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SHOULDERS

The shoulders are the key to many full-bodied movements. Skill in such sports as swimming, baseball, golf, and tennis and other racquet sports is improved with the help of strong shoulders. Shoulder strength is also essential for succeeding in wrestling and gymnastics. Even when sprinting, the shoulders play an important role in the arm swing, helping the runner build speed and rhythmic movement. Women are traditionally weaker in the shoulders than men and, therefore, shoulder exercises offer a great benefit to women who wish to develop upper-body strength.

Shoulder joint movement is produced primarily by 11 muscles. Of this group of muscles, the most important in size and shape are the deltoids. Deltoids are divided into three portions: anterior, middle, and posterior. Each portion can be worked individually to develop its particular potential strength. The anterior deltoids lift the arms forward, the middle deltoids lift the arms sideways, and the posterior deltoids lift the arms backward.

Because individual exercises can be accomplished with the use of dumbbells, symmetrical

development of each portion of the deltoids can be assured. The benefits of proper deltoid development are strength, protection against shoulder injury, and a powerful upper body for participation in sports.

Shoulder exercises are often coupled with other movements that develop the muscles of the arms, pectorals of the chest, and trapezius and other muscles of the back. It is difficult to completely isolate the shoulder muscles during a workout because many other upper-body muscles must be involved to perform the exercises. Warm-up exercises specifically designed for the shoulders are vital to muscle development for weight lifters. Initial warm-ups should consist of low-impact exercises involving lifting weights and then progressing to higher loads over a period of time. Range-of-motion exercises should also be a part of the warm-up routine prior to weight lifting.

The following exercises are some examples of movements that can be used to develop the shoulder. Many alternatives exist in both standing and seated positions, using a variety of machines, barbells, and dumbbells.

SHOULDER EXERCISE ROUTINE		
Muscle	Exercise	Title
Anterior/Lateral Deltoid	29	Lateral Shoulder Raise
Posterior and Middle Deltoid/ Trapezius	30	Standing Side Deltoid Circle Raise
Serratus Anterior/Trapezius/Deltoid/ Triceps	31	Seated Overhead Military Press
Serratus Anterior/Trapezius/Deltoid/ Triceps	32	Seated Behind-the-Neck Military Press
Deltoid/Elbow Flexors and Extensors	33	Seated Alternated Dumbbell Press
Anterior and Middle Deltoid/ Trapezius	34	Upright Rowing
Posterior Deltoid/Trapezius	35	Seated Bent-over Rear Deltoid Raise

INCREASING THE NUMBER OF REPETITIONS

Always do warm-up exercises before lifting weights.

Start with a minimum of 8 repetitions with a given weight. If a minimum of 8 repetitions cannot be completed, the weight is too heavy for you and the resistance should be lowered until 8 repetitions can be completed.

When 12 repetitions can be successfully completed, the weight should be increased by 5-10 pounds. When 12 repetitions can be completed with the increase in pounds, the weight may be increased again.

Work up to 15-20 repetitions per set for muscle maintenance, endurance, and tone.

When performing exercises with free weights, it is recommended that 2-6 sets for each particular muscle group be used.

CAUTION

Beginners are encouraged to use free weights with a spotter present. Certain exercises will require a spotter regardless of skill level (e.g., squats).

EXERCISE 29. LATERAL SHOULDER RAISE**PURPOSE**

Develops the anterior and lateral portion of the deltoid muscles.

PROCEDURE

- Position the height of the seat so that the feet are firmly planted on the floor. This gives resistance against the floor and assists in balance and stability while lifting. Notice in the photo how the heel of the prosthetic foot is the main contact point. (The prosthetic foot does not plantarflex with muscular control, so it cannot be completely flat.) The seat should be adjusted so the height of the shoulder joint is even with the machine's cam, or the center axis of movement.
- Place the forearms against the pads and grip the handles, but not tightly. Start with your arms at your sides.
- Raise the arms up while pushing against the forearm pads.
- Raise the weight until the forearms are parallel to the floor or even with the top of the shoulders. Inhale while raising the weight and exhale while lowering the weight.
- Raise the weight with a count of two and lower the weight with a count of four.

