



## Mid Atlantic Regional Chapter of the American College of Sports Medicine

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### Treatment of Osteochondritis Dissecans of the Capitellum Using BioCartilage

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#### INTRODUCTION:

Osteochondritis dissecans (OCD) is a condition that can affect the elbow due to recurrent compressive loads in adolescent throwers and those who frequently utilize their upper extremity for weight-bearing. Microtrauma over time can lead to separation of the articular cartilage from subchondral bone, leading to long-term pain and functional limitations that can be devastating to the career of a young athlete. A variety of treatment strategies addressing OCD lesions of the capitellum have been described, including open reduction internal fixation, removal of the detached fragment with microfracture, and osteochondral transplantation. Size and stability of the lesion dictate the optimal treatment regimen, although risks and benefits of various techniques do not yield a single optimal plan for each case, as it must be tailored to the patient.

**PURPOSE:** The primary aim of this study was to report a novel technique using BioCartilage® (Arthrex, Naples, FL), an FDA-regulated product intended for use as an articular cartilage defect filler. This dehydrated, human articular cartilage allograft serves as a scaffold to augment microfracture. BioCartilage was used to address OCD lesions of the capitellum in this population of athletes, with the prediction that this would lead to favorable clinical outcomes. **METHODS:** A retrospective review was performed of athletic patients with osteochondritis dissecans of the capitellum treated by a single surgeon at two institutions between the years 2013 and 2016. Four patients with OCD lesions of the capitellum were included who underwent open surgical intervention with implantation of BioCartilage through a lateral approach to the elbow. There were three female patients and one male patient. Two of the female patients were gymnasts, one female patient was a softball player, and the male patient was a baseball player. Mean age was 13 years at the time of surgery (range 12-15 years). The dominant side was involved in half of the cases. Average follow-up was 32 months. **RESULTS:** Cartilaginous loose bodies were extracted intraoperatively in each of the four patients. The visual analog pain scores of all four patients improved to 0/10, and each patient returned to their original sport at six months with full, painless range of motion and full strength. American Shoulder and Elbow Scores (ASES) postoperatively were 100 for all patients. One patient returned to sporting competition for a national team, and athletic scholarship offers have been made for another patient. There were no intraoperative or postoperative complications, infections, or reoperations. Radiographs obtained at 6-8 months postoperatively showed healing of the lesions with no further evidence of an osseous defect. **DISCUSSION:** This innovative technique involving the use of BioCartilage to address OCD lesions of the capitellum shows promising results, as reported in this subset of



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patients. Safe return to play is among the primary goals for patients who are frequently affected by this condition and is directly impacted by the degree of invasive techniques used to address the lesion and the rehabilitation protocol postoperatively. These results demonstrate favorable clinical outcomes. This technique offers advantages by providing comparable, if not improved, range of motion as compared to current techniques, with minimal complications and relatively rapid, safe return to sport with restoration of full, painless range of motion. **CONCLUSION:** The novel technique of implantation of BioCartilage for osteochondritis dessicans of the capitellum in adolescent athletes shows preliminary success by restoring motion, function, and return to play.

Statement of Disclosure: The authors have no actual or potential conflicts of interest in relation to this abstract.