



PHYSICAL THERAPY
& SPORTS PERFORMANCE

THROWERS 10



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EMG study to isolate and exercise shoulder muscle groups that are responsible for throwing motions

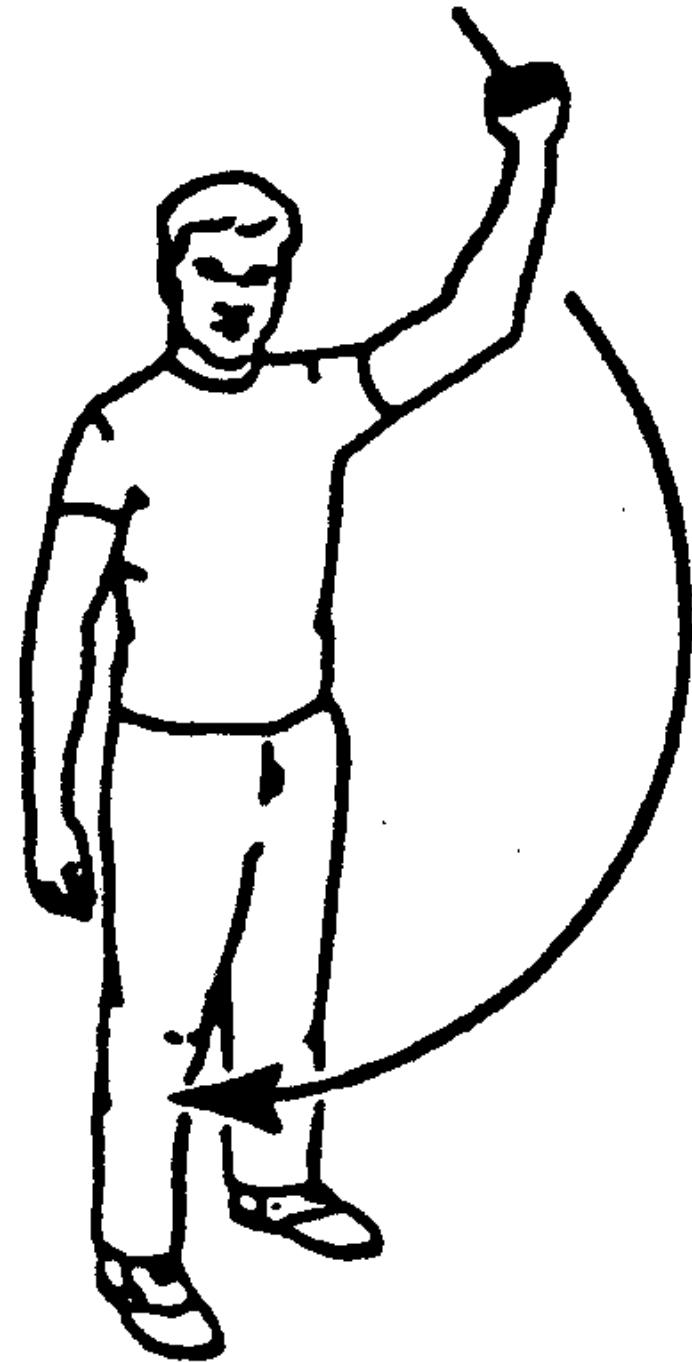
WHAT DID THEY FIND?



TOP 3 ISSUES SEEN IN THROWING ATHLETES

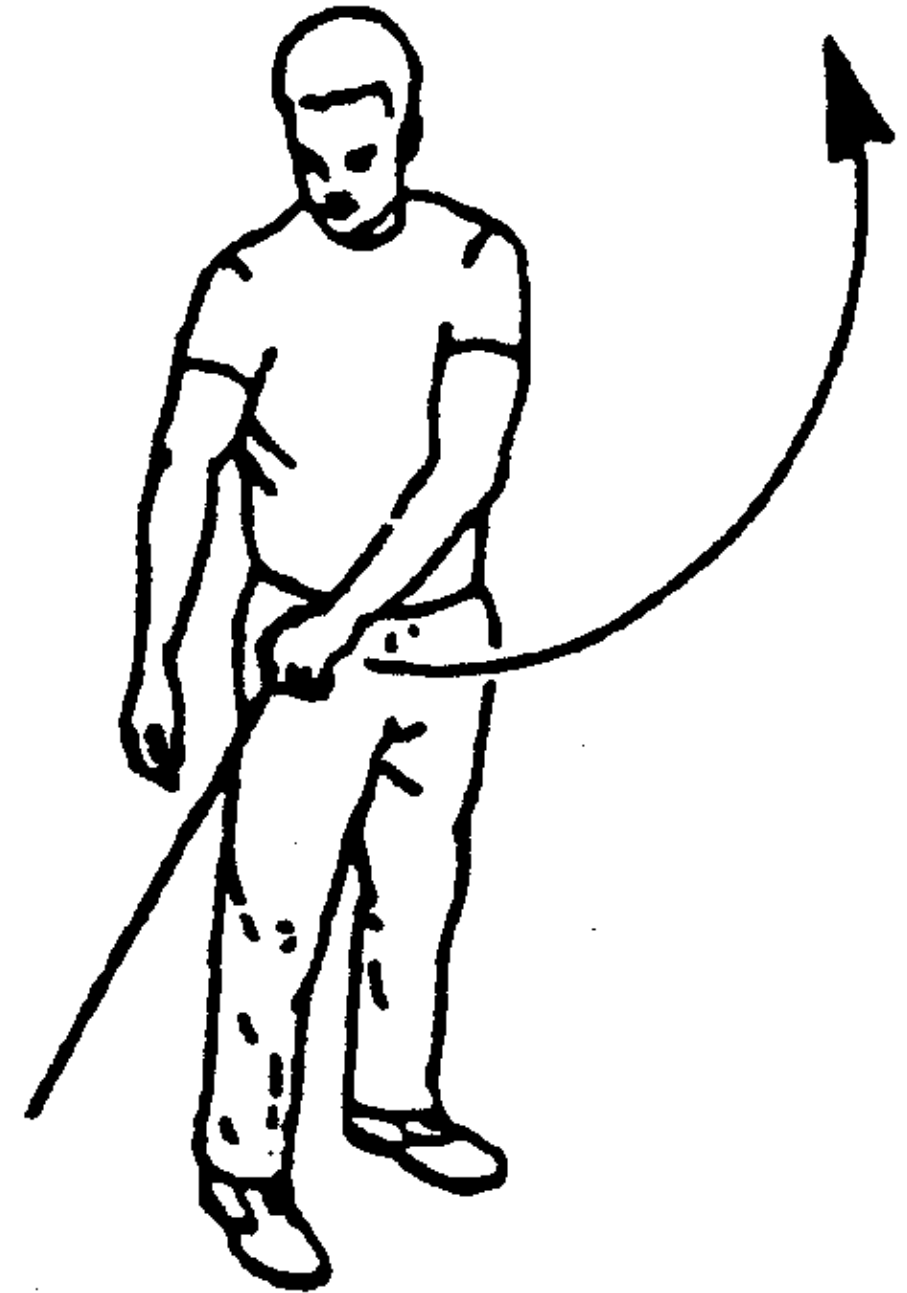
- 01** DECREASED ARM STRENGTH
- 02** INCREASED FATIGUE
- 03** LACK OF FLEXIBILITY