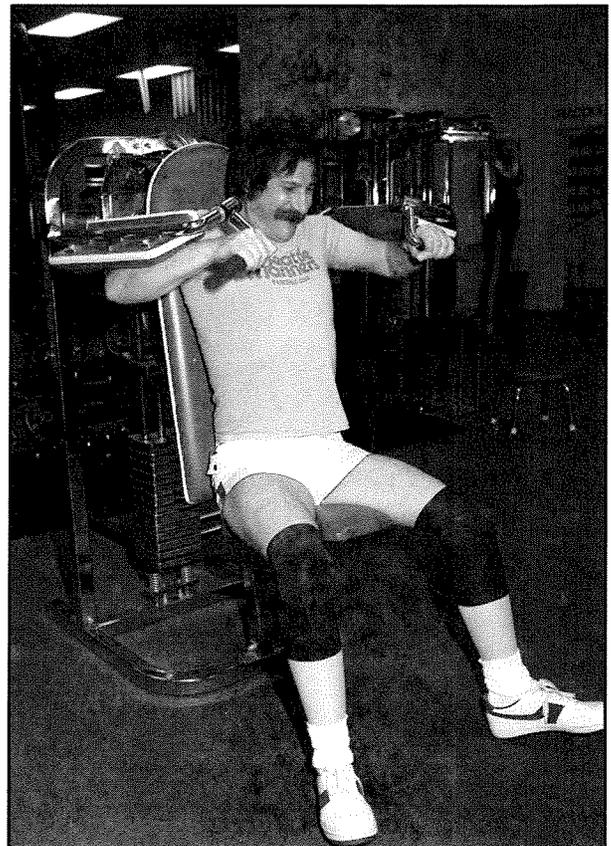
MODIFICATION

The seated position allows for concentration on working the shoulders, rather than on maintaining body balance while lifting the weight.

SKILL LEVEL

Intermediate.

John Everett demonstrates the Lateral Shoulder Raise on the double shoulder machine. Machines may vary slightly among manufacturers, but the use of the apparatus is similar.



EXERCISE 30. STANDING SIDE DELTOID CIRCLE RAISE**PURPOSE**

Works the posterior and middle portion of the deltoid muscle as well as the trapezius muscles and scapular external rotators (infraspinatus teres minor).

PROCEDURE

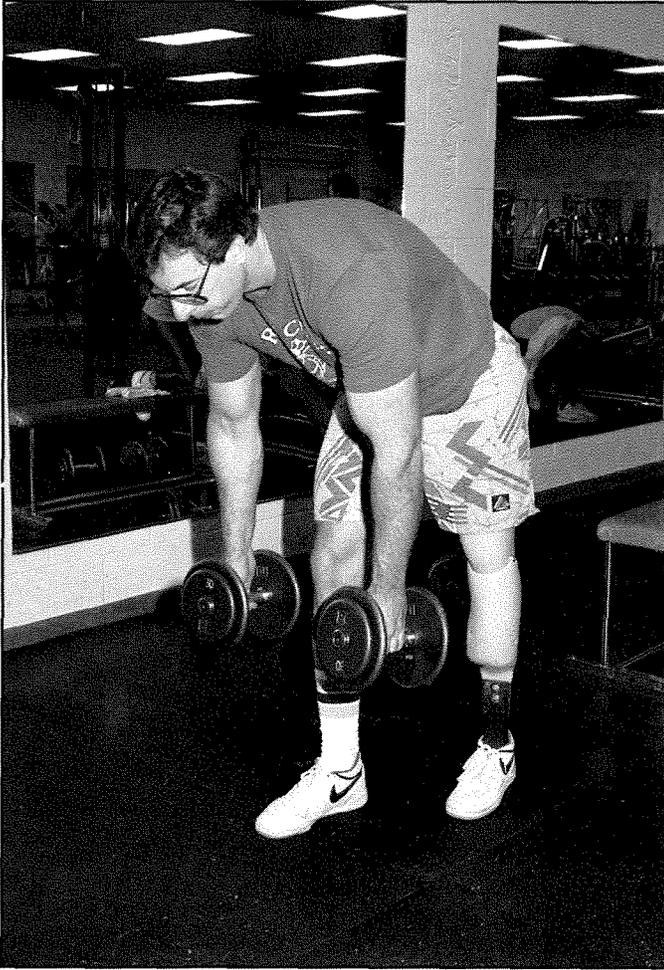
- Pick up the weights with your palms facing each other as shown in the top photo. Try to use your legs to lift the weight, rather than your back. Keep the back straight and the head up.
- Stand up straight with your feet positioned in a comfortable stance so you are well balanced and relaxed. The feet should be about shoulder-width apart; the arms should be fully extended at your sides with a dumbbell in each hand.
- Begin with the arms hanging in the starting position. Raise the dumbbells simultaneously out to the sides, bringing them up just above shoulder height, as seen in the photo. It is acceptable to flex the elbows slightly as the weights are brought up. Inhale when raising the weights and exhale when lowering the weights.
- Lower the weights using the same lateral motion with which they were raised.

