

# **Clavicle Fracture (Broken Collarbone)**

A broken collarbone is also known as a clavicle fracture. This is a very common fracture that occurs in people of all ages.

### **Anatomy**

The collarbone (clavicle) is located between the ribcage (sternum) and the shoulder blade (scapula), and it connects the arm to the body. The clavicle lies above several important nerves and blood vessels. However, these vital structures are rarely injured when the clavicle breaks, even though the bone ends can shift when they are fractured.

# **Description**

The clavicle is a long bone and most breaks occur in the middle of it. Occasionally, the bone will break where it attaches at the ribcage or shoulder blade.

### Cause

Clavicle fractures are often caused by a direct blow to the shoulder.

This can happen during a fall onto the shoulder or a car collision. A fall onto an outstretched arm can also cause a clavicle fracture. In babies, these fractures can occur

during the passage through the birth canal.

# **Symptoms**

Clavicle fractures can be very painful and may make it hard to move your arm. Additional symptoms include:

- Sagging shoulder (down and forward)
- Inability to lift the arm because of pain
- A grinding sensation if an attempt is made to raise the arm
- A deformity or "bump" over the break
- Bruising, swelling, and/or tenderness over the collarbone

# **Nonsurgical Treatment**

If the broken ends of the bones have not shifted out of place and line up correctly, you may not need surgery. Broken collarbones can heal without surgery.

# Arm Support

A simple arm sling or figure-of-eight wrap is usually used for comfort immediately after the break. These are worn to support your arm and help keep it in position while it heals.

### Medication

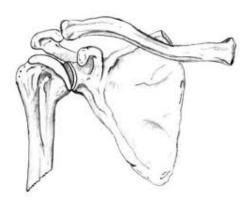
Pain medication, including acetaminophen, can help relieve pain as the fracture heals.

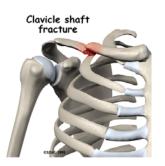
### Physical Therapy

While you are wearing the sling, you will likely lose muscle strength in your shoulder. Once your bone begins to heal, the pain will decrease and your doctor may start gentle shoulder and elbow exercises. These exercises will help prevent stiffness and weakness. More strenuous exercises can gradually be started once the fracture is completely healed.

### Doctor Follow-Up

You will need to see your doctor regularly until your fracture heals. He or she will examine you and take x-rays to make sure the bone is healing in good position. After the bone has healed, you will be able to gradually return to your normal activities.





screw fixation



# **Complications**

The fracture can move out of place before it heals. It is important to follow up with your doctor as scheduled to make sure the bone stays in position.

If the fracture fragments do move out of place and the bones heal in that position, it is called a "malunion." Treatment for this is determined by how far out of place the bones are and how much this affects your arm movement.

A large bump over the fracture site may develop as the fracture heals. This usually gets smaller over time, but a small bump may remain permanently.

# **Surgical Treatment**

If your bones are out of place (displaced), your doctor may recommend surgery. Surgery can align the bones exactly and hold them in good position while they heal. This can improve shoulder strength when you have recovered.

### Plates and Screws

During this operation, the bone fragments are first repositioned into their normal alignment, and then held in place with special screws and/or by attaching metal plates to the outer surface of the bone. After surgery, you may notice a small patch of numb skin below the incision. This numbness will become less noticeable with time. Because there is not a lot of fat over the collarbone, you may be able to feel the plate through your skin. Plates and screws are usually not removed after the bone has healed, unless they are causing discomfort. Problems with the hardware are not common, but sometimes, seatbelts and backpacks can irritate the collarbone area.

If this happens, the hardware can be removed after the fracture has healed.

### Pins

Pins are also used to hold the fracture in good position after the bone ends have been put back in place. The incisions for pin placement are usually smaller than those used for plates. Pins often irritate the skin where they have been inserted and are usually removed once the fracture has healed.

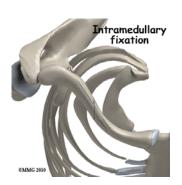
### Rehabilitation

Specific exercises will help restore movement and strengthen your shoulder. Your doctor may provide you with a home therapy plan or suggest that you work with a physical therapist. Therapy programs typically start with gentle motion exercises. Your doctor will gradually add strengthening exercises to your program as your fracture heals.

