

ADVISORY

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U-M experts available to discuss impacts of sport injury prevention

ANN ARBOR, Mich., April 2, 2009 — The NCAA Men's Basketball Tournament will not go without its fair share of injuries as the talented Final Four teams play with the speed and skill required to win bragging rights and the championship title. The month of April not only marks the beginning of numerous NCAA championship tournaments, it's also the beginning of National Youth Sports Safety Month.

April is certainly a time of year when the weather gets warmer and the beginning of youths playing sports longer, later and more often. Even the most agile and healthy youth athletes can suffer from damaging injuries such as knee ligament tears and concussions. Each year, U.S. emergency rooms treat more than 4.3 million sports- and recreation-related injuries on youngsters. Many of these injuries require multiple surgeries and excruciating recoveries. These injuries can have life-long negative effects, including the development of arthritis.

Experts from the University of Michigan Bone & Joint Injury Prevention & Rehabilitation Center are available to discuss the types and frequencies of sport injuries and preventive steps that can decrease the likelihood of injury. U-M experts include:

Ron Zernicke, Ph.D., D.Sc., professor of Orthopaedic Surgery, Kinesiology, and Biomedical Engineering, is an expert on the biomechanics of injury and injury prevention. He is also the Director of the Bone & Joint Injury Prevention & Rehabilitation Center.

Knee anterior cruciate ligament (ACL) tears, concussions, and multiple surgeries are becoming the norm for kids as young as 12. These injuries are preventable and simply should not happen because they can have life-long effects on mobility. Zernicke says that proper coaching, training programs, hydration, officiating, equipment, medical coverage at sporting events, and preseason physical exams reduce injuries exponentially. He notes that prevention and training programs can work to lessen injury exposure—even something as easy as the right shoe for different playing surfaces can prevent serious injury.

Ed Wojtys, M.D. is professor, Department of Orthopaedic Surgery, head of the Sports Medicine Program, medical director of MedSport, and associate director of the University of Michigan Bone & Joint Injury Prevention & Rehabilitation Center. He also serves on the NFL Injury and Safety Panel Committee.

Wojtys' sports medicine research focuses on neuromuscular protection of the knee and ACL injuries, especially since there has been a substantial increase in the number of children and adolescents taking part in sport activities. Wojtys says, "It's so important for youth to learn how to properly condition and warm-up to prevent injuries and decrease their risk of long-term knee problems. Improper running, jumping and kicking during a sports competition can bring physical pain and injury to these young athletes and their growing bodies."

James Ashton-Miller, Ph.D., is professor in the departments of Mechanical Engineering, Biomedical Engineering, Internal Medicine, and in the Institute of Gerontology. He directs the Biomechanics Research Laboratory in the Department of Mechanical Engineering and is an associate director at the Bone & Joint Injury Prevention & Rehabilitation Center.

Ashton-Miller's research on the prevention of injuries and disabilities, and expertise on musculoskeletal biomechanics has made exceptional contributions to the understanding of orthopedic sports medicine, specifically in young women. He has collaborated with Dr. Ed Wojtys, medical director of MedSport, to reveal that female athletes who participate in sports involving jumping and cutting maneuvers are up to eight times more likely to sustain a rupture of the anterior cruciate ligament than males participating in the same sports.

Riann Palmieri-Smith, Ph.D., A.T.C., is assistant professor in Athletic Training, Movement Science, and Orthopaedics, the director of the Neuromuscular Research Laboratory and co-director of the Human Neuromechanics Laboratory at U-M.

Palmieri-Smith is a certified athletic trainer whose research has focused on knee injuries. Her research suggests that training programs for females to restore balance between hamstring and quadriceps muscles to better support knee joints could help reduce the disproportionately high number of ACL tears in female athletes. Palmieri-Smith said, "The ACL is one of the four major ligaments of the knee, and our research here at U-M suggests that training programs which promote balanced activity of thigh muscles might help protect the ACL."

Scott McLean, Ph.D., is assistant professor, Athletic Training & Movement Science and a biomechanist whose research interests focus on identifying the underlying mechanisms of sports-related injuries – specifically in knees.

McLean's research utilizes a combination of studies with humans, musculoskeletal modeling and cadaveric modeling to gain insights into injury mechanisms, enabling for the creation of more effective injury screening and prevention strategies. McLean says, "Understand injury risk ultimately creates increased participation, quality of life and a reduced potential for long-term debilitation in young individuals."

Bruce Miller, M.D., M.S. is assistant professor in the Department of Orthopaedic Surgery and serves as Team Physician for the University of Michigan Athletic Department, Eastern Michigan University Athletic Department, the US Ski Team, and the USA Rugby Team.

Miller's research centers on outcomes of sports medicine surgery of the shoulder and knee as well as cartilage injury and repair and rotator cuff disease. He says, "There are more than 30 million children and adolescents participating in organized sports every year and 4.3 million of these children will suffer a nonfatal sport-related injury. With an increased number of children and adolescents participating in sport activities, it's critical to understand the nature of injuries in order to prevent them in the first place."

To set-up interviews with any of these experts, contact:

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About the Center

The University of Michigan Bone & Joint Injury Prevention & Rehabilitation Center is a collaborative effort among the Medical School, the College of Engineering, the School of Kinesiology, and the School of Public Health. The Center's mission is to excel in the creation of new knowledge in all areas relevant to the prevention, treatment, and rehabilitation of musculoskeletal injury and arthritis. The Center is dedicated to conduct mission-driven research, train the next generation of multi-disciplinary researchers, provide leadership for local, national, and international collaborations and partnerships, and promote the effective translation, use, and exchange of knowledge. For more information about the Center, visit www.bjiprc.umich.edu.

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