MODIFICATION

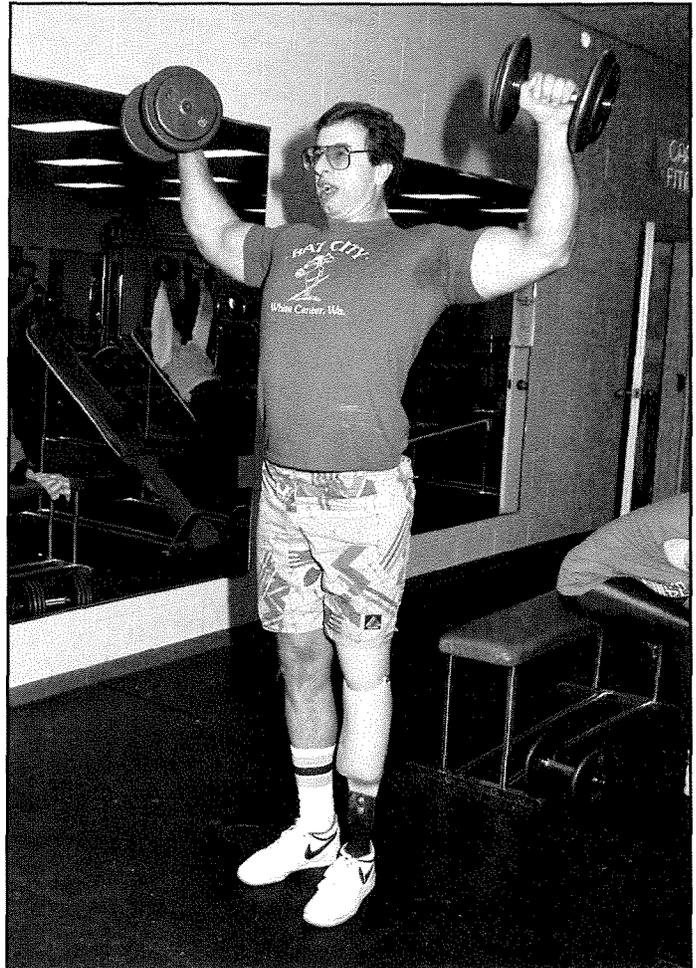
The prosthetic leg is positioned behind the sound limb when picking up the weights. This stance provides extra stability by allowing most of the weight to be taken on the sound limb.

SKILL LEVEL

Intermediate.



Mike Nitz demonstrates the correct way to pick up the weights from the ground before beginning the exercise.



Nitz raises the weights using a semicircular motion while extending the arms until they are just above the head.

EXERCISE 31. SEATED OVERHEAD MILITARY PRESS**PURPOSE**

Develops serratus anterior, trapezius, deltoids, and triceps.

PROCEDURE

- Sit on the stool and position yourself in the middle of the bars. Grab the bars with your hands evenly spaced outside the shoulders.
- Start with your biceps touching your forearms and push upward from the shoulder level until the arms are fully extended overhead.
- Keep your back straight and your head up as you lift.
- Lower the weights slowly with a count of four. Lower the hands so that they are below the ears. You may need to adjust the seat so that you can get a full range of motion going up and down.
- Inhale as you raise the weights and exhale as you lower them.

