

## Comparison of Outcome in Impingement Syndrome with and without Stiff Shoulder

Jin-Young Park, M.D., Gi-Hyuk Moon\*, M.D., Moon-Jib Yoo M.D.

*Department of Orthopaedic Surgery, Dankook University College of Medicine,  
Pohang St. Mary's Hospital*

### Introduction

This study was performed to evaluate the outcome of impingement syndrome in patients with and without stiff shoulder.

### Material and Methods

We evaluated 76 impingement syndrome without stiffness patients and 24 with stiffness. Patients without stiffness were treated by subacromial decompression and partial bursectomy and patients with stiffness by subacromial decompression and partial bursectomy combined with manipulation. The mean follow-up period was 32 months.

### Result

In the group with stiffness, preoperative pain was more severe and the ASES score was worse than in the group without stiffness. Postoperative pain and the ASES score were improved in both groups. When we compared the postoperative results with respect to group pain scores and ASES scores, no statistically significant differences were observed between the two groups.

The satisfactory results were obtained in 67% of the group with stiffness and in 80% of the group without stiffness. The patient satisfaction was 83% in the group with stiffness and 93% in the group without stiffness. For patients with diabetes a satisfactory rate was achieved in 47% of those with stiffness and in 82% of those without stiffness. Forward elevation, external rotation at 90° abduction and internal rotation improved in both groups postoperatively without significant differences between the two groups, although external rotation at the side was significantly restricted in the group with stiffness.

### Conclusion

Although patients may not regain a full range of motion, the technique of manipulation followed by arthroscopic subacromial decompression offers good pain relief and satisfactory functional recovery for those with impingement syndrome and stiffness. However, preoperative counseling is necessary for impingement syndrome combined with diabetes and stiffness due to its poor outcome.

### Key word

Shoulder, Impingement syndrome, Stiff shoulder, Frozen shoulder, Diabetes, Acromioplasty, Manipulation, Arthroscopy