

minimal risk of injury because muscle groups are isolated and the athlete can hold a stretch only to his conditioning or pain threshold. Range of motion is to tolerance.

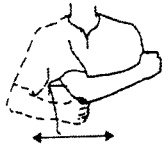
Upper Body Resistance Programs

The following upper body resistance programs show what to do with dumbbells and elastic cords. Training should be a function of what role a pitcher performs. For example, starters who throw 2 times a week would get most of their volumes in 2 lift sessions per week. Relievers can break down their volumes into 3 to 5 lift sessions to match their throwing workloads. It should be common sense to know that when the pitcher's weights are light dumbbells, most of the volume will be achieved by working body weight with push-ups, dips, chin-ups, pull-ups, and abdominal exercises.

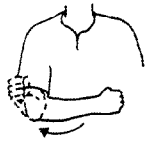
Shoulder-Joint Warmup

Use this series of exercises as a warmup for the upper body maintenance program.

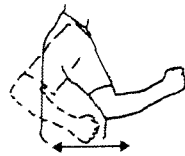
Horizontal Abduction/Adduction: With hand across body, move arm back and forth.



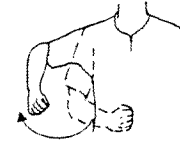
Internal/External Rotation: Keeping arm next to body, move hand in and out.



Flexion/Extension: Keeping arm next to body, move arm back and forth.



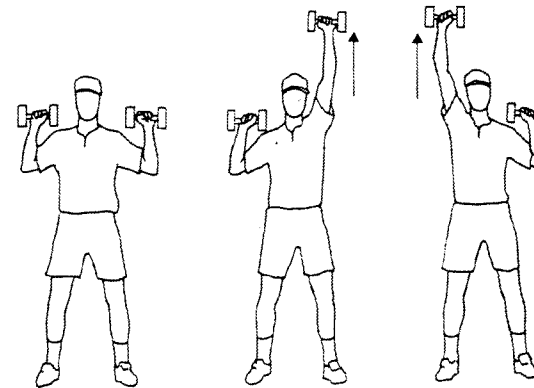
Abduction/Adduction: With hand facing forward, move arm away from body turning thumb down and back again.



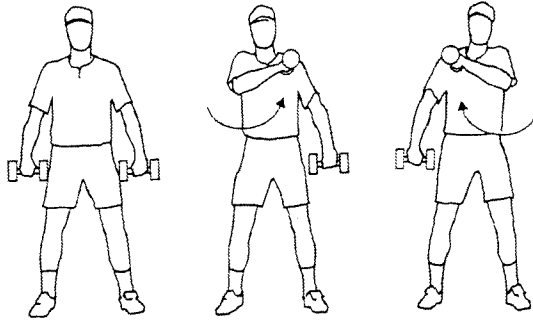
Dumbbells

Perform 10 repetitions each of the first 12 exercises using 3- to 15-pound dumbbells. Perform the final exercises (push-ups, dips, chin-ups, and pull-ups) for volume.

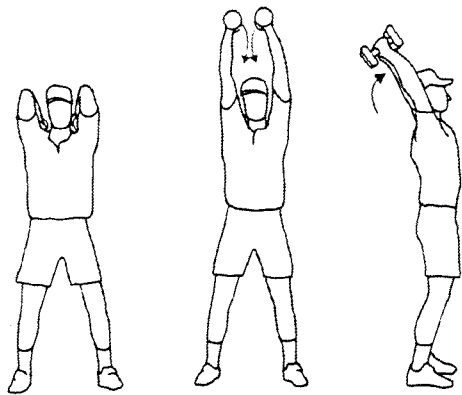
Exercise #1: Start with weights at tip of shoulders. Alternate extending arms to full reach. Option: Alternate rotating palms out or in during extension.



