

## Treatment of post-traumatic elbow contracture

Restriction of elbow motion is functionally and cosmetically debilitating. We used a lateral approach combined with a limited ulnar approach for releasing of stiff joint. The purpose of this study was to report surgical outcomes and limitations of our technique.

**Clinical materials** Since 1992, 50 patients with post-traumatic contracture were released. There were 28 males and 22 females with an average age of 33. The interval from initial injury to operative release was an average of 11 months. Releasing contracture was performed on those patients with flexion limited between 30 and 100 degrees. Restriction of pronosupination or motion pain were also indication for surgical treatment. The mean preoperative range of motion was 38 to 102. 14 patients had limited pro-supination arc of 85.

**Operative technique** The lateral or medial approach was used for exposure. Removal of peri-articular scar tissue and osteophyte were performed. The lateral and medial collateral ligaments were preserved as possible. Postoperatively a compressive bandage and arm elevation was performed for 48 hours, then active and passive motion exercise was started by using CPM machine. Corrective splint was used to maintain range of motion.

**Results** A lateral or medial incision was used in 13 and 9 patients, respectively. 20 had a both lateral and medial incision, and 8 had a posterior previous incision. Postoperative follow-up period was 14 months. Mean range of motion was 17 to 124. Pro-supination motion for 14 cases were 40 of supination and 55 of pronation. Gain of flexion extension arch was 44 degrees, and pronosupination arc increased 28 degrees.

As surgical complication, one patient needed screw fixation due to supracondylar fracture after release surgery. Temporally nerve palsy occurred in 4 cases but subsided.

**Discussion** Various approaches for releasing contracture have been reported. Lateral or medial approach was a fairly good exposure with minimal complications. However, for those who suffered from dystrophic pain or associated injuries, gain of joint motion was minimal. Recontouring osteectomy also had minimal improvement for those who had poor joint congruity. Further extensive release to the distal radio-ulnar joint or interosseous membrane might be necessary for improvement of pro-supination motion.