Exercise 1A PNF D2 Extension



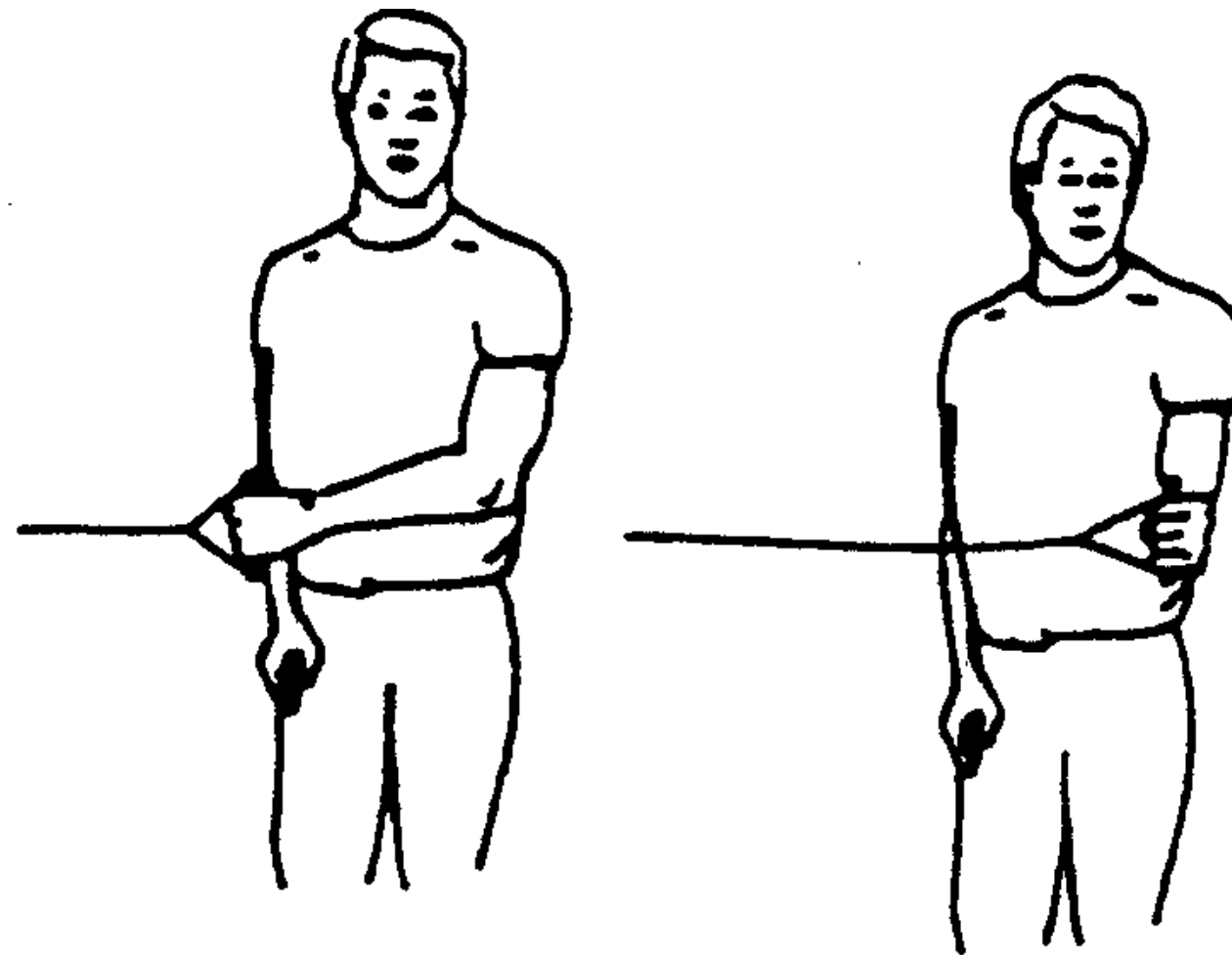
Anchor resistance band overhead, pull band down and across your body to the opposite side of leg. During the motion, lead with your thumb.

Exercise 1B PNF D2 Flexion



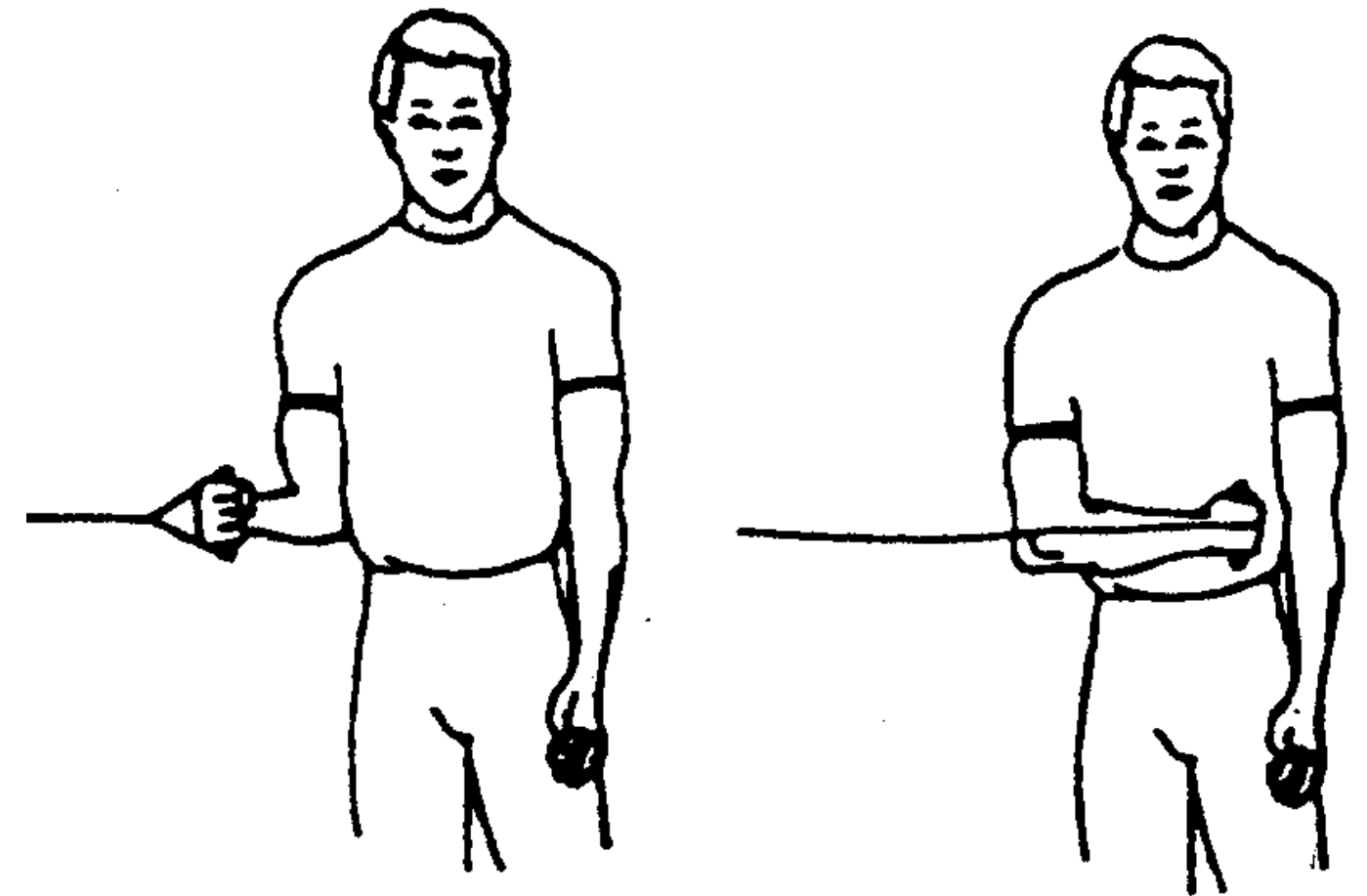
Anchor resistance band to door and start with palm facing behind you. Pull arm out, up, and across body.

Exercise 2A: External Rotation at 0° Abd



Stand with your uninvolved side next to a closed door, resistance band attached to the doorknob. With elbow at 90° and at your side, pull across body, out to side and slowly return to starting position.

Exercise 2B Internal Rotation at 0° Abd



Stand with your involved side next to a closed door, resistance band attached to the doorknob. With elbow at 90° and at your side, pull towards your body and slowly return to starting position.