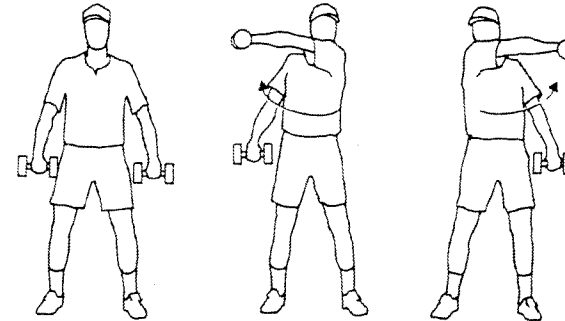
Exercise #2: Start with weights at sides. Bring right arm to left shoulder bending elbow, palm up going up, palm down coming down.



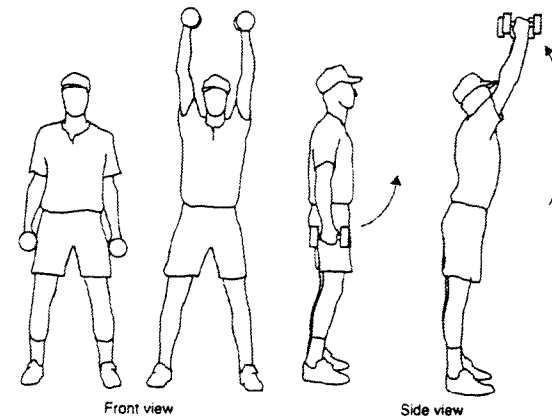
Exercise #3: Start with weights hanging behind head and shoulders with elbows held as high as possible. Alternate extending to full reach. Option: Do both arms at the same time, but keep elbows as close to head as possible. (When arms are extended, they should be slightly in front of or behind your head, not directly above.)



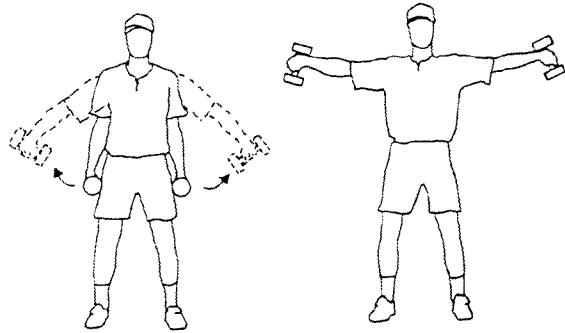
Exercise #4: Start with weights hanging at sides. Lift across body at 45-degree angle to shoulder height. Alternate, keeping back of hand toward sky. Pretend shoulders are against a wall and keep them there with each lift. Option: Rotate thumbs down, thumbs up in the lift.



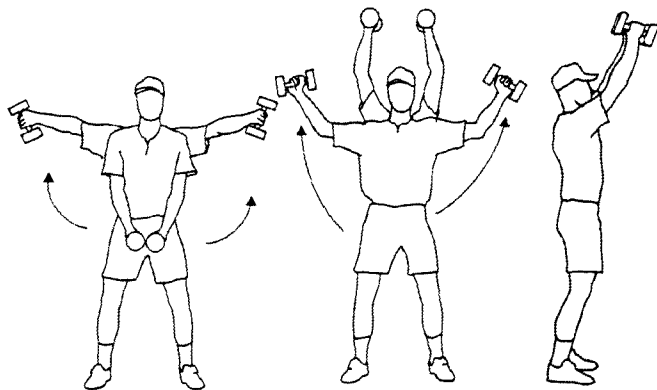
Exercise #5: Start with weights hanging at sides and lift straight out and up to full extension of arms overhead. Stretch shoulders and lower back when weights are fully extended. Option: Rotate thumbs forward with the lift and when returning hands to start position.



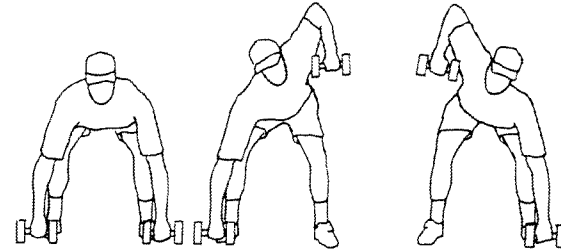
Exercise #6: Start with weights hanging at sides and lift away from body into a T position with arms fully extended. Have weights slightly forward of the shoulders and point thumbs down with the lift.



