



# Research Week 2022

## Osteochondral Allograft Transplantation in the Shoulder: Indications and Outcomes. A Systematic Review

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### Keywords

Osteochondral allograft, glenohumeral joint, Hill-Sachs lesion, osteochondritis dissecans, glenoid bone loss, glenoid lesion, osteoarthritis, glenohumeral instability.

### Abstract

#### *Purpose*

The aim of this study is to collate current literature pertaining to the various indications for and outcomes of osteochondral allograft (OCA) transplantations in the shoulder in hopes of outlining a potential standard of care.

#### *Methods*

A systematic review of the current literature was performed in February 2022 in the PubMed, Cochrane, and EMBASE databases using specific search terms and predetermined inclusion and exclusion criteria. One-hundred thirty-six articles were initially identified, 30 full-text articles were assessed for eligibility, and 17 articles met inclusion criteria. Data was collected for study characteristics, etiology, lesion size/location, intervention/type of graft used, follow up, and outcomes.

#### *Outcomes*

In total, 82 shoulders were included (n=82) in the systematic review with an average follow up of 45.7 months. The various indications for OCA transplantation in the shoulder included reverse Hill-Sachs lesions (33), Hill-Sachs lesions (22), pain pump chondrolysis (10), osteoarthritis/degenerative changes (7), recurrent shoulder instability (6), glenoid bone loss (1), osteochondritis dissecans (1), radiofrequency chondrolysis (1), and prominent suture anchors (1). Seventeen patients had concomitant surgeries (e.g., lateral meniscus allografts, humeral head replacement, Bankart lesion repair, or microfracture) and two patients were lost to follow up. Of the total 82 shoulders, 67 had favorable outcomes and 13 had unfavorable outcomes as determined by graft incorporation, pain scores, functionality/ROM, patient-reported satisfaction, and/or requirement for

revision/arthroplasty. Of the 13 with unfavorable outcomes, a disproportionate number had concomitant surgeries and/or were performed for pain pump chondrolysis (6).

### *Conclusions*

The use of OCAs appears to be a viable option for a variety of difficult-to-treat shoulder pathologies, particularly those characterized by isolated osteochondral injuries (e.g., reverse Hill-Sachs lesions, Hill-Sachs lesions, etc.). However, the use of OCAs in patients with pain pump chondrolysis and/or in patients undergoing concomitant surgeries appears to be associated with less favorable outcomes.