SKILL LEVEL

Intermediate.



John Everett demonstrates the Seated Overhead Military Press on the Universal machine.

EXERCISE 32. SEATED BEHIND-THE-NECK MILITARY PRESS**PURPOSE**

Develops serratus anterior, trapezius, deltoids, and triceps.

PROCEDURE

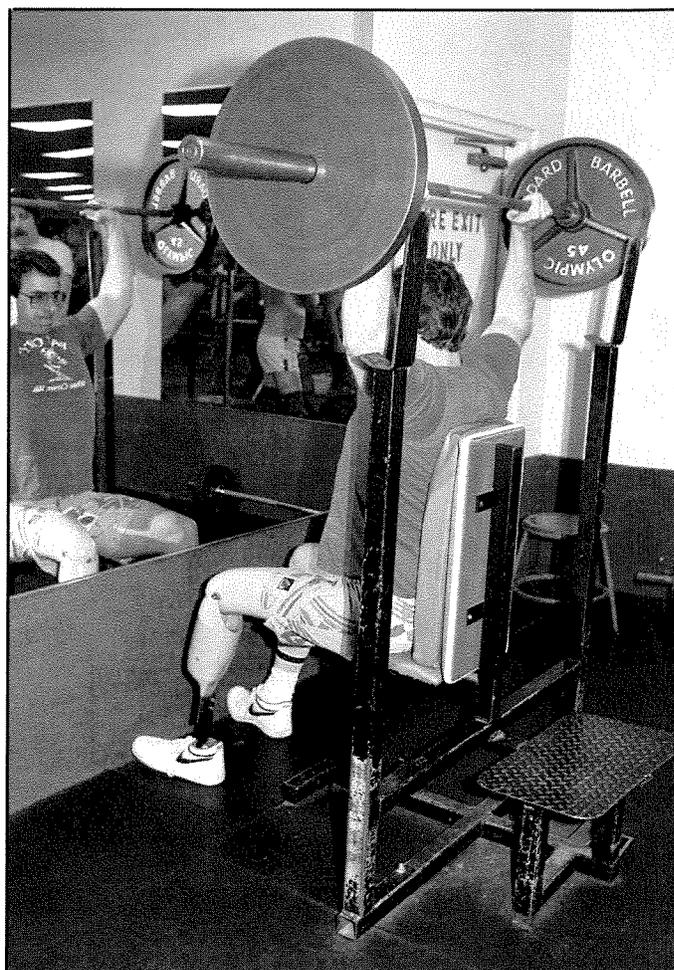
- Position the barbell on the stand and add the desired amount of weight. Make sure your feet are planted firmly on the floor.
- Sit on the bench with your back flat against it. Position your hands on the bar about 4-6 inches outside your shoulders.
- Lower the weight down to the back of the shoulders while you exhale.
- Inhale and press the barbell overhead until your arms are fully extended. Exhale as you lower the barbell back down until it reaches the shoulders.
- Lift the weight in a slow, controlled fashion and lower it in the same manner. This helps to keep tension on the muscles longer as you go through the full range of motion.
- It is acceptable to lock your elbows out for a few seconds at the overhead position before the weight is lowered.
- You can momentarily rest the weight on the shoulders as it is lowered before you lift it again for the next repetition.

SKILL LEVEL

Advanced.

CAUTION

Beginners are encouraged to use a spotter at all times during this exercise. For others, it is a good idea to have a spotter on hand to assist in case of difficulty in getting the weight off the stand, pressing the weight, or putting it back in place. (The spotter may stand on the metal step behind the bench.)



