

SHOULDER STRENGTHENING

PHASE I

These exercises are designed to begin the strengthening process of your shoulder muscles. Muscles take a very long time (perhaps months) to become strong enough to even lift the weight of our arm. Be patient, be persistent and do not become discouraged at what may seem like slow progress. Your underlying condition led to weak muscles and your surgery possibly aggravated this weakness through atrophy. Exercises must be done twice daily every day of the week. 10 repetitions are done for each exercise.

Begin with no weights, and then gradually increase by $\frac{1}{2}$ pound increments. Spend at least 3 days with each weight level then advance to the next if possible.

1. STRENGTHENING SHOULDER EXERCISES

Lay flat on your back without a pillow under the head (Fig. 1). Use the power of your good arm to elevate the affected arm with your elbow flexed, extending the elbow as you bring your arm over your head. Then lower your arm, slowly bringing it down by the side in a steady rhythm as your arm descends between 90° of elevation and 0° . It is in this arc that gravity will try to accelerate your arm movement. Prevention of this acceleration results in strengthening of the muscle by eccentric lengthening. Rest a few moments and repeat the exercise. Work towards repeating the exercise 10 times before proceeding. When you can perform this exercise, unassisted from beginning to end with good control, for 10 repetitions twice daily, then you may lift it by itself while still laying on your back.

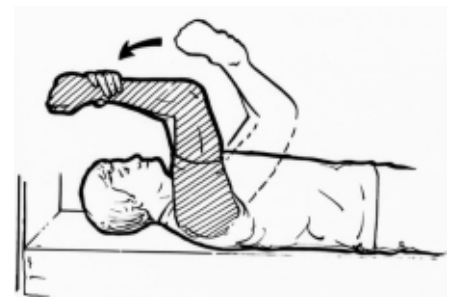


Figure 1 Phase I Strengthening:
This exercise is performed while lying supine to minimize the effect of gravity thereby diminishing the weight of the arm.

2. STRENGTHENING ROTATOR CUFF AND ELEVATORS

Once you can do the 1st exercise, add a 0.5-lb weight as shown (Fig. 2). Lift the weight overhead and slowly back down by the side 10 times in a smooth fashion. When 10 repetitions can be performed without pain and without the assistance of your good arm twice daily, increase the weight by .5-lb. Remember, at least 3 days should be spent at each weight level.



Figure 2 Phase I Strengthening

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PHASE II

These exercises are designed to strengthen the external rotators and elevators of your shoulder. They should be performed in sets of ten, twice a day. Hold the position for at least 5 seconds.

1. STRENGTHENING ELEVATORS AGAINST GRAVITY

You may begin this exercise once you can perform Phase I exercise #2 with a 3-lb weight. Stand or sit and use the power of your normal arm to lift your weak arm straight overhead. **USE NO WEIGHTS.** (Fig.1). Release your weak arm and balance overhead with active muscle control. Slowly flex the elbow as the arm descends in the elevation plane while preventing any acceleration as the arm is lowered. When you've lowered your arm down to your side, rest for a few moments. Do not attempt to lift the weak arm by itself. Repeat 10 times, twice daily.

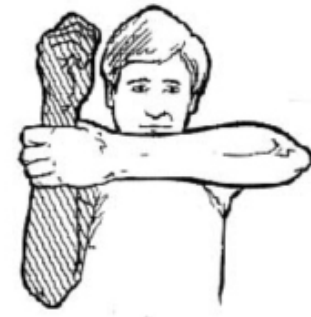


Figure 1 Phase II Strengthening:
The arm is passively elevated against gravity while the descent phase is active. This results in eccentric strengthening of the muscles.

2. STRENGTHENING ROTATOR CUFF ELEVATORS

Once you can do exercise #1 smoothly 10 times, add a 0.5-lb weight increments to the weak arm but use the normal arm to lift the weight as shown in Fig. 2. Then remove the normal arm and lower the weak arm by itself. When you can lower 3 to 5 pounds with good control, then you may lift the weak arm by itself. Once you are able to bring 5 to 6 pounds down to your side without acceleration 10 times, your may begin the Phase III strengthening program.



