



The World of *Sports Medicine*

By N. Susan Emeagwali

In just months from now the best athletes in the world will face each other at the Summer Olympics in Beijing. Many of them will sustain injuries, or seek to prevent them, and will be thankful that among their entourages are some of the best sports medicine professionals in the world. When an athlete collapses from fatigue, or something else, there'll be a group taking him or her off the field; that group may include a doctor, an orthopedist, or a nurse. And backstage as athletes rev up for their moment of glory, they'll be relying heavily on physiologists, physical therapists, athletic trainers and nutritionists to keep them in top form. But what is sports medicine? Sports medicine specializes in diagnosing, treating and preventing injuries that are sports or exercise related. The term "sports medicine" was first coined in 1928 at the Olympics in St Moritz, notes Wikipedia, when a committee came together to plan the First Congress of Sports Medicine. Specialization includes medical physician, physiology, physical therapy, orthopedics, sports nutrition and biomechanics. But since

N. Susan Emeagwali

is managing editor of *Techniques*. She can be contacted by e-mail at semeagwali@acteonline.org.



injuries can be caused by a number of factors, sports medicine can include various specialties, including cardiology, ophthalmology, surgery, pulmonology, traumatology or rehabilitative medicine.

High School Programs

The name of a sports medicine program and its curriculum varies among high schools and across colleges and universities. But high schools around the country are giving students the education, training and hands-on learning opportunities they need to explore careers in sports medicine. This may ultimately lead them to pursue careers in the field by earning the necessary credentials at the postsecondary level.

At White Knoll High School in Lexington, South Carolina, a

health science cluster gives students the opportunity to explore a wide range of potential career paths. One of them is the Sports Medicine Program which offers students an integrated curriculum, technology integration, career exploration, job shadowing, internships and hands-on learning. The class teaches students about the prevention of athletic injuries, including the components of exercise science, anatomy, principles of safety, first aid, cardiopulmonary resuscitation, and vital signs.

Students learn about legal issues, nutrition, protective sports equipment, taping and wrapping, mechanisms of injury, environmental safety issues, and the application of other sports medicine concepts. The program's technical skills content is determined by a committee comprised of teachers, practicing professionals,

and program directors at colleges and universities. It is revised every three to five years and advisory boards meet often to discuss changes in the field.

An integral part of ascertaining that students get the best instruction is by giving teachers the professional development they need in the content area. Teachers are professionally credentialed and actively work in the field so they know the importance of keeping the curriculum content relevant. The program is very hands-on with students running the school's athletic training room under the supervision of athletic trainers. Students spend time in the classroom engaging in career exploration ranging from athletic trainer/therapist to orthopedic surgery; participate in project-based learning from marketing the program itself to purchasing supplies to keeping medical records; and learn basic skills.

Postsecondary Programs

For each profession in sports medicine the educational requirements vary. Once a student decides that he or she wants to pursue a career in sports medicine, they'll have to do the research necessary to determine what postsecondary credentials they will need, which colleges and universities offer them, and what the entry requirements are for the program.

If a student wants to become a certified athletic trainer, the U.S. Department of Labor's *Occupational Outlook Handbook* notes that the requirements include a bachelor's degree from one of the more than 300 accredited education programs around the nation. The formal education requirements include health and science-related subjects such as human anatomy, physiology, nutrition and biomechanics, and students are educated in both the classroom and clinical settings. To practice they must earn certification from the Board of Certification.

Physical therapists, meanwhile, must graduate from one of the 205 accredited physical therapist programs around the nation (as of 2004), and must pass a licensure exam before they can practice. Of the accredited programs, 94 offer master's degrees and 111 offer doctoral degrees. Physical therapist programs start with basic science courses such as biology, chemistry and physics. Specialized courses include biomechanics, neuroanatomy, human growth, examination techniques and manifestations of disease.

The formal education and training requirements for physicians are rigorous: four years of undergraduate school, four years of medical schools, and three to eight years of internship and residency—depending on the area of specialization. Premedical students must complete undergraduate work in physics, biology, math, English and inorganic and organic chemistry. The minimum educational requirement for entry into a medical school is three years of college; most applicants, however, have at least a bachelor's degree. There are 146 medical schools in the U.S. and acceptance is quite competitive.

Employment Prospects

In a country that values its sports and sportspeople as much as the United States, the future looks good for sports medicine professionals. Athletic trainers, for instance, held about 15,000 jobs in 2004.



The employment of athletic trainers is expected to grow much faster than the average for all occupations through 2014. Physical therapists held about 155,000 jobs in 2004 and the number of jobs “is greater than the number of practicing physical therapists, because some physical therapists have two or more jobs,” according to the *Handbook*. The employment of physical therapists is expected to grow much faster than the average for all occupations through 2014. In general, physicians and surgeons held about 567,000 jobs in 2004, and the employment outlook is good; it is expected to grow faster than average for all occupations through 2014 “due to continued expansion of health care industries.”

The salaries differ from profession to profession and also depend on the experience the professional has in the field. For whom you work also makes a difference—if you're one of the world class trainers following an aspirant U.S. Olympian, chances are you'll be making more than a trainer who's working with the local football team.

In August as you support your favorite athlete competing in Beijing (or even if you watch out of curiosity), remember that it takes a team to make a great athlete, and among that team are the professionals who nurse their injuries and help them stay in tip top shape. ■