

Orthopaedic Observations

A Matter of Medicine...

TM Pending

Cartilage Defects and Osteochondritis Dissecans

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Osteochondritis Dissecans or OCD is a condition that occurs when fragments of bone below the joint surface lose blood supply and separate from the rest of the bone. The most common site for OCD is the knee. In the knee the most common location is the lateral side of the medial femoral condyle. Although no one knows why a segment of bone should

lose its blood supply, most doctors believe that it is due to repetitive trauma.

OCD occurs commonly in the older child and adolescent who actively participate in sports. The theory is that the repetitive motion of the sport, like soccer, causes a small segment of the bone to fatigue and fracture under the surface. The continued micro-trauma from repetitive loading, ie: continued running on the already injured knee prevents the defect from healing and loosens the bone frag-

ment. The loose fragment then can cause swelling and pain. It can also occur in any age group after an acute injury. In those cases, the bone may be fractured and the fractured part of the joints surface fails to heal. The most common symptoms of OCD are pain and swelling.

OCD is usually diagnosed with specific **x-ray** images. In a growing child, an early lesion may heal with crutches, rest and a brace or cast. An **MRI** is often necessary to grade the lesion and determine the best treatment. If the defect is displaced or loose and/or an **MRI** shows fluid under it surgery may be necessary.

If surgical intervention is necessary and the cartilage fragments have not broken loose the surgeon may fix them in place using pins or screws that are sunk into the cartilage after drilling the base to stimulate the blood supply. The pins are often dissolving (bio-

absorbable) and don't need to be taken out once the bone heals.

If fragments are loose the surgeon may clean the cavity to reach fresh healthy bone and attach a bone graft in position with pins and screws. Fragments that cannot be mended are cleaned and drilled to stimulate new growth of cartilage.

Shallow Cartilage Defects, may be different from OCD and can be caused by wear and tear or arthritis. These can be treated by a technique called micro-fracture. In the micro-fracture technique, the surface is drilled or "cracked" with a microscopic drill or awl to help blood and marrow get to the surface. Just like aerating the soil before seeding the lawn, the idea is to promote the formation of new fibro-cartilage. The new cartilage would then cover the surface with fresh tissue.

Loose Bodies

If the symptoms for a cartilage defect is ignored an spontaneous healing doesn't occur, cartilage and its base eventually separates from the diseased bone and a fragment breaks loose into the knee joint. It can then cause locking, sharp pain, and leg weakness. If the fragments are loose, the surgeon may scrape the cavity to reach fresh bone and add a bone graft and fix the fragments in place. Fragments that cannot be mended are removed. This leaves a defect or hole that needs repair. Small defects can be treated with micro-fracture, but larger ones require grafting. This can be, autograft (transplanting cartilage from one part of the knee to another), allograft (frozen grafts from a donor), cultured cartilage or newer synthetic bone substitute that fill in over time with the patients own cells.



Their **newer method** of bone defect repair is FDA approved for filling **the bone defects left by the loose body**. In some cases, replacement of the defect with
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this synthetic graft made of bio-absorbable scaffold with a calcium laden base promotes blood flow to the avascular area and aids in the healing process. The calcium base promotes the formation of new bone at the base of the defect and the cap allows for fibrocartilage growth. Dr. Reznik has been performing the

“OBI” grafting procedure for several years with excellent results and has been selected as one of fourteen surgeons in the United States to study the long term benefits of this technology.

A Westinghouse Science Talent Search Honoree, Dr. Reznik received his Bachelors of Science from Columbia University's School of Engineering. At Columbia, he participated in Sudden Infant Death Syndrome research. He then attended Yale Medical School and after graduation from Yale, Dr. Reznik returned to New York City for his Orthopaedic Residency at the Mount Sinai Medical Center. He was selected for a Fellowship at Oxford in Orthopaedics under Professor Robert Duthie, the Head of the Nuffield Orthopaedics Center. At Nuffield, he met Dale Daniel, M.D. a world renowned expert on knee ligament reconstruction and the Director of the San Diego Sports Medicine Fellowship. After completing Dr. Daniel's Fellowship in advanced Shoulder and Knee Arthroscopy, Dr. Reznik returned to the New Haven area to enter private practice Orthopaedics and teach Orthopaedic Surgery at the Yale School of Medicine.

Board Certified in Orthopaedics since 1991, in 2001 he became a member of the Arthroscopy Association of North America. Dr. Reznik was a founding member of the Yale-New Haven Hospital's Orthopaedic Trauma team and was awarded the Yale Resident Teaching Award. He also served on the game organizing committee for the 1995 World Special Olympics, where he helped care for special athletes from over 105 countries. During his residency, he was court doctor for the US open in Forest Hills, NY and, in 1999, he was appointed the team physician for the New Haven Knights professional hockey team.

Dr. Reznik donates his time to many charitable activities. More recently, after Hurricanes Katrina and Rita, he served as the surgeon on a medical relief team to New Orleans. At that time, Dr. Reznik treated patients and helped set up a clinic that cared for hundreds of victims of those two storms. Currently, he serves as volunteer member and committee chair of a local school board and, in January of 2008, Dr. Reznik joined a medical/humanitarian mission to Cuba.

Dr. Reznik consults on surgical improvements for arthroscopic surgery. He has several patents pending. One of his inventions was licensed by Johnson and Johnson and available nationally in 2007. Another was produced by Innovative Medical Products, and shown for the first time at the 2008 American Academy of Orthopedic Surgeons (AAOS) annual meeting.

In 2000, 2004, 2005, 2006 and again in 2007, Dr. Reznik was selected by Connecticut Magazine as one of the “Top Docs” in the state by nurses, physicians from other specialties and his peers. He was also named one of “America's Top Physicians” for 2004, 2005 and 2006 by the Consumer's Research Council of America. Currently, he is the managing partner of The Orthopaedic Group, LLC. He especially enjoys caring for recreational, competitive and professional athletes of all ages.