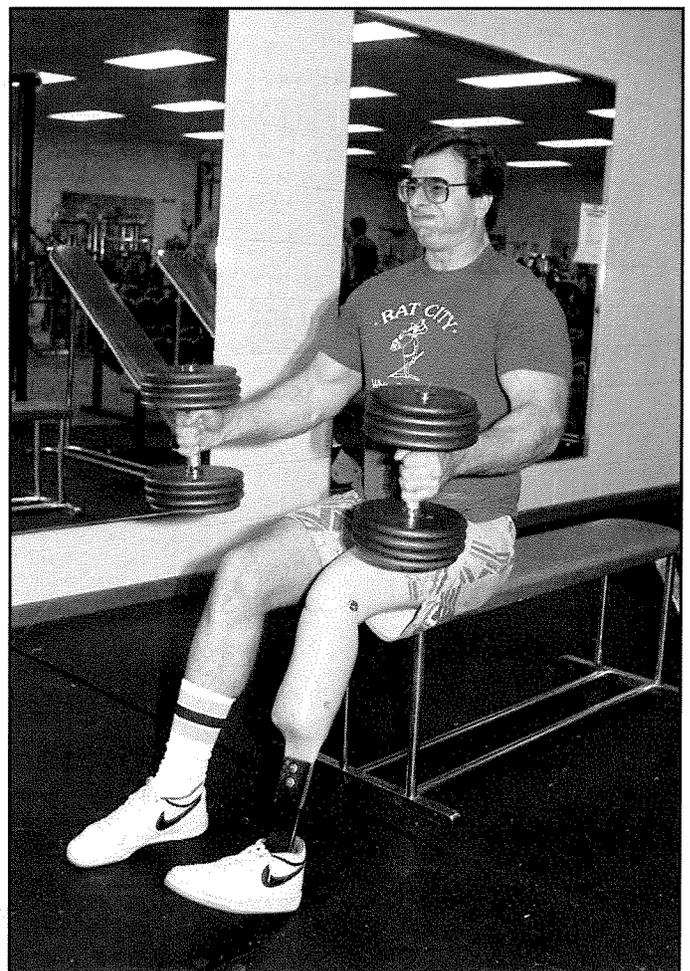
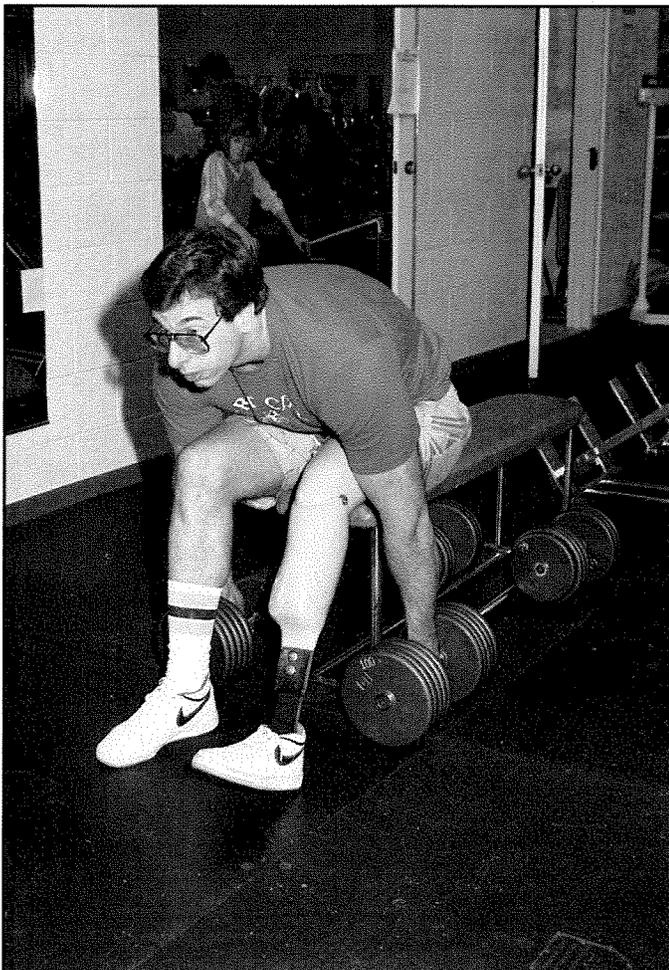
Mike Nitz demonstrates excellent form as he performs this exercise, lifting a weight of 135 pounds.

EXERCISE 33. SEATED ALTERNATED DUMBBELL PRESS**PURPOSE**

Develops deltoid muscles, elbow flexors and extensors, and scapular external rotators.

