

KEY PROCEDURES

OPEN REDUCTION, BONE GRAFTING, AND INTERNAL FIXATION OF OSTEOCHONDRITIS DISSECANS LESION OF THE KNEE

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Published outcomes of this procedure can be found at: *Cartilage*. 2016 Apr;7(2):157-62, *Clin Orthop Relat Res*. 1987 Nov;224:71-8, and *Am J Sports Med*. 2007 May;35(5):712-8.

Investigation performed at the University of Minnesota, Minneapolis, Minnesota

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Abstract

steochondritis dissecans (OCD) of the femoral condyle is an idiopathic focal bone abnormality affecting the subchondral bone and can result in unstable osteochondral lesions. The treatment of unstable OCD lesions with open reduction and internal fixation with metallic compression screws is well documented in the literature. Fixation is performed to prevent dislodgement of unstable OCD lesions or fix displaced fragments that have been surgically reduced. The procedure is performed by approaching the knee through a midline incision and medial parapatellar arthrotomy. The lesion is identified, and a scalpel is used to incise the cartilage circumferentially, leaving 1 side intact, to create a "trap door" flap. The OCD fragment is lifted from the bed, and the bed is prepared by debriding the fibrocartilage scar and bone-grafting the bed. The osteochondral fragment is reduced back to the bed, and guidewires are placed to secure the reduction and plan screw trajectories. Guide pins are overdrilled and Herbert compression screws are placed to secure the OCD fragment. The wound is irrigated and closed. Complications are rare, but later screw removal is typically recommended. Reported outcomes are satisfactory, with an 80% rate of radiographic healing and good-to-excellent patient-reported outcomes.

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References

- 1. Barrett I, King AH, Riester S, van Wijnen A, Levy BA, Stuart MJ, Krych AJ. Internal fixation of unstable osteochondritis dissecans in the skeletally mature knee with metal screws. Cartilage. 2016 Apr;7(2):157-62. Epub 2015 Dec 30.
- 2. Kocher MS, Czarnecki JJ, Andersen JS, Micheli LJ. Internal fixation of juvenile osteochondritis dissecans lesions of the knee. Am J Sports Med. 2007 May; 35(5):712-8. Epub 2007 Mar 2.
- 3. Kouzelis A, Plessas S, Papadopoulos AX, Gliatis I, Lambiris E. Herbert screw fixation and reverse guided drillings, for treatment of types III and IV osteochondritis dissecans. Knee Surg Sports Traumatol Arthrosc. 2006 Jan;14(1):70-5. Epub 2005 Jun 21.
- 4. Magnussen RA, Carey JL, Spindler KP. Does operative fixation of an osteochondritis dissecans loose body result in healing and long-term maintenance of knee function? Am J Sports Med. 2009 Apr;37(4):754-9. Epub 2009 Feb 9.
- 5. Thomson NL. Osteochondritis dissecans and osteochondral fragments managed by Herbert compression screw fixation. Clin Orthop Relat Res. 1987 Nov;(224):71-8.

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