### **Outcome**

Whether your treatment involves surgery or not, it can take several months for your collarbone to heal. It may take longer in diabetics or people who smoke or chew tobacco. Most people return to regular activities within 3 months of their injury. Your doctor will tell you when your injury is stable enough to do so. Returning to regular activities or lifting with your arm before your doctor advises may cause your fracture fragments to move or your hardware to break. This may require you to start your treatment from the beginning.

Once your fracture has completely healed, you can safely return to sports activities.



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Phase One: 0 to 6 weeks after surgery

### Goals:

- 1. Protect the fractured clavicle
- 2. Prevent shoulder stiffness
- 3. Regain range of motion
- 4. Control pain and swelling

### **Activities:**

1. Sling

Use your sling most of the time for the first 2 weeks. The doctor will give you additional instructions on the use of the sling at your post-operative office visit. Remove the sling 4 or 5 times a day to do pendulum exercises.

2. Use of the injured arm

Do <u>not elevate injured arm</u> above 90 degrees in any plane for the first 6 weeks post-op. Do not lift any objects over 1 or 2 pounds with the injured arm for the first 6 weeks. Avoid excessive reaching and external/internal rotation for the first 6 weeks.

3. Showering

You may shower or bath and wash the incision area. To wash under the injured arm, bend over at the waist and let the arm passively come away from the body. It is safe to wash under the arm in this position. This is the same position as the pendulum exercise.

### **Exercise Program**

**ICE** 

Days per Week: 7 as necessary 15-20 minutes

Times per Day: 4-5

# STRETCHING / PASSIVE MOTION

Days per Week: 7 Times per day: 4-5

**Program:** 

Pendulum exercises

Supine External Rotation

Supine assisted arm elevation limit to 90 degrees

Isometric exercises: internal and external rotation at neutral

Elbow and forearm exercises

Ball squeeze exercise Scapular retraction

### Office Visit

Call 617-726-7500 to reach your doctor; 617-643-9999 to reach MGH Sports Physical Therapy.



Phase two: 7 to 12 weeks after surgery

### Goals:

- 1. Protect the clavicle fracture
- 2. Improve range of motion of the shoulder
- 3. Begin gentle strengthening

### **Activities**

# 1. Sling

Your sling is no longer necessary unless your doctor instructs you to continue using it (use it for comfort only).

### 2. Use of the operated arm

You can now move your arm for most daily activities, but you need to continue to be careful not to lift objects heavier than 1 or 2 pounds. You should avoid forceful pushing or pulling activities. You should continue to avoid reaching behind you or other positions with the hand behind the head.

# 3. Bathing and showering

Continue to follow the instructions from phase one and the instructions above.

# Exercise Program STRENGTHENING / THERABAND

### STRETCHING / ACTIVE MOTION

Days per week: 7 Times per day: 1 to 3

Supine External Rotation
Standing External Rotation
Supine assisted arm elevation
Arm Elevation in scapular plane
Behind the back internal rotation

(limit beltline)

Horizontal adduction(active reach only)

Hands behind-the-head stretch ER @ 90° abduction stretch

Proprioception drills Side lying IR @ 90° Internal and External notation

Internal and External rotation

Biceps curl

Row

Forward punch (Serratus punch)
STRENGTHENING / DYNAMIC

Side lying ER Prone row Prone extension Prone 'T's Prone 'Y's

Standing scaption
Isotonic biceps curl
Rhythmic stabilization

Scapulohumeral Rhythm exercises

Call 617-726-7500 to reach your doctor; 617-643-9999 to reach MGH Sports Physical Therapy.



Phase Three: starting 13 to 18 weeks after surgery

#### Goals:

- 1. Protect the clavicle fracture
- 2. Regain full range of motion
- 3. Continue strengthening progression

### **Activities:**

# Use of the operated arm

You may now safely use the arm for normal daily activities involved with dressing, bathing and self-care. You may raise the arm away from the body; however, you should not raise the arm when carrying objects greater than one pound. Any forceful pushing or pulling activities could still disrupt the healing of your fracture. Continue to avoid lifting weighted objects overhead