PROCEDURE**Option 1: The Clean**

- Lift two dumbbells in a continuous motion, keeping the back straight and the head up, until they are at shoulder height. (This is called “cleaning the weight.”)
- Position the feet firmly on the floor and push against the floor for stability. Notice that the heel of the prosthetic leg is pushing against the floor.
- Keep the elbows out to the sides and the thumbs facing each other.
- Lift to mid-chest level.



Mike Nitz demonstrates lifting dumbbells from the ground to shoulder height using one continuous motion, called a “clean.” This is needed to get the weights into position in order to perform the actual lifting portion of the Dumbbell Press.

PROCEDURE

Option 2: Pressing the Weight

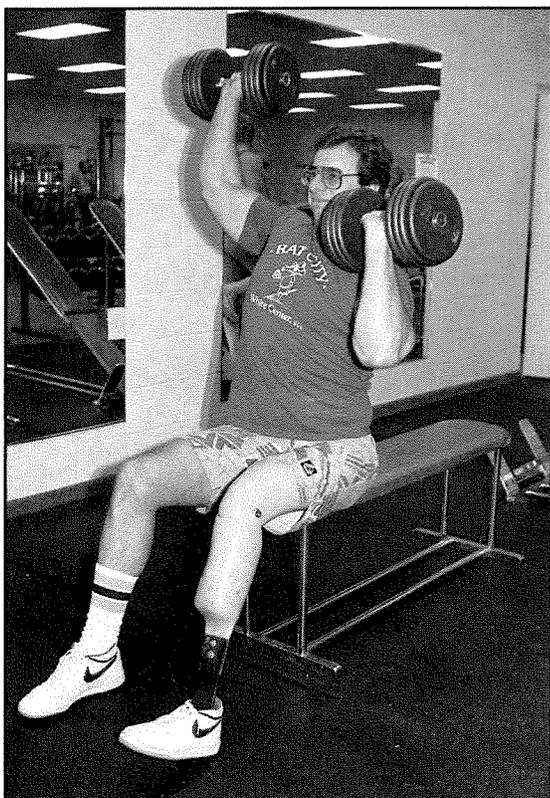
- When both weights have been brought to shoulder level, lift the weight in your right hand straight up above your head until the arm reaches full extension.
- After the full lift, lower the weight to shoulder height and lift the weight in your left hand, raising the arm to full extension.
- Continue to alternate until you have completed the desired number of repetitions.
- Bring the weights back down in a controlled manner by lowering your arms so that they hang at your sides.
- Bend at the waist until the weights are resting on the floor.

MODIFICATION

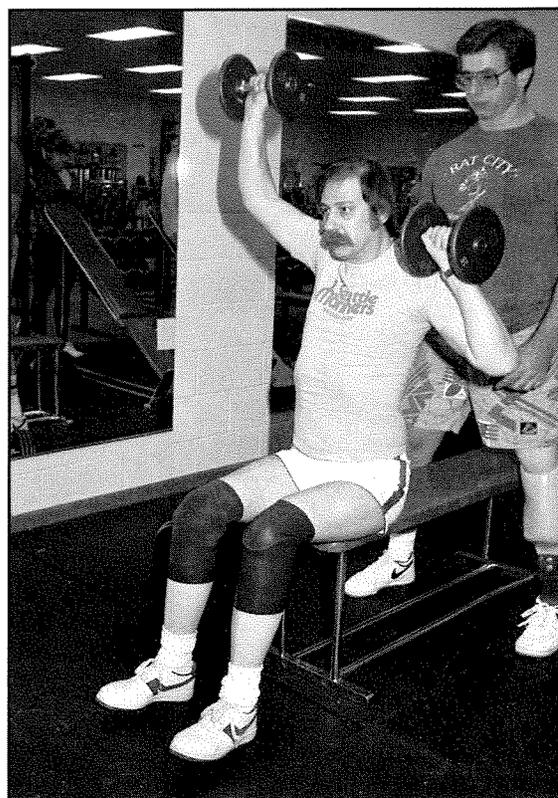
The seated position is excellent for the weight lifter with amputation, as well as the nondisabled, because it reduces excessive body movements that detract from isolating the intended shoulder muscles.

SKILL LEVEL

Intermediate.



“Pressing the weight” is demonstrated by Mike Nitz.



John Everett “pressing the weight.” Note the spotter in the background.

