The question of weight bearing

Delayed weight-bearing protocols after microfracture were first challenged in the knee literature, noted Dr. Deal. A 2005 study by Marder et al showed equivalent outcomes between early and delayed weight bearing at 2-years follow-up after microfracture of the femoral condyles.

Prior to this study, noted Dr. Deal, there had been one prospective study comparing early and delayed weight-bearing protocols after microfracture for osteochondral lesions of the talus. Lee et al of South Korea published a prospective randomized trial of 81 patients who underwent arthroscopic microfracture for osteochondral lesions of the talus.

They showed noninferiority from 3-month to 2-year follow-up, but they did not capture the 6-week time point,” Dr. Deal said. “We found that functional outcomes at the 6-week visit were improved with early weight bearing,” he said. “This was associated with no significant differences in pain or function at other time points. Our results are consistent with the prior study by Lee et al, with the exception that their study did not capture this improvement at the 6-week time point.”

Outcomes in both function and pain scores deteriorated at the 2-year point, noted Dr. Deal, who also explained that this finding matches that of a study by Ferkel et al in which 35 percent of patients experienced a decrease in outcome scores over time.

“In our study, both groups followed this pattern, but were not significantly different from each other,” Dr. Deal said. He and his fellow authors wrote, “At final follow-up, all patients showed outcomes that were inferior to the baseline, uninjured population. This long-term trend suggests that the fibrocartilage formation induced by microfracture may not affect a durable repair for all patients. We know that fibrocartilage degradation is shown at 1-year follow-up and outcomes tend to decrease over time. This may be especially true in active military populations.”

They also noted that “the effect of prolonged non–weight bearing after surgery for lower extremity injuries has been found to decrease patient-reported RAND-36 scores, which assess physical function, vitality, social function, and role-emotional status. Prior studies addressing Achilles tendon ruptures and osteochondral lesions of the knee treated with microfracture have shown no increase in complications, and improvement in RAND-36 scores after EWB.” Limitations of this study, Dr. Deal said, include multiple operating surgeons, with possible variability of technique.

“Arthroscopic microfracture of osteochondral lesions of the talus is a relatively straightforward procedure, and all surgeons were fellowship trained, so we consider this to be a small limitation,” he noted. “Secondly, our population was predominantly, young, male, and athletic, which must be taken into account when applying the results of this study to other groups. Additionally, we only report 2-year follow-up, and attrition at final follow-up meant that we could show no significant difference but not noninferiority as was demonstrated by Lee et al. The primary contribution of this study to our current body of knowledge is the demonstration of early postoperative period functional gains with early weight bearing.”

Because function seems to degrade over the longer term, further study should investigate optimal rehabilitation protocols after surgery for these injuries, Dr. Deal said.

Dr. Deal’s coauthors are Adam T. Groth, MD; Paul M. Ryan, MD; Thomas C. Dowd, MD; Kevin L. Kirk, DO; Jeanne C. Patzkowski, MD; Patrick M. Osborn, MD; Claude D. Anderson, MD; and James R. Ficke, MD.

The authors’ disclosure information can be accessed at www.aaos.org/disclosure

The references for the studies cited may be found in the online version of this article, available at www.aaosnow.org

Terry Stanton is the senior science writer for AAOS Now. He can be reached at tstanton@aaos.org

Clinical News and Views

More from the SOMOS 2016 Annual Meeting

ANDREW J. SHEEAN, MD

Throughout the 2016 SOMOS annual meeting, many well-known surgeons addressed attendees on a variety of subjects and moderated several scientific sessions on cutting-edge topics.

Henry Claude Sagi, MD, provided his perspective on the treatment of femoral head fractures. Dr. Sagi advocated for operative treatment of Type I Pipkin fractures of the femoral head, either with fixation or excision. Additionally, Dr. Sagi offered his opinion that acetabular rim fractures associated with femoral head fractures should generally be treated with operative stabilization.

Robert T. Burks, MD, reviewed state-of-the-art techniques in anterior cruciate ligament (ACL) reconstruction and provided an interesting synopsis of the evolution of thought in ACL reconstruction. In particular, Dr. Burks highlighted the growth in popularity of independent femoral tunnel drilling during the last decade.

John M. Tokish, MD, reflected on his tenure as the Chief of Sports Medicine at the U.S. Air Force Academy, emphasizing the importance of surgeons developing strong working relationships with athletic trainers and physical therapists. Dr. Tokish encouraged listeners to enlist athletic trainers and therapists to tailor therapy regimens to athletes’ capabilities and competitive goals.

In addition, AAOS President Gerald R. Williams Jr, MD, explored national trends in shoulder reconstruction and arthroplasty. He commented on the growing popularity of reverse total shoulder arthroplasty, while noting the growing level of expertise among shoulder surgeons nationwide.

Andrew J. Sheean, MD, is a member of the AAOS Now Editorial Board. He can be reached at ajsheean@gmail.com