Figure 2 Phase II Strengthening

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PHASE III

These exercises are designed to strengthen the external rotators and elevators of your shoulder. They should be performed in sets of ten, twice a day. Hold the position for at least 5 seconds.

1. ANTERIOR DELTOID

Strengthening of the anterior deltoid is performed as shown (Fig. 1). Face away from the door as shown. Keep the elbow bent at 90° and push forward. The elastic element is pulled forward approximately 45°. Hold it there for 5 seconds and slowly release.



Figure 1 Phase III strengthening of the anterior deltoid muscle.

2. POSTERIOR DELTOID

The posterior deltoid is strengthened similarly by facing the door (Fig. 2). Face toward the door and preset the tension with arm out in front of you. Pull back with your arm about 45° away from your body.

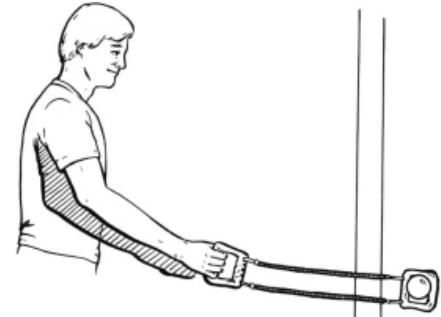


Figure 2 Phase III strengthening of the posterior deltoid muscle.

3. MIDDLE DELTOID

Strengthening of the middle deltoid is best performed in front of a mirror to be certain that symmetry is maintained. Hold the spring or elastic as shown. Simultaneously bring the elbows away from your side while keeping the arms symmetric. It is not important that the angular excursion exceed 45° as shown in the figure (Fig. 3).

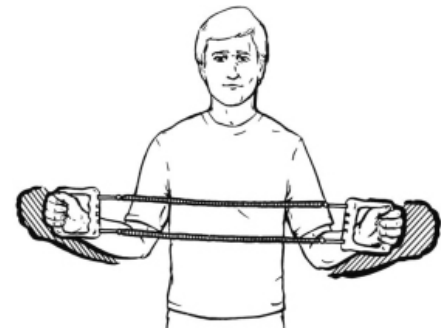


Figure 3 Phase III strengthening of the middle deltoid muscle.

4. INTERNAL ROTATORS

The internal rotators are strengthened as shown (Fig 4). Hold your elbow bent at 90°. Place folded towel(s) between your arm and your body. Rotate your arm and hand across the chest as shown in fig. 4. It is important that your elbow remains tight up against your side to ensure that only rotational forces are generated.

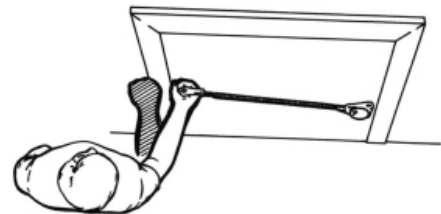


Figure 4 Phase III strengthening of the internal rotators of the shoulder.

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5. EXTERNAL ROTATORS

External rotators are strengthened in a very similar fashion with the patient facing the opposite direction relative to the door handle (Fig 5). Hold the elbow bent at 90°. Rotate your arm and hand out away from your chest but continue to keep the elbow at your side as shown in fig. 5.

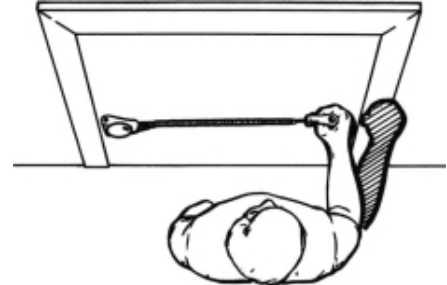


Figure 5 Phase III strengthening of the external rotators of the shoulder.