EXERCISE 34. UPRIGHT ROWING**PURPOSE**

Develops the anterior and middle deltoids and upper trapezius muscles.

PROCEDURE

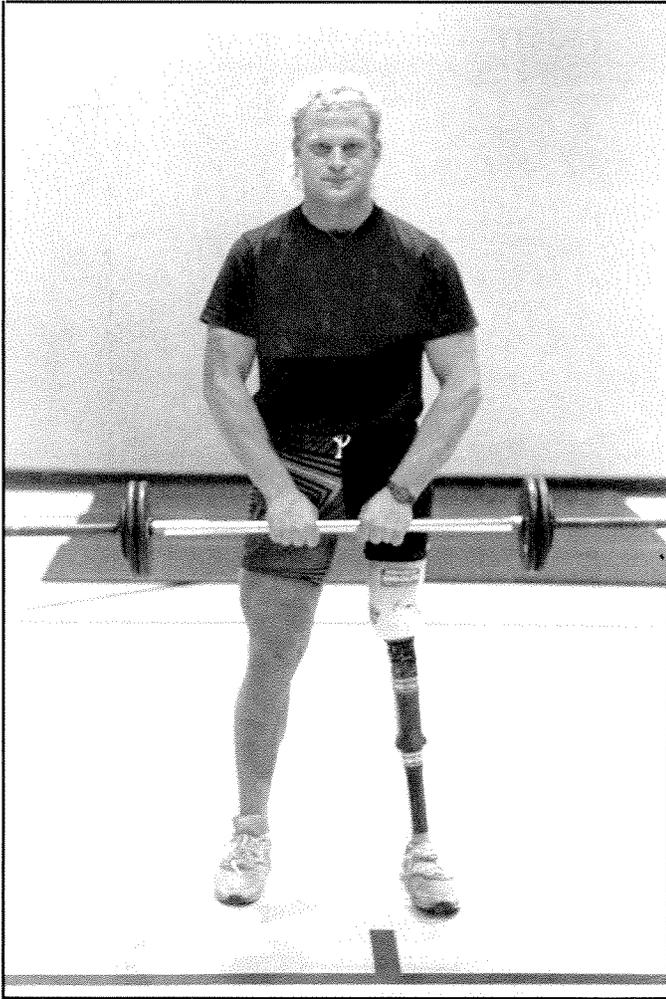
- Bend over from the knees and waist to roll the bar on the floor as close to the feet as possible. Grip the bar with your palms facing you.
- Pick up the bar and raise yourself to a standing position, using the legs more than the back to pull yourself and the weight up.
- Stand with your feet about shoulder-width apart and your arms extended in front of you, as shown in the top photo.
- Keep the barbell close to your body as you pull it straight up to chin height (or as close as you are able to raise it). Keep standing straight.
- At the top position, the elbows should be out to the sides and almost as high as the ears, as demonstrated by Greg Mannino.
- Pause momentarily at the top position before lowering the weight back down, so the arms are extended.
- Inhale while lifting the weight and exhale while lowering the weight.

