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For Immediate Release

GYMNASTS AND KNEE INJURIES:

Top sports orthopaedist explains the dangers and how to minimize them

NY, NY and Greenwich, CT, May 2009 – Think of gymnastics and you'll probably think of grace, athleticism and almost superhuman agility. But ask a doctor and you'll probably hear about injuries, says Kevin Plancher, MD, a leading sports orthopaedist in the New York metropolitan area.

Gymnastics is arguably one of the most challenging sports around, demanding stamina and strength as well as artistry and elegance. Gymnasts often start training at a young age and, as they grow more proficient, spend increasing amounts of time performing increasingly difficult (and dangerous) moves. That's a recipe for injury, Dr. Plancher says. "It's no accident that injury rates go up as gymnasts become more elite," he says. "These athletes train hard even before they reach puberty, and many spend several hours a day repeating the same moves, over and over again."

PERILS OF "STICKING THE LANDING"

What's especially hard on a gymnast's body is the landing part of a move, he explains. "You're supposed to 'plant both feet—hard—without doing anything to stabilize yourself. You're also supposed to land with minimal flexion in your hips, knees, and ankles. That puts enormous strain on the muscles and connective tissues in your legs."

Each year, according to the American Orthopedic Society for Sports Medicine, doctors treat more than 86,000 gymnastics-related injuries. Gymnastics—especially women's gymnastics—is considered one of the most dangerous sports around: According to the National College Athletic Association (NCAA), women's gymnastics represents the highest number of accidents in practice and competition of any collegiate sport as well as the highest number of injuries requiring surgery. Research also shows that gymnasts land with greater force than athletes who are leaping and landing in other sports.

One of the most common injuries in gymnasts occur in the knees, Dr. Plancher says. These injuries often involve the Anterior Cruciate Ligament, or ACL, which is one of the main ligaments in the knee that connect the femur (thigh bone) to the tibia (shin bone). The ACL can get stretched or torn when a gymnast lands "short" (he or she is over-rotated on the landing) while tumbling, dismounting, or vaulting, or lands with the knees too straight (which causes hyperextension).

Another common knee injury in gymnasts is to the meniscus, a C-shaped band of cartilage in the knee that acts as a shock absorber. In many cases, a knee injury will involve both the ACL and the meniscus (and possibly other cartilage or ligaments).

A surgeon can repair a damaged ACL by grafting tissue from the patient's patellar tendon (or another type of connective tissue). There are non-surgical options, Dr. Plancher says, but these are generally recommended for people who are sedentary (or are very young). "Gymnasts or other athletes want to be able to return to workouts and competition," Dr. Plancher says. "The good news is that we've seen long-term success rates of up to 95 percent in patients with ACL reconstruction." Meniscal tears can often be repaired via arthroscopy, in which a surgeon uses a miniature camera (and surgical instruments) inserted through a small incision.

STEPS TO STAY SAFE

Dr. Plancher offers these tips for gymnasts—and other athletes who participate in high-risk or high-impact sports—looking keep their knees healthy:

- **Get (and Stay) Strong.** Keep the muscles around your knees (as well as your all-important core muscles) strong. This will help protect your knees from the high impacts of gymnastics.

- **Build Slowly.** Don't up the intensity, duration, or complexity of your workouts too quickly. Take the time to master a move or routine before moving on.
- **Always Do Your Prep Work.** Warm up for a few minutes, then gently stretch. This will improve your performance and reduce your risk of injury.
- **Don't Play Through Pain.** Many athletes mistakenly think they can tough out an injury, but ignoring pain (or masking it with pain relievers) can leave you with a more serious injury that you started with
- **Be Sure the Equipment Is Right.** Make sure it's in good condition, and check that that mats are secured and the floor padding is appropriate for the work you'll be doing.
- **Always Use a Spotter** when performing new or difficult moves.

Bio: Kevin D. Plancher, M.D., M.S., F.A.C.S., F.A.A.O.S, is a leading orthopaedic surgeon and sports medicine expert with treatment in knee, shoulder, elbow and hand injuries. Dr. Plancher is an Associate Clinical Professor in Orthopaedics at Albert Einstein College of Medicine in NY. He is on the Editorial Review Board of the Journal of American Academy of Orthopaedic Surgeons.

A graduate of Georgetown University School of Medicine, Dr. Plancher received an M.S. in Physiology and an M.D. from their school of medicine (cum laude). He did his residency at Harvard's combined Orthopaedic program and a Fellowship at the Steadman-Hawkins clinic in Vail, Colorado where he studied shoulder and knee reconstruction. Dr. Plancher continued his relationship with the Clinic for the next six years as a Consultant. Dr. Plancher has been a team physician for over 15 athletic teams, including high school, college and national championship teams. Dr. Plancher is currently the head team physician for Manhattanville College. Dr. Plancher is an attending physician at Beth Israel Hospital in New York City and The Stamford Hospital in Stamford, CT and has offices in Manhattan and Greenwich, Connecticut. www.plancherortho.com

Dr. Plancher lectures extensively domestically and internationally on issues related to Orthopaedic procedures and injury management. During 2001, 2002, 2003, 2004, 2005, 2006, 2007 and 2008, Dr. Plancher was named among the Top Doctors in the New York Metro area and to the sports medicine arthroscopy program subcommittee for the American Academy of Orthopaedic surgeons. In 2007 and 2008 Dr. Plancher was named America's Top Doctor in Sports Medicine. For the past six years Dr. Plancher has received the Order of Merit (Magnum Cum Laude) for distinguished Philanthropy in the Advancement of Orthopaedic Surgery by the Orthopaedic Research and Education Foundation. In 2001, he founded "The Orthopaedic Foundation for Active Lifestyles", a non-profit foundation focused on maintaining and enhancing the physical well-being of active individuals through the development and promotion of research and supporting technologies. www.ofals.org.