Exercise 2C External Rotation at 90°/90°



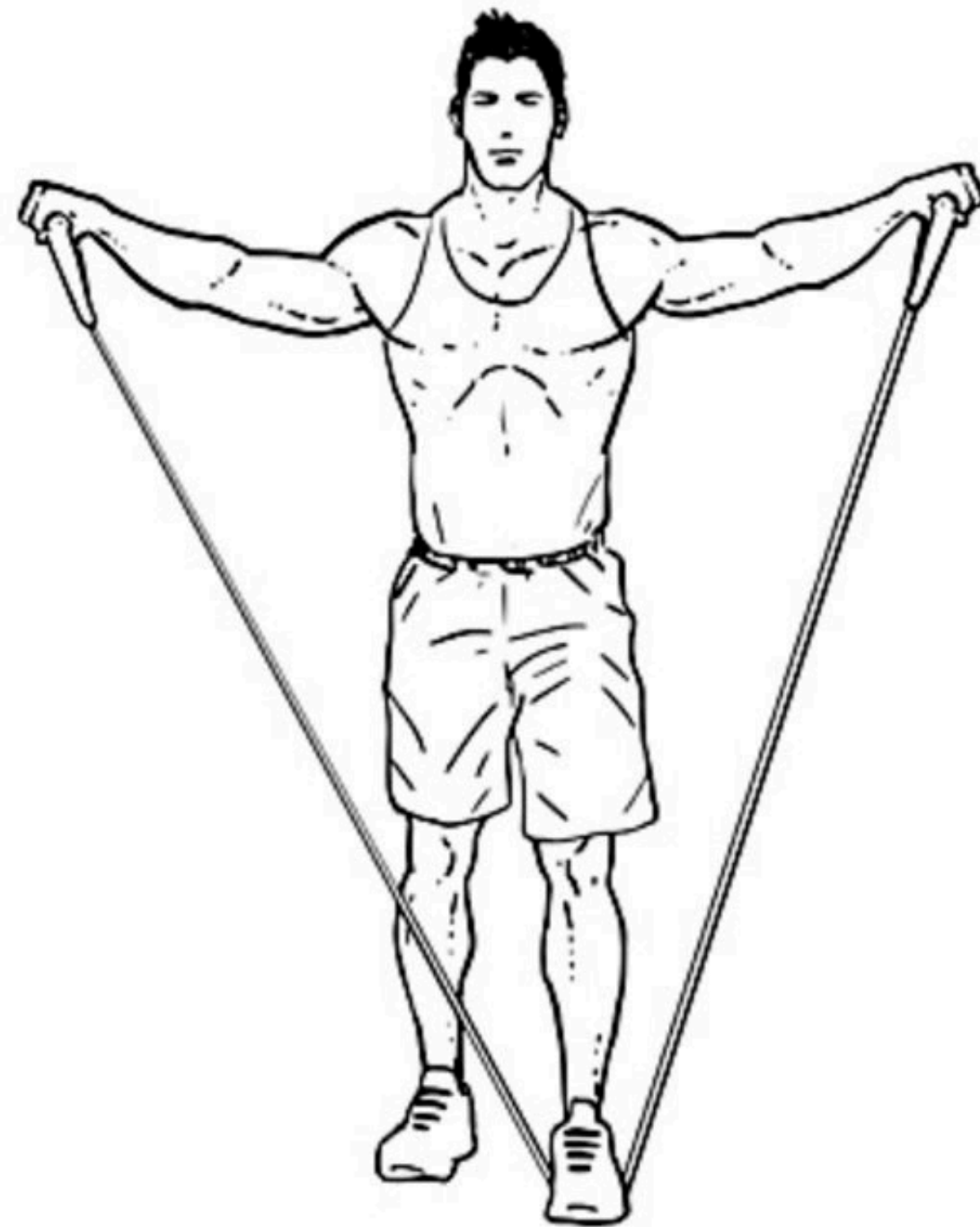
Attach end of resistance band to a stationary object. Face **towards** the band anchor and hold the other end with your elbow and shoulder in 90°/90° position. Keeping shoulder and elbow at 90-degrees, slowly rotate your shoulder **backwards** and return to starting position.

Exercise 2D Internal rotation at 90°/90°



Attach end of resistance band to a stationary object. Face **away** from the band anchor and hold the other end with your elbow and shoulder in 90°/90° position. Keeping shoulder and elbow at 90-degrees, slowly rotate your shoulder **forwards** and return to starting position.

Exercise 3 **Banded Lateral Raise to 90°**

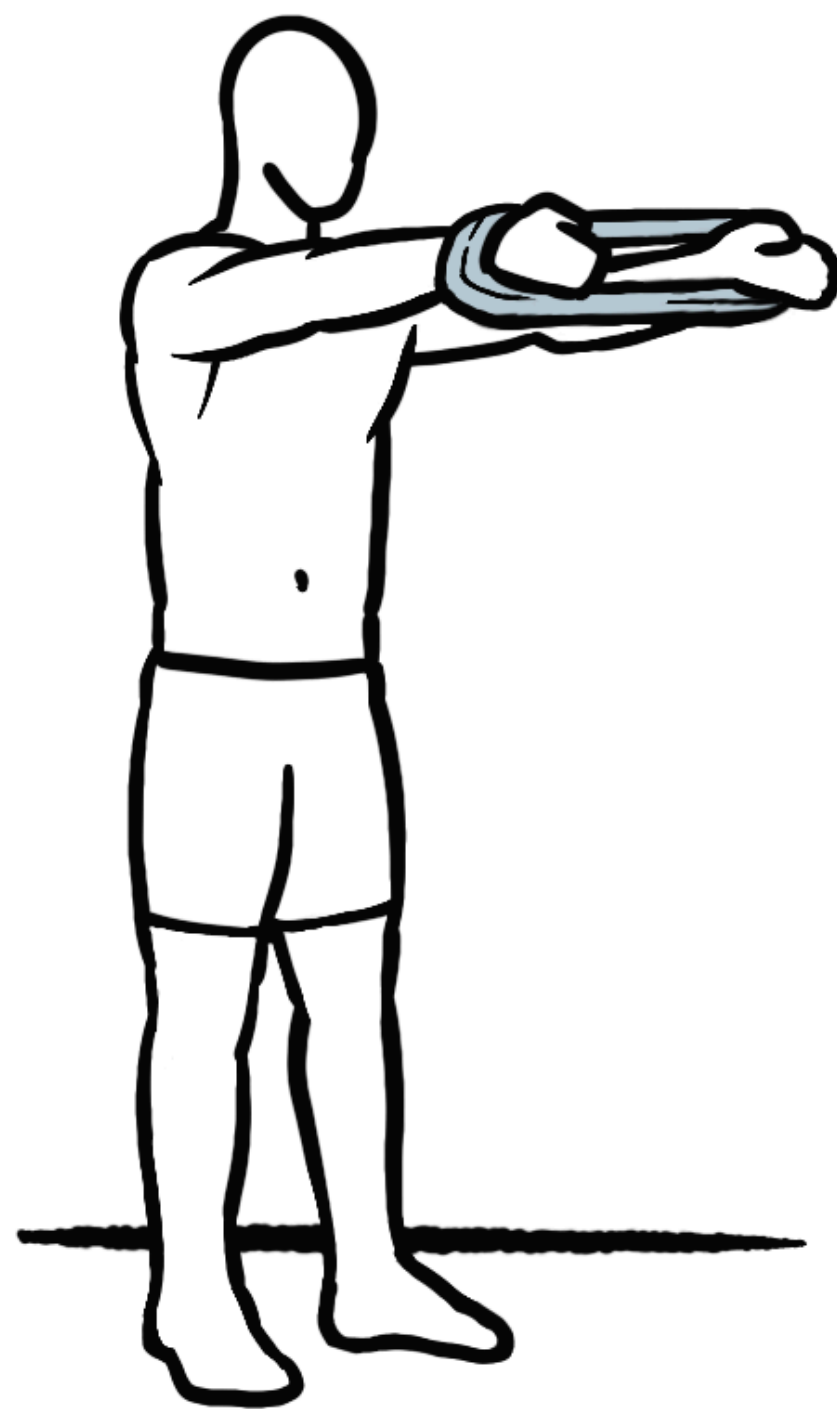


Stand with arm at side, elbow straight, and palm against side.