# **Exercise Program:**

### STRETCHING / RANGE OF MOTION

Days per week: 7 Times per day: 1-2 Pendulum exercises

Standing External Rotation / Doorway

Wall slide Stretch

Hands-behind-head stretch Standing Forward Flexion

Behind the back internal rotation Supine Cross-Chest Stretch

Side lying internal rotation (sleeper stretch) External rotation at 90° Abduction stretch

# STRENGTHENING / THERABAND

Days per week: 7 Times per day: 1 External Rotation Internal Rotation

Standing Forward Punch

Dynamic hug Seated Row Biceps curl STRENGTHENING / DYNAMIC

Days per week: 7 Times per day: 1

Side-lying External Rotation Prone Horizontal Arm Raises 'T's

Prone row

Prone scaption 'Y's Prone extension

Standing forward flexion "full-can"

scaption

Add progressive resistance 1 to 5 lb

Rhythmic stabilization and

proprioceptive training drills with

physical therapist

Limited weight training can begin week 16 per doctor

Ws



# Phase Four: starting 19 to 28 weeks after surgery

### Goals:

- 1. Progression of functional activities
- 2. Maintain full range of motion
- 3. Continue progressive strengthening
- 4. Advance sports and recreational activity per surgeon

### **Exercise Program**

### STRETCHING / RANGE OF MOTION

Days per week: 5-7 Times per day: 1

Continue all exercises from phase 3

### STRENGTHENING / THERABAND

Days per week: 3 Times per day: 1

Continue from phase 3

### STRENGTHENING / DYNAMIC

Days per week: 3 Times per day: 1

Continue from phase 3

# PLYOMETRIC PROGRAM

Usually for throwing and overhead athletes Days per week and times per day per physical therapist

'Rebounder' throws with arm at side Wall dribbles overhead Rebounder throwing/weighted ball Deceleration drills with weighted ball Wall dribbles at 90° Wall dribble circles

### WEIGHT TRAINING

Consult Doctor and Physical Therapist

# INTERVAL SPORT PROGRAMS

See individual programs for golf, tennis, swimming and throwing.

Call 617-726-7500 to reach your doctor; 617-643-9999 to reach MGH Sports Physical Therapy.



# **Rehabilitation Guidelines after Clavicle Fracture**

Post-injury phase	Sling	Range of	Therapeutic exercises Precautions				
Post-injury phase	Sing	Motion	Therapeu	uc exercises	Frecautions		
Phase 1 0 to 6 weeks after injury Goals: *Allow healing of fractured clavicle  *Initiate early protected and restricted range of motion.  *Minimize muscular atrophy.  *Decrease pain/inflammation.  * Ice shoulder 3-5 times (15 minutes each time) per day to control swelling and inflammation.	Per MD instructions. An arm sling/support is used for 6 weeks post-op whenever standing	*Flexion to 90 degrees as tolerated  *ER @ 0° as tolerated,  *IR and ER@ 90° to 45  *No IR behind back,  *No horizontal adduction	No stretching 0-6 weeks  *Pendulum exercises  *Supine forward flexion with wand to 90  * shoulder abduction limit 90  *Supine ER at neutral  *Scapular retraction	*Isometrics: ER, IR, FLX, EXT, ABD  *Ball squeeze  *Elbow and forearm exercises  *Theraband exercises ER, IR (limit IR to neutral)	-DO NOT let weight of arm pull on shoulder x 6 weeks -DO NOT elevate surgical arm above 90 degrees in any plane for the first 6 weeks post-opDO NOT lift any objects over 5 pounds with the arm for the first 6 weeksAVOID EXCESSIVE reaching and external/internal rotation for the first 6 weeks.		
Phase 2 7 to 12 weeks after injury  Goals: *Gradually restore range of motion *Increase strength *Improve neuromuscular control *Enhance proprioception and kinesthesia	D/C	*In general, increase ROMs in increments of 15° per week  *Shoulder flexion and abduction to tolerance (full by week 12)  *Horizontal adduction active only  *progressive IR and ER as tolerated	*Gradually improve ROM all planes  *Elevation in scapular plane  *Wall slide  *IR behind back to beltline only  *Horizontal adduction active reach only  *Hands behind-the- head stretch  *ER @ 90° abduction stretch  *Side lying IR @ 90°  * Standing External Rotation	Theraband exercises:, Continue phase 1 Biceps curl Row Forward punch (Serratus punch)  Dynamic exercises:  *Side lying ER *Prone row *Prone extension * Standing forward flexion to 90° *Prone 'T's *Standing scaption *Isotonic biceps curl *Prone 'Y's  *Rhythmic stabilization  *Proprioception drills  *Scapulohumeral Rhythm exercises	No push-ups or pushing movements  No lifting of weighted objects overhead or across the body		