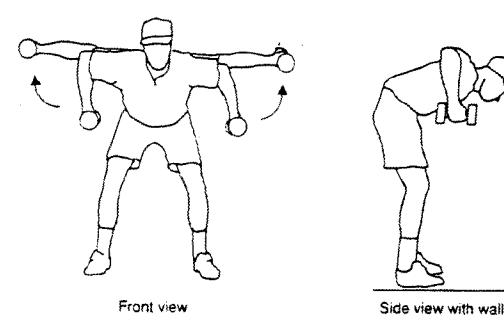
Exercise #7: Start with weights touching together in front of groin. Lift away from body in a windmill action, touching weights at a point in front of head (not over the top) with arms fully extended, and return slowly. Rotate palms down and out, then up and in as weights touch on top. Do the same going down. (Remember to keep your arms slightly in front of your head.)



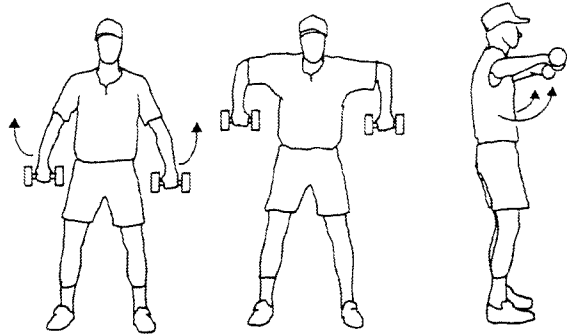
Exercise #8: Bend over and let weights rest on floor in a toe touch position. Alternate lifting weight to shoulder leaving opposite weight on floor. Option: Rotate thumbs forward or backward with each lift to tolerance.



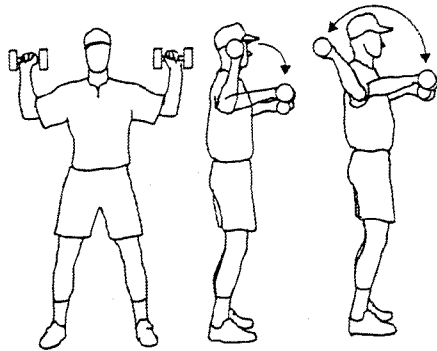
Exercise #9: Bend over to an L position resting head on wall or table. Bring elbows to shoulder height first, then extend arms straight out until parallel with ground. Keep arms extended and return to original position. Option: Rotate thumbs down with extension.



Exercise #10: Start with weights hanging at sides, palms facing back. Lift arms (together or one at a time) until elbow and forearm are at a 90-degree angle. then extend weight out and up to shoulder height. Reverse sequence to starting position. Option: Turn thumbs up in a hitchhike movement with the lift.



Exercise #11: Start with weights in a hands-up position. Keeping elbows parallel to ground, roll weights forward to shoulder height, pause, and roll weights back to shoulder height (or as far as possible).



SCAPULAR STABILIZATION EXERCISE PROGRAM

The shoulder is the only joint in the human body that is entirely supported by surrounding muscular tissue. To completely strengthen a shoulder one must work the surrounding muscles; not just one particular group of muscles. The muscles of the back of the shoulder are usually the weakest and yet are the most important for proper shoulder movement.

Aside from proper muscular strength in the shoulder, the most important factor in shoulder stability is proper posture. The shoulder joint is functionally more stable if good posture is maintained. For good posture a person should keep his shoulders back, chin in, and stomach pulled in. By having your shoulders hunch forward your body shuts down part of your dynamic stabilizing muscles that serve to protect your shoulder.

Also, lying on your side with your shoulder tucked under you improperly stretches the back muscles and ligaments, which are important in stabilizing the shoulder. Figure A of the following diagrams shows the improper way to lie on your side. Figure B shows the correct way to lie on your shoulder. Having the shoulder tucked back helps to relieve the pull on the back muscles and stretches the chest muscles (which are often stronger than the back muscles) and this position restores the shoulder to proper position.



