

DR. SAFRAN'S

POSTOPERATIVE TREATMENT

PECTORALIS MAJOR TRANSFER

The patient is discharged from the hospital on the first postoperative day, and a shoulder immobilizer is worn with the arm at the side for the first 4 weeks. During this period passive shoulder motion is performed to ensure that the tendon transfer does not scar to the soft tissue tunnel along the chest wall. The patient is permitted to remove the shoulder immobilizer to shower. Active range of motion begins after 4 weeks; strengthening exercises are prohibited until 3 months after the procedure. Lifting more than 20 pounds with the surgically treated arm or contact and collision sports are prohibited for 1 year after surgery.

After 2 months a biofeedback program is instituted to help the patient train the tendon transfer to actively stabilize the scapula during shoulder flexion. It is the authors' impression that the speed of recovery of scapular stabilization is better with this technique than with other methods of muscle training. The biofeedback program is done using surface electrodes (Myotrac Model 4000, Thought Technologies Ltd, Montreal, Canada) placed over the transferred pectoralis muscle. The biofeedback unit gives visual and audible feedback from electromyographic activity occurring with muscle contraction. The threshold level initially is set low and is increased as the patient is able to maintain muscle activity more consistently during shoulder flexion. Biofeedback training is performed initially with the patient in a side lying position to eliminate the effects of gravity. The patient is asked to adduct the flexed arm against resistance provided by the therapist to promote contraction of the pectoralis major. This resistance is maintained for 5 seconds for five to 10 repetitions to allow the patient to become familiar with the biofeedback signal. The patient then attempts to flex the shoulder anterior to the plane of the scapula while maintaining the pectoralis muscle contraction by maximizing the biofeedback audible and visible signals. If the patient has difficulty maintaining pectoralis contraction during flexion, the therapist provides some concomitant resistance to adduction during flexion. Once the patient is able to maximize pectoralis contraction consistently without gravity, he or she is asked to sit up and attempt flexion. Usually two to four sessions are required to produce this effect