Raise arm to the side, palm down, until arm reaches 90° (shoulder level)

Hold 2 sec

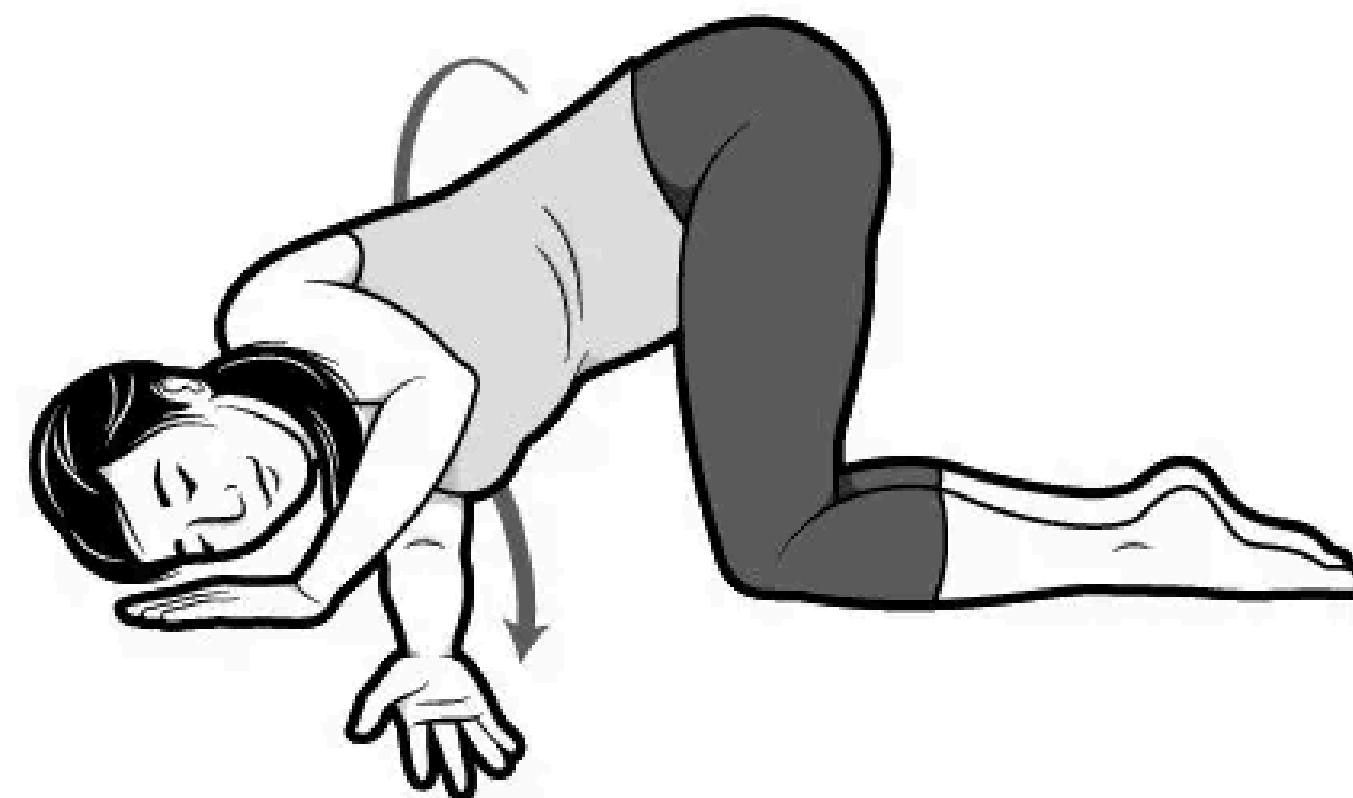
Exercise 4 Looped Flexion



Place looped band around wrists with palms facing towards each other.

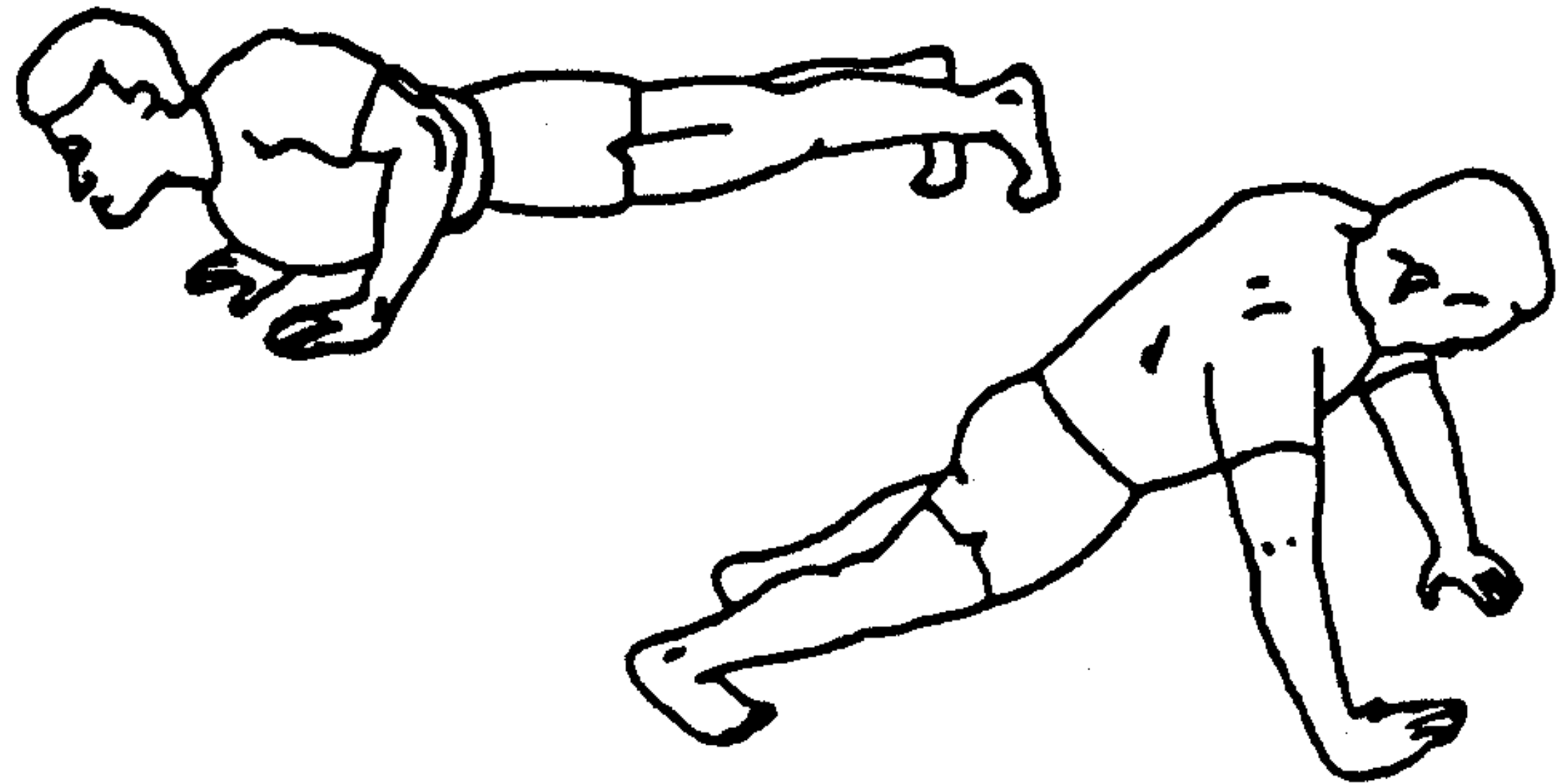
Add tension into the band and slowly raise hands overhead while maintaining tension through out the movement and return to starting position.