Figure A



Figure B

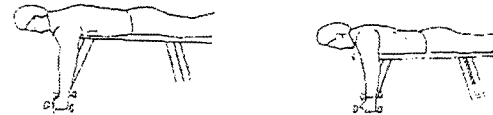


1 SET OF 12 REPS. TO BE DONE 2-3 TIMES A WEEK
ALONG WITH REGULAR SHOULDER PROGRAM.

These exercises can be done at first with no weight at all and progress to very light weights (never more than 10 pound dumbbells) over time, depending on the degree of strength you have. You should also do the routine every other day. Give yourself a day of rest between workouts.

Exercise 1: Rhomboids

Lie face or stomach down on a bench. The bench should be high enough off the floor to enable you to fully extend your arms. Hold a weight or dumbbell in each hand. Keeping your arms straight and elbows locked, lift the dumbbells off the floor by squeezing your shoulder blades together. Hold for a count of 4 then slowly lower the weight. Do 10-12 repetitions then proceed to exercise 2.



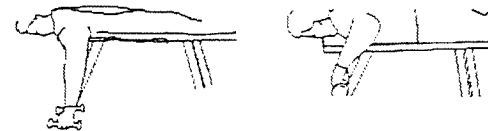
Exercise 2: Rhomboids, Posterior Deltoid

Lie face down on bench. Again, try to squeeze your shoulder blades together. Keeping arms straight and elbows locked raise the arms out to the side as if you were flying. The hands should be in line with the shoulder. Hold for a count of 4. Then, slowly lower and repeat. Do 10-12 repetitions then proceed to exercise 3.



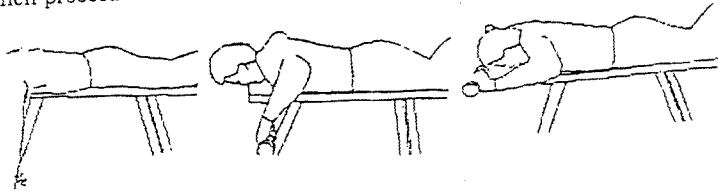
Exercise 3: Rhomboids, Posterior Deltoid

Lie face down on bench with arms fully extended down. Squeeze your shoulder blades together. Lift dumbbells by bringing both elbows back. (Think of elbowing two people behind you). Elbows should be kept in line with the head. A 90 degree angle should be formed at the armpit and at the elbow. Hold for a count of 4. Slowly lower then repeat movement. Do 10-12 repetitions. Then, proceed to exercise 4.



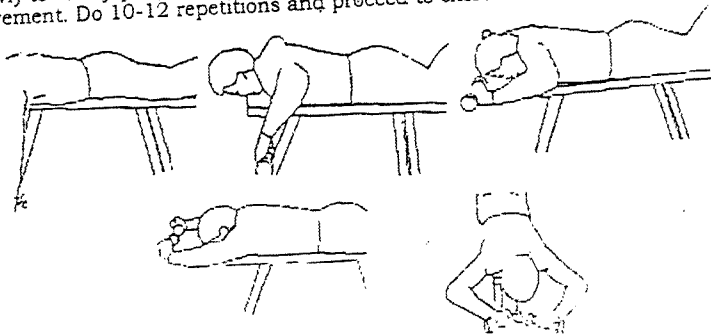
Exercise 4: Rhomboids, Posterior Deltoids, and Infraspinatus

Lie face down on bench with arms fully extended. Squeeze your shoulder blades together. Lift dumbbells by bringing both elbows back as in exercise 3. Then rotate the forearms toward the head using the elbows as a pivot point in space. The hands will be pointed toward the head and the forearms are parallel to the floor. Keep the elbows at shoulder level. Hold for a count of 4. Slowly lower then repeat. Do 10-12 repetitions then proceed to exercise 5.



Exercise 5: Rhomboids, Posterior Deltoids, Infraspinatus, and Upper Trapezius

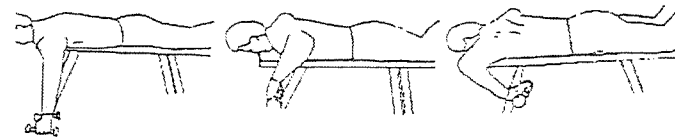
Lie face down on the bench with arms fully extended. Squeeze your shoulder blades together. Lift dumbbells by bringing both elbows back as in exercise 3. Then rotate the hands toward the head as in exercise 4. Now continue by bringing the hands in front and above the head. Try to alternate crossing the hands with each repetition. Hold for a count of 4. Slowly lower by progressing backwards through steps 5 to 1. Then repeat movement. Do 10-12 repetitions and proceed to exercise 6.