SKILL LEVEL

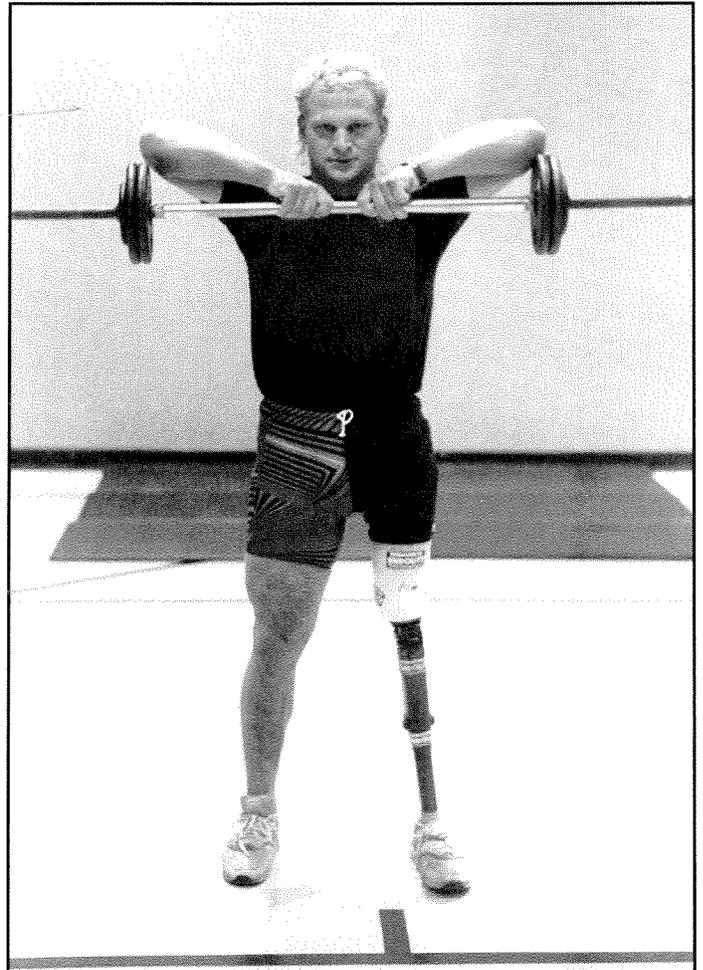
Intermediate.

NOTE

A close grip is with the hands about 6 inches apart, a medium grip is about 18 inches apart, a wide grip is about 32 inches apart. The wider the grip, the more difficult it is to perform the exercise. For some, a too-wide grip feels awkward; a narrow-to-medium grip is preferred by most and is more comfortable.



Greg Mannino demonstrates upright rowing.



EXERCISE 35. SEATED BENT-OVER REAR DELTOID RAISE**PURPOSE**

Develops the posterior deltoid and trapezius muscles.

PROCEDURE

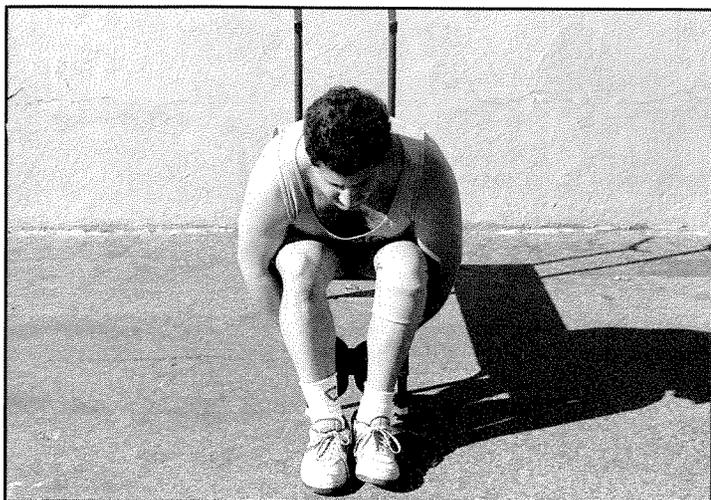
- Select two lightweight dumbbells (10 pounds or less for the beginner); place them on the floor on either side of the end of a flat bench.
- Sit at the end of the bench with your feet fairly close together and planted firmly on the floor. The dumbbells should be on either side below where you are sitting.
- Lean forward so that your chest almost touches your thighs. Keep your head facing the floor. Lift the dumbbells to the height of your ears.
- Raise the dumbbells out and upward, straightening your arms and locking the elbows.
- Lower and raise the dumbbells in a continuous semicircular motion, keeping your arms straight and elbows locked.
- Inhale as the dumbbells are raised; exhale as they are lowered.

MODIFICATIONS

- There are a variety of ways to exercise the posterior deltoid muscles, some of which are from a standing position.
- The seated version demonstrated here is best for a person with lower limb amputation, since balance is not a factor. Full concentration can be placed on working the muscles.

SKILL LEVEL

Intermediate.



Albert Rappoport demonstrates the exercise.

A variation can be done when raising the weights. Instead of keeping the arms straight as demonstrated, bend the elbows to about 90 degrees as shown. Only the upper arms are parallel to the ground. This variation allows one to lift heavier weights since the weights are not held so far out from the body. Albert Rappoport demonstrates.