Exercise 5 Thread the Needle



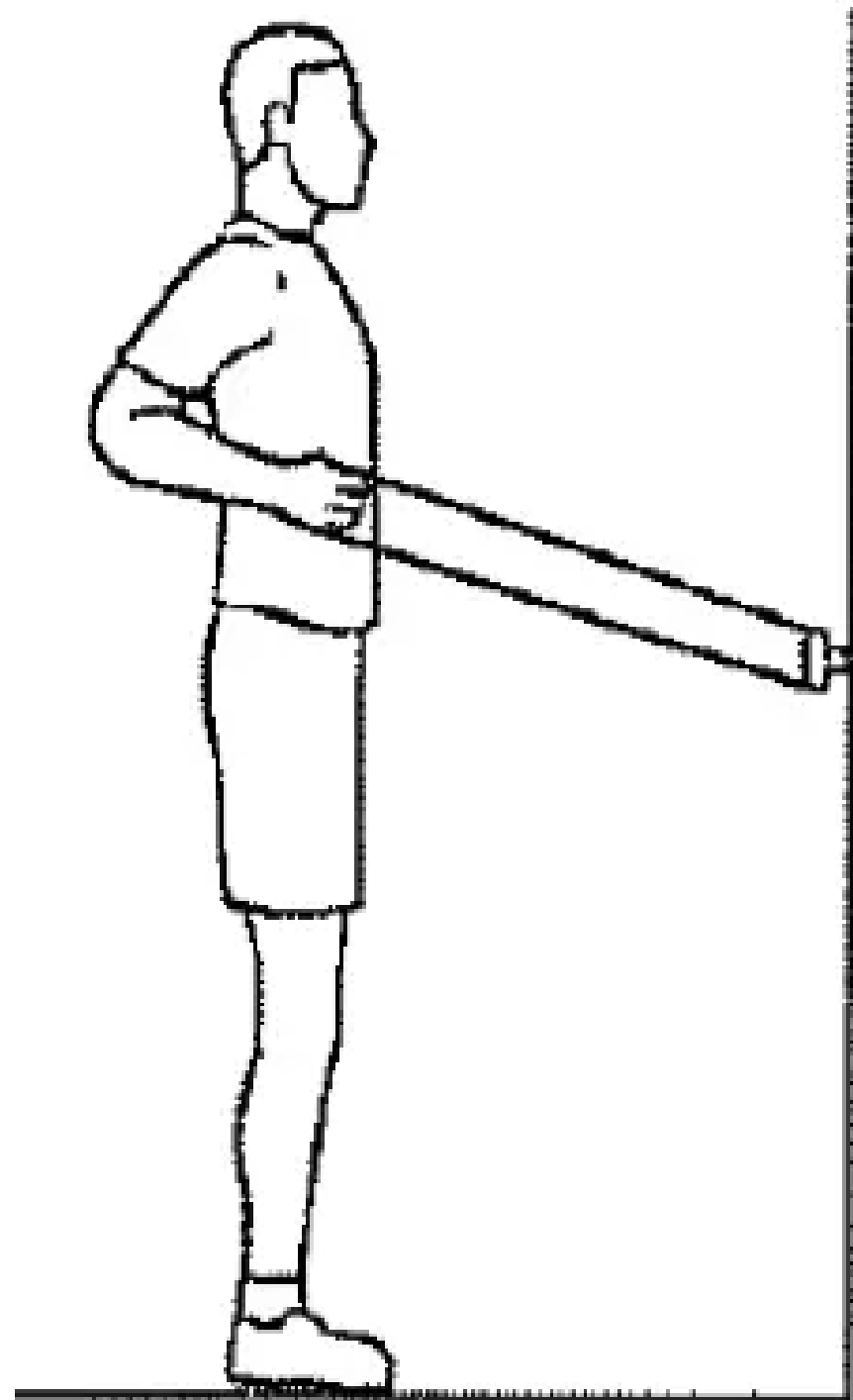
On your hands and knees in quadruped position, reach your right arm under your left arm, threading it between your left arm and your left knee. Keep your left hand firmly planted on the ground and gently twist your torso to the left while looking up to the ceiling.

Exercise 6 Push-up Plus



Assume plank position on hands and toes, with straight elbows and feet together. Bend your elbows to lower your chest, then push up by straightening your elbows. Once your elbows are straight, push further down to bring your shoulder blades forward.

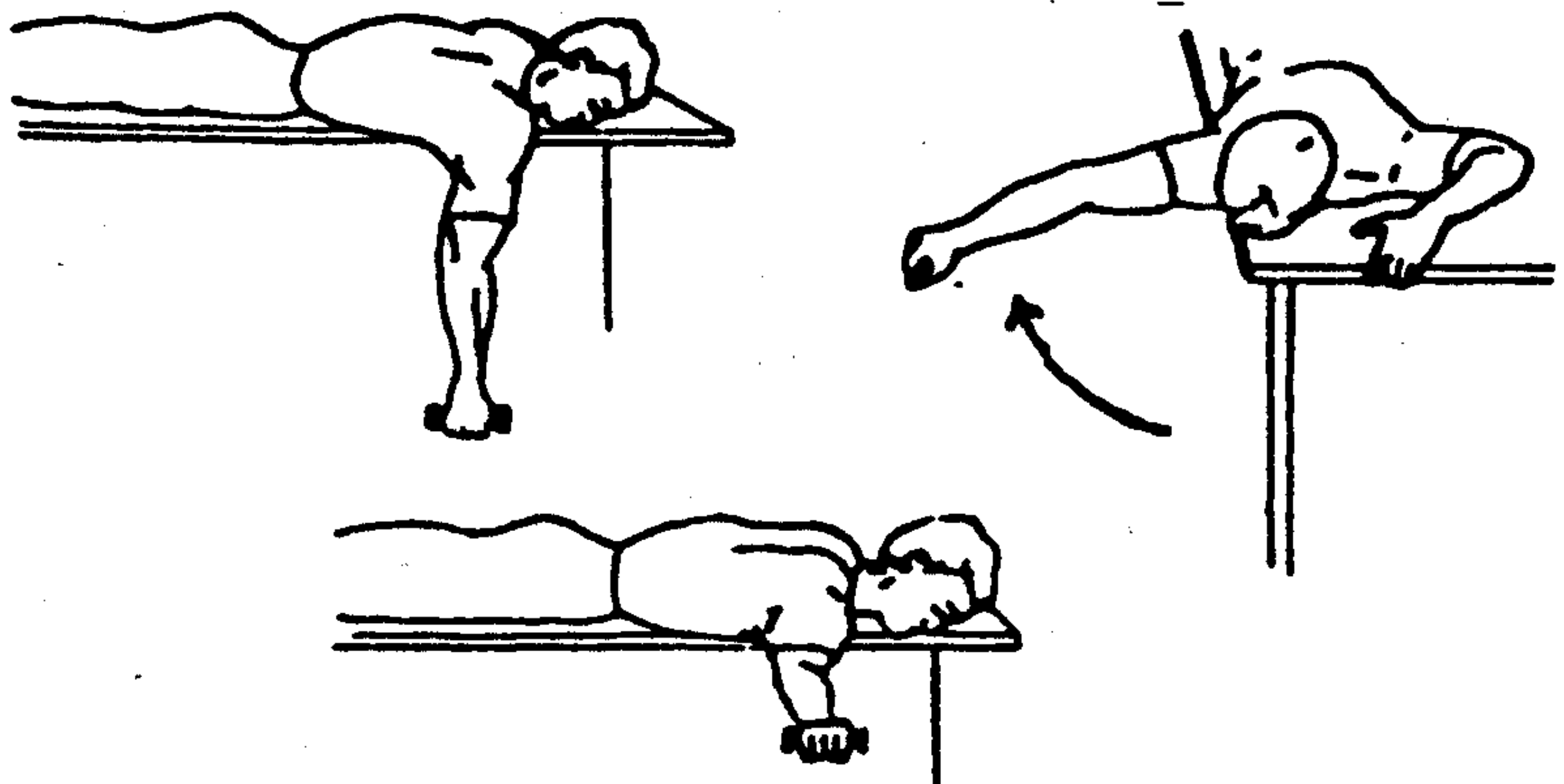
Exercise 7 Standing Row



Stand facing the band, and walk back until the band is taut with arms fully extended in front of you.