Post-injury Phase	Therapeuti	c Exercises	Notes	Precautions
Phase 3 13-18 weeks after injury  Goals: * Progress to full ROM *Improve: strength/power/endurance *Improve neuromuscular control *Improve scapular muscular strength	*Progress to full ROM  *Horizontal adduction stretch  *IR behind back full  * External rotation at 90° Abduction stretch	*Continue theraband and dynamic exercises from phase 1 and 2  Theraband: add 'T's, diagonal up and down, External rotation at 90°, Internal rotation at 90°  Dynamic: *Continue previous Progressive resistance limit to 5 lb  *Initiate push-ups into wall at week 12 (then push-up progression per MD)  *Weight training can begin at 16 weeks. *Machine resistance (limited ROM): *Biceps and Triceps *Front pull downs *Seated row *Seated bench press at week 16	PRE 1-5 lb as tolerated  Gradual return to recreational activities without force on the arm	Precautions Continue to avoid forceful pushing pulling and lifting overhead
Phase 4 19-28 weeks after injury onward Goals: Progressively increase activities to prepare patient for unrestricted functional return	Full ROM	*May progress CKC program: *Ball on wall *Pushup on unstable surface at 20 weeks  Plyometric exercises for throwers: *Rebounder throws arm at side *Wall dribbles overhead *Rebounder throws with weighted ball, *Decelerations, wall dribbles at 90°	Interval sports programs can begin and Strength athletes can gradually resume regular training between 28-32 weeks	Weight training precautions.



### **Shoulder Exercises for Clavicle Fracture Rehabilitation Protocol**

The exercises illustrated and described in this document should be performed only after instruction by your physical therapist or doctor.

### Pendulum exercise

Bend over at the waist and let the arm hang down. Using your body to initiate movement, swing the arm gently forward and backward and in a circular motion.



# Shoulder shrug

Shrug shoulders upward as illustrated.

# Shoulder blade pinches

Pinch shoulder blades backward and together, as illustrated.



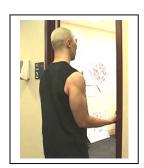


# Isometric internal and external rotation

Stand facing a doorjamb or the corner of a wall.
Keep the elbow tight against your side and hold the forearm at a right angle to the arm. For internal rotation, place the palm against the wall with the thumb facing up. For external rotation, place the back of the hand against the wall with the thumb facing up.

Pull or push against the wall and hold for 5 seconds





# Ball squeeze exercises

Holding a rubber ball or tennis ball, squeeze the ball and hold for 5 seconds



### Supine passive arm elevation

Lie on your back. Hold the affected arm at the wrist with the opposite hand. Using the strength of the opposite arm, lift the affected arm upward, as if to bring the arm overhead, slowly lower the arm back to the bed.









# Supine external rotation

Lie on your back. Keep the elbow of the affected arm against your side with the elbow bent at 90 degrees. Using a cane or long stick in the opposite hand, push against the hand of the affected arm so that the affected arm rotates outward. Hold 10 seconds, relax and repeat.





# Behind-the-back internal rotation

Sitting in a chair or standing, place the hand of the operated arm behind your back at the waistline. Use your opposite hand, as illustrated, to help the other hand higher toward the shoulder blade. Hold 10 seconds, relax and repeat.







### Hand-behind-the-head stretch

Lie on your back. Clasp your hands and place your hands behind your head with the elbows facing forward. Slowly lower the elbows to the side to stretch the shoulder outward. Hold for 10 seconds, and then return to the starting position.









# Standing external rotation

Stand in a doorway facing the doorframe or near the edge of a wall. With your hand against the wall or doorframe, keep the affected arm firmly against your side, and the elbow at a right (90 degree) angle. By moving your feet, rotate your body away from the door or wall to produce outward rotation at the shoulder.





# Supine cross-chest stretch

Lying on your back, hold the elbow of the operated arm with the opposite hand. Gently stretch the elbow toward the opposite shoulder. Hold for 10 seconds.









