Fluoroscopy Excels for Range Of Motion After Cheilectomy

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LA JOLLA, CALIF. — Fluoroscopy is more reliable than a surgeon's estimate or goniometric measurement to assess range of motion of the first metatarsophalangeal joint in patients with hallux rigidus treated with cheilectomy, a small study showed.

While fluoroscopy showed a 23-degree improvement in dorsiflexion intraoperatively, only 11 degrees of motion improvement was maintained at 6 months, Dr. Richard M. Marks said at the annual meeting of the American Orthopaedic Foot and Ankle Society.

"I think there are several questions that still need to be raised from this study," said Dr. Marks, director of the foot and ankle surgery division at the Medical College of Wisconsin in Milwaukee. "Does motion continue to diminish over time? Does motion correlate with a patient's outcome?

Questions still remain, such as 'Does motion continue to diminish over time?'

DR. MARKS

Does this motion correlate with the grade of arthritis preoperatively?"

He and his associate, Dr. Michael Khazzam, studied 25 patients who underwent cheilectomy through a dorsal incision for the treatment of hallux rigidus. The average age of patients was 46 years, and 15 were female.

A single surgeon performed the cheilectomy and evaluated the range of motion in the first metatarsophalangeal joint. Range of motion evaluations were obtained by surgeon's estimate, by direct goniometric measurement, and by fluoroscopic measurement preoperatively, immediately after surgery, and 6 months postoperatively.

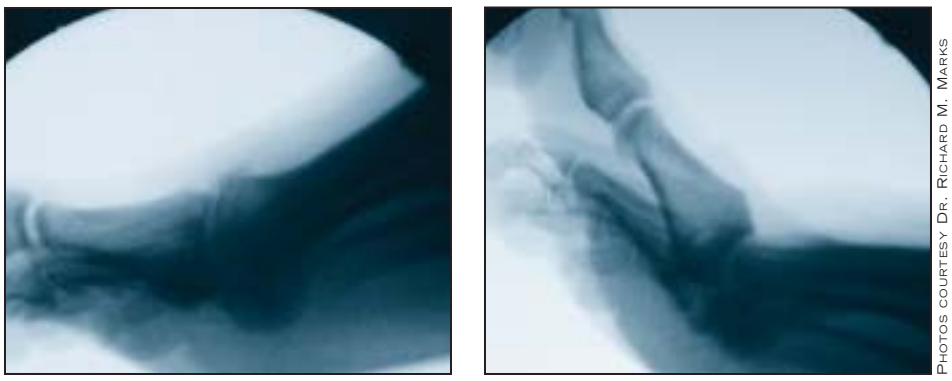
The surgeon's estimated range of motion showed a 39.8-degree improvement intraoperatively vs. preoperatively, a 21.2-degree improvement 6 months postoperatively vs. preoperatively, and an 18.6-degree decrease in range of motion postoperatively vs. intraoperatively.

The goniometric range of motion measurements showed a 28.4-degree improvement intraoperatively vs. preoperatively, a 10-degree improvement 6 months postoperatively vs. preoperatively, and an 18.4-degree decrease in range of motion postoperatively vs. intraoperatively.

The fluoroscopic range of motion measurements showed a 22.9-degree improvement intraoperatively vs. preoperatively, an 11-degree improvement 6 months postoperatively vs. preoperatively, and an 11.9-degree decrease in range of motion postoperatively vs. intraoperatively.

"We found fluoroscopy to be the reliable measurement tool," Dr. Marks said. Fluoroscopy showed that "we were able to achieve 23 degrees more motion intraoperatively up to a peak of 68 degrees. However, at 6 months 12 degrees were lost, so we had a net gain of 11 degrees of motion, or an increase of 48% compared to our intraoperative findings."

Limitations of the study, he added, include the small number of patients and the small time frame of follow-up. ■



PHOTOS COURTESY DR. RICHARD M. MARKS

Shown above are radiographic findings precheilectomy (left) and postcheilectomy (right) in 1 of the 25 study participants. "We found fluoroscopy to be the reliable measurement tool," Dr. Richard M. Marks said. "We had a net gain of 11 degrees of motion, or an increase of 48% compared to our intraoperative findings."