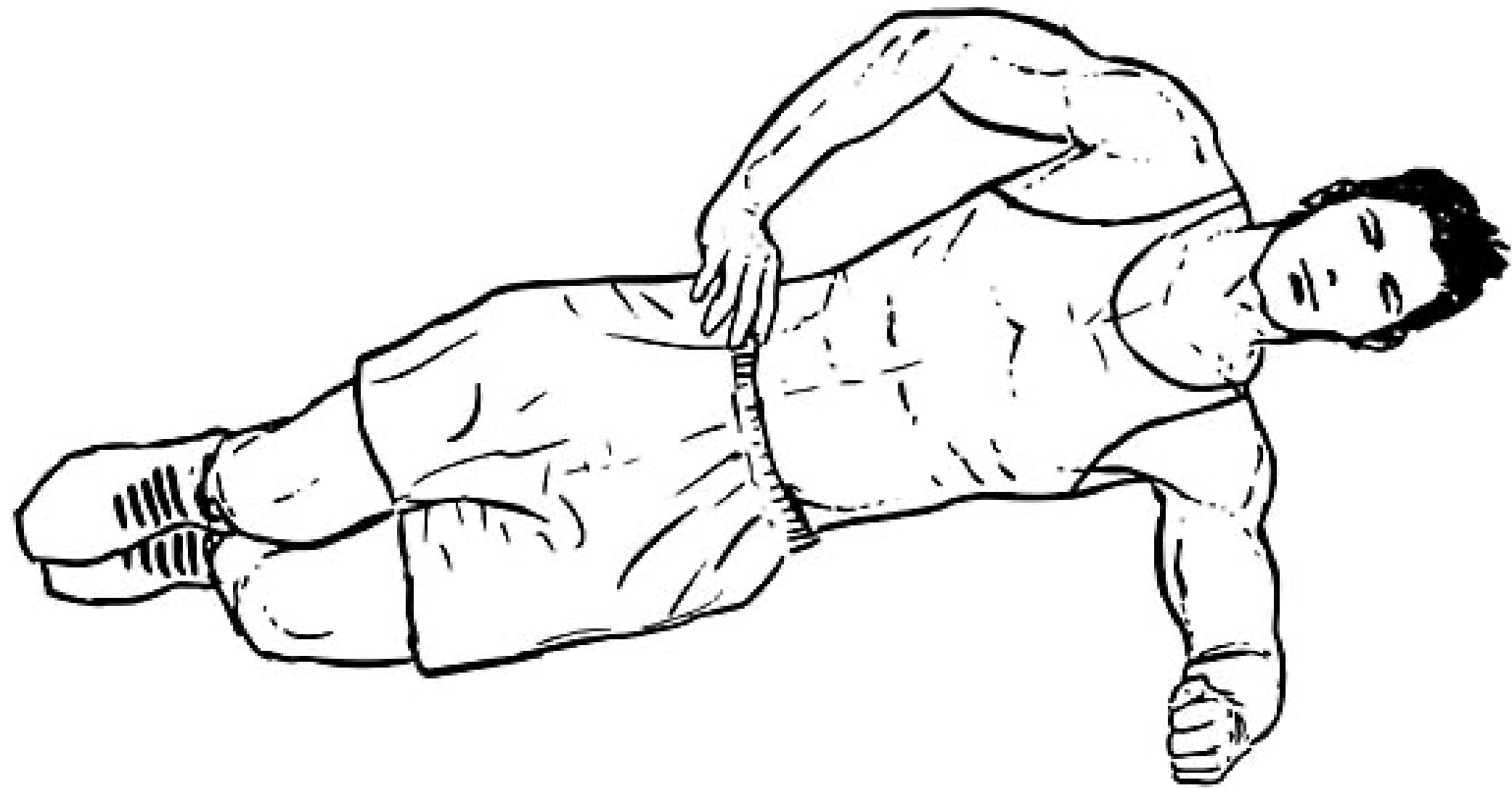
Keeping your elbows close to your body, pull the band towards your chest by squeezing your shoulder blades together and slowly return.

Exercise 8 Prone ITYW



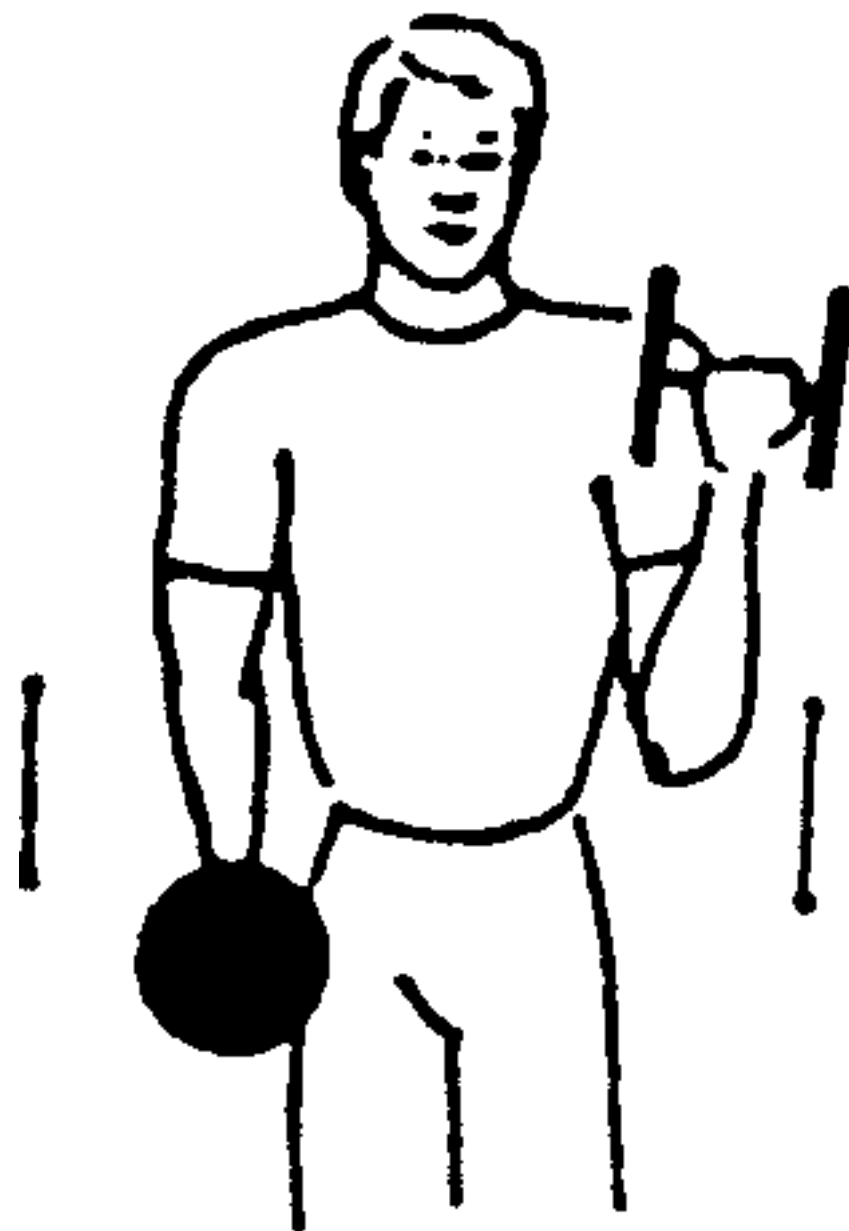
Lie face down on a mat or bench with your palms facing the floor. Squeeze your shoulder blades together and lift your arms off the ground into the various I, Y, T, or W positions. Hold for 2x20" in each position.

