Patients managed with early weight bearing (EWB) following arthroscopic microfracture for osteochondral lesions of the talus exhibited significant improvement in early postoperative functional scores compared to those managed with delayed weight bearing (DWB), according to research presented by CPT J. Banks Deal Jr, MD, of Tripler Army Medical Center, Honolulu, Hawaii at the 2016 annual meeting of the Society of Military Orthopaedic Surgeons (SOMOS). This finding was not associated with any significant differences in functional scores or pain at any other time points.

Dr. Deal and his fellow investigators conducted the study to determine “what clinical consequence, if any, would occur if early weight bearing was allowed after microfracture for an osteochondral lesion of the talus.” They hypothesized there would be no difference in subjective patient outcome scores between EWB and DWB after microfracture for an osteochondral lesion of the talus. This was based in part on their experience with some patients who admitted to noncompliance with non–weight–bearing (NWB) directives (traditionally 6 to 8 weeks), yet had acceptable clinical outcomes. Also, Dr. Deal said, some recent research had indicated that EWB might not have detrimental effects.

Conducting the study
Thirty-seven patients took part in the prospective, randomized trial. Enrolled subjects had unilateral, primary, unifocal osteochondral lesions treated with arthroscopic microfracture.

“Of note, we excluded patients with multiple lesions, lesions larger than 1.5 square centimeters, and ipsilateral ankle fractures,” Dr. Deal said.

The patients were randomized into EWB (17 patients) and DWB (20 patients) cohorts at their 2-week visit after surgery. Both cohorts were managed with rigid immobilization and non–weight–bearing status after surgery. Subjects in the EWB group began weight bearing as tolerated at 2 weeks, whereas those in the DWB group were instructed to remain strictly NWB on crutches for an additional 4 weeks. Both groups were placed into removable fracture boots so that the physical therapists could work on ankle range of motion. Primary outcome measures included Foot and Ankle Outcomes Questionnaire scores (AAOS scores)—derived from the questionnaire developed by the AAOS and various orthopaedic specialty societies—and the Numeric Rating System (NRS) pain score. Both scores were collected preoperatively as well as at 6 weeks, 3 months, 6 months, 1 year, and 2 years postoperatively.

There were no differences between the two cohorts in terms of patient age, mechanism of injury, lesion size, lesion stage, or baseline NRS or AAOS scores. The mean age at surgery was 34.1 years (range, 21–50 years). Seventy percent of the lesions were lateral, 22 percent were medial, and the remainder were central. The EWB group demonstrated statistically significant improvement in AAOS scores at 6-week follow-up, compared to the DWB group (mean 83.1 versus 68.7, \( p = 0.017 \)). There were no significant differences in AAOS score between the EWB and DWB groups at the other time points (Fig. 1). NRS pain scores were not significantly different between the EWB and DWB groups at any time point (Fig. 2). At 1-year follow-up, the EWB group’s AAOS scores were not significantly different from that scale’s uninjured, normative population; however, at all other time points.

**Bottom Line**
- A single prior study and anecdotal evidence suggested that early (2-week) weight bearing after microfracture surgery for the talus would not yield poorer outcomes than delayed (6-week) weight bearing, which can be onerous for patients.
- In this randomized study of 37 patients, the early and delayed weight-bearing patients had similar results at all time periods, except at 6 weeks, at which time the early group demonstrated improved functional outcome scores.
- Fibrocartilage formation induced by microfracture may not affect a durable repair for all patients, and outcomes may worsen over time. Patients had worse function at 2 years compared to their uninjured counterparts.
- Study limitations included the fact that most of the patients in this study were young, male, and athletic.