# Sidelying internal rotation stretch

Lie on your side with the arm positioned so that the arm is at a right angle to the body and the elbow bent at a 90° angle. Keeping the elbow at a right angle, rotate the arm forward as if to touch the thumb to the table. Apply a gentle stretch with the opposite arm. Hold 10 to 15 seconds.







### External rotation at 90° abduction stretch

Lie on your back. Support the upper arm, if needed, with towels or a small pillow. Keep arm at 90 degrees to the body and the elbow bent at 90 degrees. Using a stick and the opposite arm, stretch as if to bring the thumb to the corner of the table adjacent to your ear. Hold for 10 seconds, and then return to the starting position





### Wall slide stretch

Stand facing a wall; place the hands of both arms on the wall. Slide the hands and arms upward. As you are able to stretch the hand and arm higher, you should move your body closer to the wall. Hold 10 seconds, lower the arm by pressing the hand into the wall and letting it slide slowly down.





### Seated/Standing Forward Elevation (Overhead Elbow Lift)

During this phase, you can stand or sit in a chair. If it is easier, begin lying on your back until you achieve maximal motion, then use the standing or seated position. Assume an upright position with erect posture, looking straight ahead. Place your hands on either thigh with the operated thumb facing up and your elbow straight. In the beginning, this stretch is not performed solely with the operated arm, but uses the uninjured hand for assistance going up and coming down. As you become stronger, you can raise and lower your arm without assistance. The operated arm should be lifted as high as possible, or to your end-point of pain. Try to raise the arm by hinging at the shoulder as opposed to raising the arm with the shoulder blade.









### Standing forward flexion

Stand facing a mirror with the hands rotated so that the thumbs face forward. Raise the arm upward keeping the elbow straight. Try to raise the arm by hinging at the shoulder as opposed to raising the arm with the shoulder blade. Do 10 repetitions to 90 degrees. If you can do this without hiking the shoulder blade, do 10 repetitions fully overhead.







# Prone rowing

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down. Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. While keeping the shoulder blade 'set', raise the arm up toward the ceiling while bending at the elbow. The elbow should be drawn along the side of the body until the hands touch the lower ribs. Always return slowly to the start position.





# Prone horizontal abduction ('T's)

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down. Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. Rotate your hand so that the thumb faces forward. While keeping the shoulder blade 'set' and keeping the elbows straight, slowly raise your arm away from your body to shoulder height, through a pain-free range of motion (so that your hand now has the thumb facing forward, and aligned with your cheek). Hold that position for 1 to 2 seconds and slowly lower. Limit the height that you raise the arm to 90 degrees, or in other words, horizontal to the floor.





### Prone horizontal abduction with external rotation

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down. Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. Rotate your hand so that the thumb faces outward. While keeping the shoulder blade 'set' and keeping the elbows straight, slowly raise your arm away from your body to shoulder height, through a pain-free range of motion (so that your hand now has the thumb facing forward, and aligned with your cheek). Hold that position for 1 to 2 seconds and slowly lower. Limit the height that you raise the arm to 90 degrees, or in other words, horizontal to the floor.







# Prone scaption ('Y's)

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down.

Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. Keep the shoulder blade 'set' and keep the elbows straight. Slowly raise the arm away from your body and slightly forward through a pain-free range of motion (so that your hand now has the thumb facing up, and is aligned with your forehead). Hold that position for 1 to 2 seconds and slowly lower. Limit the height that you raise the arm to 90 degrees, or in other words, horizontal to the floor.





### Prone extension

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down. Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. While keeping the shoulder blade 'set' and keeping the elbow straight, raise the arm backward toward your hip with the thumb pointing outward. Do not lift your hand past the level of your hip.

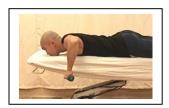




# Prone external rotation at 90 ° Abduction

Lie face down on a table with your arm hanging over the side of the table. Raise the arm to shoulder height at a 90° angle to the body. While holding the arm in this position, rotate the hand upward, until the hand is even with the elbow. Hold one second and slowly let the hand rotate to the starting position and repeat.







# Sidelying external rotation

Lying on the non-operated side, bend your elbow to a 90-degree angle and keep the operated arm firmly against your side with your hand resting on your abdomen. By rotation at the shoulder, raise your hand upward, toward the ceiling through a comfortable range of motion. Hold this position for 1 to 2 seconds, and then slowly lower the hand.