Exercise 9 DNS Star



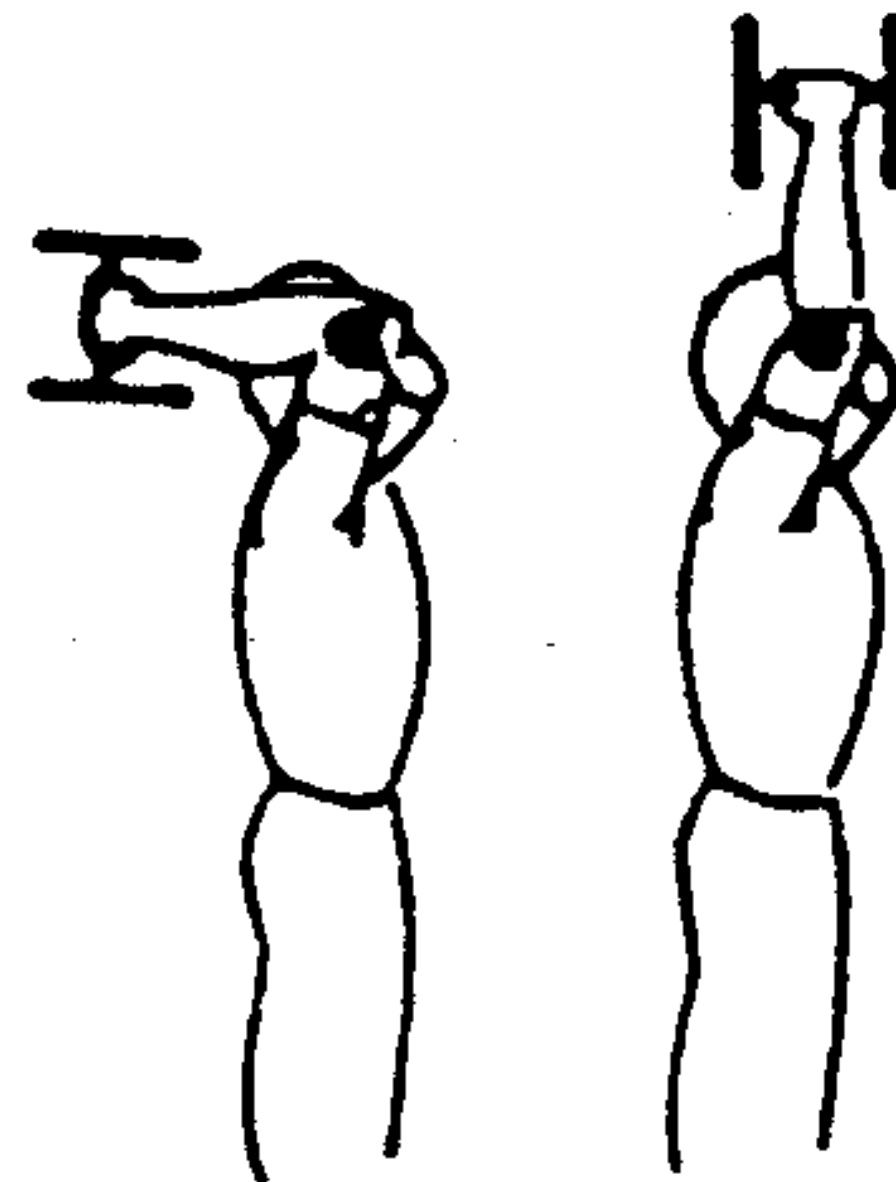
Start in a modified side-plank position from left elbow and left knee . Reach right arm and right leg "low and long" while hovering the left hip towards the floor. Return to starting position by bringing hips "up and forward".

Exercise 10A Bicep Curl



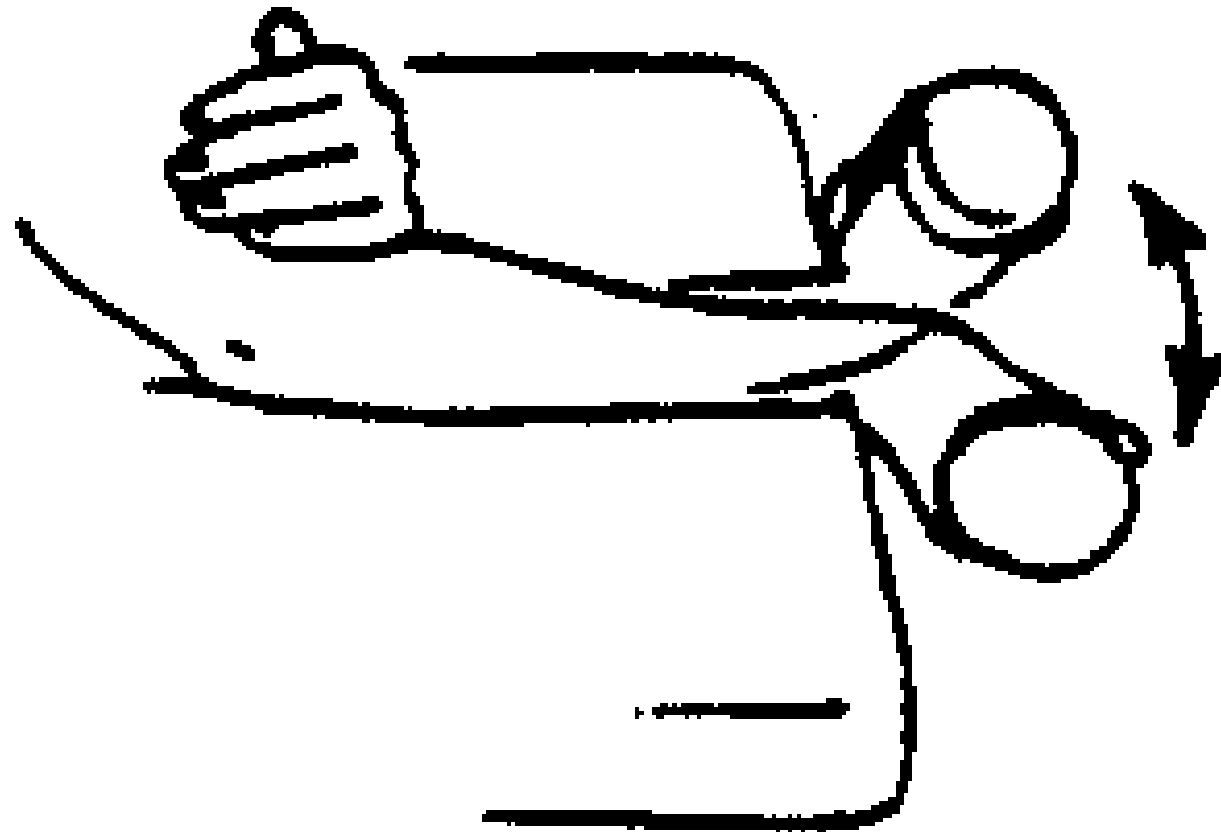
Bicep: Standing with arm against side and palm facing inward, bend elbow upward turning palm up as you progress.
Hold 2 sec and lower slowly.

