

## Treatment of osteochondral lesions in the ankle with a particulated juvenile cartilage allograft: five year outcomes in a challenging clinic population

Karim Boukhemis, MD, Christopher Kreulen, MD, MS, J. Chris Coetzee, MD, Steven Neufeld, MD, Gregory Berlet, MD, Thomas Dowd, MD, Paul Ryan, MD, Justin Robbins, MD, Eric Giza, MD

**Category:** Ankle

**Keywords:** osteochondral lesions, OCD, OLT, Denovo, Juvenile cartilage

**Introduction/Purpose:** Numerous treatment modalities are in use today to treat symptomatic osteochondral lesions in the ankle; however, there are ongoing challenges with the treatment of certain types of lesions and concern regarding the long-term effectiveness of current common techniques.

**Methods:** The purpose of this study was to collect mid and long-term clinical outcomes of pain, function, and activity level (VAS, SF-12, FAAM ADL, FAAM sports) Single-arm, multi-center study collected outcomes prospectively in standard clinic patients who would be undergoing or who had previously undergone treatment with DeNovo NT. The main exclusion criteria were high surgical risk, clinically diagnosed autoimmune diseases, or an active joint infection; all other patients receiving DeNovo NT could be approached for the study. The outcome analysis for this abstract focused on enrolled subjects' final follow-up to date.

**Results:** Clinical outcomes have been prospectively collected for 24 subjects with a total of 48 months follow-up. Twenty four of the treated lesions were located on the talus, none on the tibia. Out of the 24 patients, 23 had a single lesion and 1 had more than one. The average lesion size was 108.1mm +/- 60.0 [23]. The Hepple classification was used to categorize each lesion. Interestingly, 19/24 were classified as 3 or higher. Cartilage ICRS was also used for classification. Out of the subjects, 23/24 were ICRS grade 3 or 4. There was also a concomitant procedure for 22/24 patients. Pre and post op VAS scores of 47.5 (+/- 23.1) and 12.2 +/- 17.8. SF-12 scores pre and post of 38.0 +/- 8.5 and 50.1 +/- 8.2. FAAM ADL's pre and post 60.4 +/- 16.3 and 90.4 +/- 11.8. FAAM sport scale scores pre and post 28.8 +/- 16.7 and 74.5 +/- 22.4. all outcome measures were statistically significant.

**Conclusion:** Four year complete data is a challenge in this particular clinical population. This data set encompasses symptomatic osteochondral lesions of the talus treated with particulated juvenile cartilage allograft. The outcomes reflect an improvement in symptoms and patient satisfaction when treated with this technique. Based on these final outcome measures (VAS, SF-12, FAAM ADL's, FAAM sport scale score) and satisfaction, it can be concluded that this is a viable option to get patients back to their pre-injury state.

---

Foot & Ankle Orthopaedics, 3(3)  
DOI: 10.1177/2473011418S00167  
©The Author(s) 2018