Dynamic Wedging Relieves Pain in Knee Osteoarthritis

ARTICLES BY KATE JOHNSON
Montreal Bureau

PRAGUE — Individually calibrated shoes that provide dynamic wedging can significantly improve pain and function in patients with knee osteoarthritis—sometimes immediately, Dr. Yuval Ran reported at the 2006 World Congress on Osteoarthritis.

“We have clearly demonstrated clinical efficacy. Immediate relief of pain in some patients enabled them to walk painlessly during real-life activity thus reactivating neuromuscular skills and balance,” he said at the meeting, which was sponsored by the Osteoarthritis Research Society International.

Dr. Ran, from the Assaf Harofeh Medical Center in Tel Aviv, has been treating patients with foot-wear and orthotic devices at Orthopedic and Sports Technologies Ltd. (Herzliya, Israel) for about 2 years, he said, adding that he has no conflict of interest to disclose.

Unlike other active osteoarthritis (OA) interventions, which usually require intensive physical therapy programs and result in low compliance, the APOS system, which involves semispherical, individually calibrated implants in special footwear, often relieves pain immediately and thus results in extraordinary compliance, he said. “Many patients wear the shoes all the time because we can’t instruct them not to wear something that relieves pain,” he said, noting that the implants are designed to improve age-related loss in neuromuscular control and resulting muscle weakness and stress on the knee joint.

The semispherical rubber devices that are placed on the soles of the shoes at the hindfoot and midfoot can move medially and laterally and may be individually adjusted in order to balance loading, he explained.

In a randomized trial of 61 patients who had knee osteoarthritis (mean age, 66 years) who were treated for 8 weeks with the APOS implants or placebo, Dr. Ran and his colleagues noted a “highly significant” 70% decrease in pain in the treated group, compared with the Western Ontario and McMaster Universities Osteoarthritis (WOMAC) index and a 33% improvement in function according to the Aggregated Locomotor Function (ALF) scale, compared with no improvements in the control group.

Patients were advised to start the treatment with 10 minutes of indoor wear, building up to 60 minutes of outdoor walking—however, he said the majority of patients chose to wear the shoes most of the time because of the pain relief provided. Evaluation was performed at baseline, 4 weeks, and 8 weeks.

The patients also were supervised four times during the study to make adjustments to the shoes, if necessary. Patients in the placebo arm wore shoes that looked identical except without the spheres on the soles.

According to different...