Exercise 6: Rhomboids, Posterior Deltoids, and Subscapularis

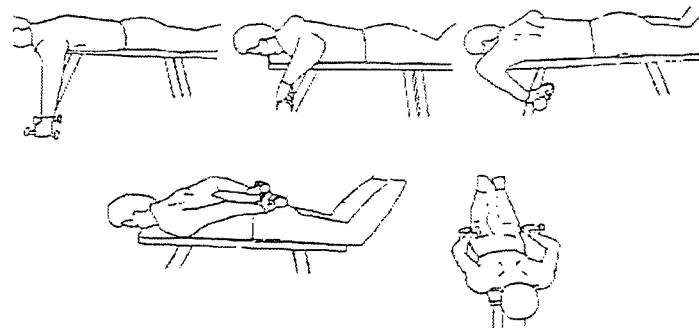
Lie face down on bench with arms fully extended. Squeeze your shoulder blades together. Lift dumbbells by bringing both elbows back as in exercise 3. Keeping the elbows at shoulder level and using the elbows as a pivot point in space, internally rotate the hands toward the feet. Hold for a count of 4. Slowly lower then repeat. Do 10-12 repetitions and proceed to exercise 7.

Note: You will not be able to point the hands directly toward the feet if you maintain proper form by having the elbows at shoulder level. Do whatever range of motion you can.



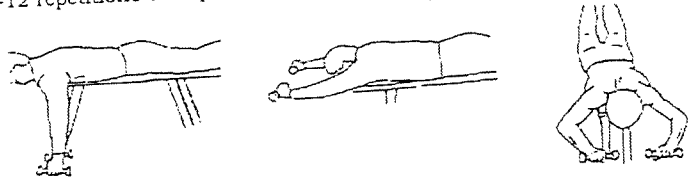
Exercise 7: Rhomboids, Posterior Deltoid, Subscapularis, Lower Trapezius, and Teres Major

Lie face down on bench with arms fully extended. Squeeze your shoulder blades together. Lift dumbbells by bringing both elbows back as in exercise 3. Point hands toward feet by rotating forearms as in exercise 6. Now bring both hands back and above the buttocks. Alternate crossing the hands one over the other with every repetition. Hold for a count of 4. Slowly lower and repeat movement. Proceed to exercise 8. Note: When the hands are above the buttocks do not let them rest on the buttocks. Also, concentrate on squeezing the shoulder blades and elbows together while in this position.



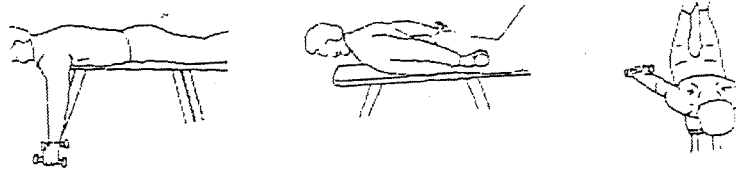
Exercise 8: Posterior Deltoid, Upper Trapezius, and Levator Scapule

Lie face down on bench with arms fully extended. Squeeze your shoulder blades together. Keep the arms as straight as possible and raise them out to a 45 degree angle as if you were superman. Keep the palms facing down. Hold for a count of four. Slowly lower and repeat movement. Do 10-12 repetitions then proceed to exercise 9.



Exercise 9: Latissimus Dorsi, Rhomboids, and Posterior Deltoids

Lie face down on bench with arms fully extended. Squeeze the shoulder blades together and lift arms straight back to your side like a jet airplane. Palms will be facing up. Hold for a count of 4. Slowly lower and repeat movement. Do 10-12 repetitions.



NOW YOU'RE FINISHED!!!