Exercise 10A Tricep Extension



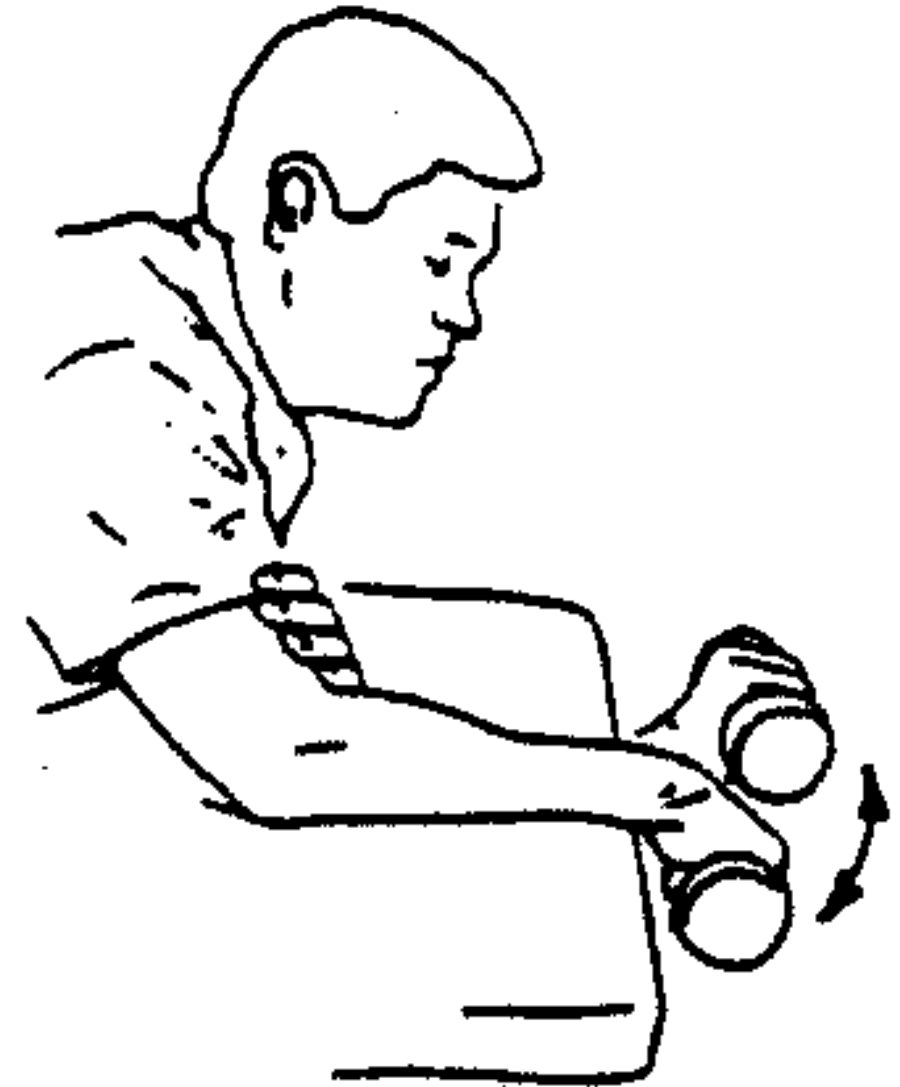
Tricep: Raise involved arm overhead. Provide support from uninvolved hand at the elbow. Straighten arm overhead.
Hold 2 sec and lower slowly.

Exercise 11A Wrist Flexion



Flexion: Supporting the forearm and with palm facing up, lower the weight in hand and then curl up as far as possible. Hold for 2 sec and return to starting position.

Exercise 11B Wrist Extension



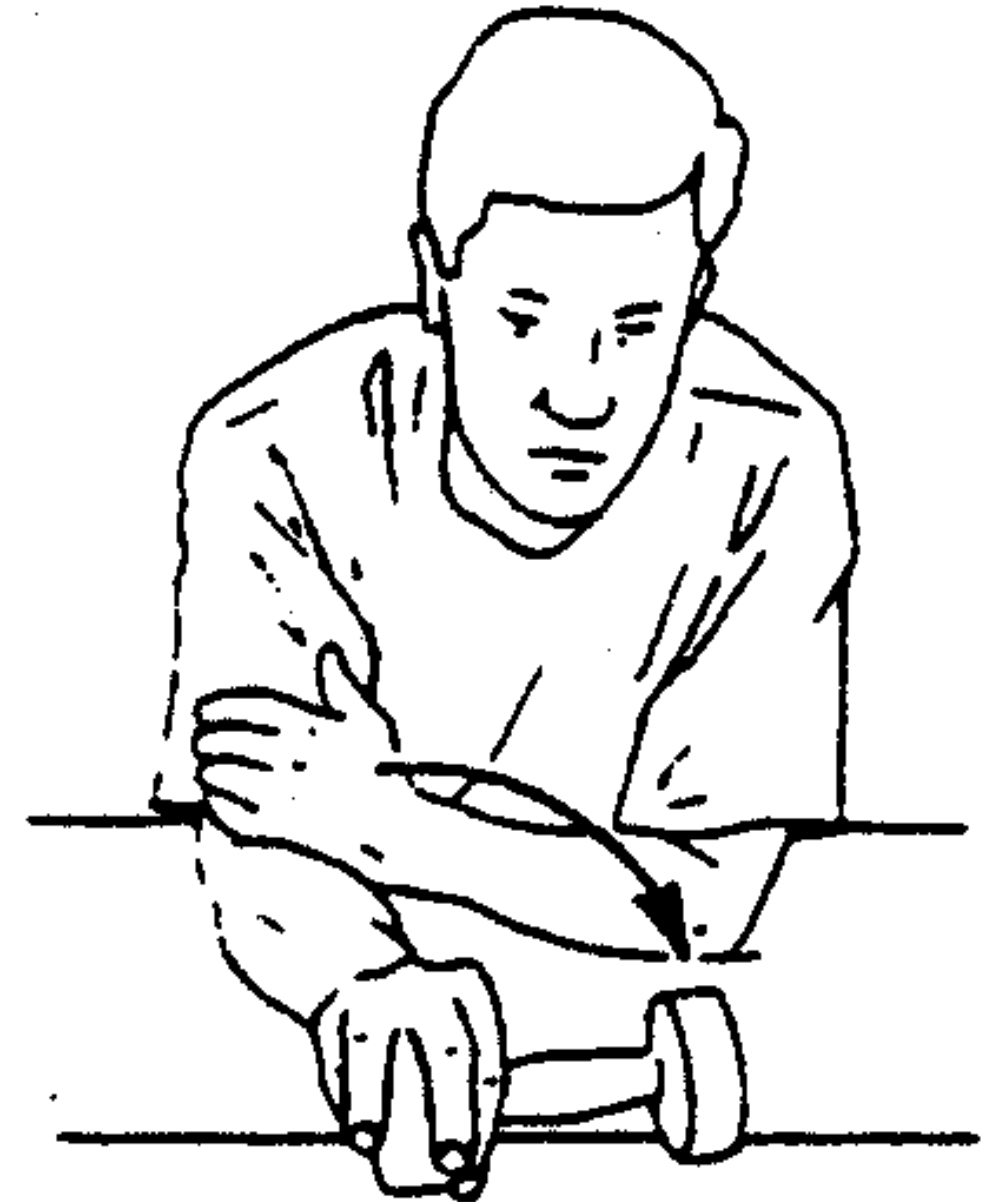
Extension: Supporting the forearm and with palm facing down, raise the weight in hand as far as possible and return to starting position. Hold 2 sec and lower slowly.

Exercise 12A Supination



Supination: Forearm supported on table with wrist in neutral position. Using a weight or hammer, roll wrist taking palm up. Hold 2 sec and return to starting position.

Exercise 12B Pronation



Pronation: Forearm should be supported on a table with wrist in neutral position. Using a weight or hammer, roll wrist taking palm down. Hold for 2 sec and return to starting position.

