season. “By recording over 40,000 impacts, this study represents the largest collection of biomechanical head impact data for youth football to date,” said study author Jillian Urban, PhD. “These findings could guide changes in the way coaches and organizations structure their practice drills and game rules, ultimately improving safety in youth football.”

Because concussions can occur in all sports, our research has expanded beyond high school football. Researchers are now monitoring soccer players by placing sensors in their mouth guards. Participants will undergo brain imaging procedures before and after the season. These free procedures will help detect damage that may have gone unnoticed. For more information, call 336-716-5416.