# Standing forward flexion ('full-can') exercise

Stand facing a mirror with the hands rotated so that the thumbs face forward. While keeping the shoulder blade 'set' and keeping the elbows straight, raise the arms forward and upward to shoulder level with a slight outward angle (30°). Pause for one second and slowly lower and repeat.







Stand with the arm at your side with the elbow straight and the hands rotated so that the thumbs face forward. Raise the arm straight out to the side, palm down, until the hands reach shoulder level. Do not raise the hands higher than the shoulder. Pause and slowly lower the arm.





# Theraband Strengthening

These resistance exercises should be done very slowly in both directions. We want to strengthen you throughout the full range of motion and it is very important that these exercises be done very slowly, not only when you complete the exercise (concentric), but also as you come back to the start position (eccentric). The slower the motion, the more maximal the contraction throughout a full range of motion.

### **External Rotation**

Attach the theraband at waist level in a doorjamb or other. While standing sideways to the door and looking straight ahead, grasp one end of the band and pull the band all the way through until it is taut. Feet are shoulder width apart and the knees are slightly flexed. The elbow is placed next to the side with the hand as close to your chest as possible (think of this elbow as being a hinge on a gate). Taking the cord in the hand, move the hand away from the body as far as it feels comfortable. Return to the start position.





### **Internal Rotation**

Attach the Theraband at waist level in a doorjamb or other. While standing sideways to the door and looking straight ahead, grasp one end of the handle and pull the cord all the way through until it is taut. Feet are shoulder width apart and the knees are slightly flexed. The elbow is placed next to the side and is flexed at 90 degrees (think of this elbow as being a hinge on a gate). Taking the cord in the hand, move the hand toward the chest as far as it feels comfortable. Return to the start position.







# Shoulder Shrug

Stand on the theraband with your feet at should width apart and look straight ahead. Next, straighten up, keeping the knees slightly flexed, with your arms straight down at the sides (palms in). Slowly raise the shoulders in a shrug (toward the ears), then rotate the shoulders backward in a circular motion, and finally down to the original position. This movement is completed while keeping constant tension on the cord.





# Seated / Standing Row

Attach the theraband in a doorjamb or other. Sit or stand facing the door. Use a wide flat—footed stance and keep your back straight. Begin with the arms slightly flexed, hands together at waist level in front of your body, thumbs pointing upward, and with the cord taut. You are producing a rowing motion. Pull the cord all the way toward the chest. While pulling the cord, the elbows should be drawn along the side of the body until the hands touch the lower ribs. Always return slowly to the start position.





### **Standing Forward Punch**

Attach the theraband at waist level in the doorjamb. Facing away from the door, stand in a boxing position with one leg ahead of the other (stride position). Do not bend at the waist and remain in an upright position. If the right shoulder is the injured extremity, you will want to grasp the handle in the right hand and step out until the cord is taut. If you use the right hand, the left foot should be forward in the stride position. Begin with your right arm at waist level and bend the elbow at a 90 degree angle, with the elbow remaining near your side. Slowly punch forward while slightly raising the right arm in a forward, upward punching motion. The hand should reach approximately neck level with the right arm almost straight.







# **Biceps Curls**

Place your feet on the cord, shoulder width apart, knees slightly bent. Keeping your elbows close to the sides of your body, slowly bend the arm at the elbow and curl towards the shoulder.





# Dynamic Hug

With the tubing attach behind you at shoulder height, grip both ends of the tubing in your hands with the tubing on the outside of your shoulders. Pull the band forward and slightly downward in a 'hugging' motion, or as if you were wrapping both arm around a small tree. Pause and return slowly to the starting position.





### 'W's

With the tubing attached in front of you, stand with the tubing in both hands with the elbows bent at 90° and fixed at your side. Pull the band outward, keeping the elbow at your side. The arms rotate outward making the shape of a 'W'.





# Standing 'T's.

Stand with the theraband attached in front of you. Stand with the arm flexed forward at shoulder height with the elbow straight. While keeping the elbow straight, pull the arm toward the rear until the arm is by your side.





# Theraband external rotation at 90°.

Stand with the theraband attached in front of you. Keeping the arm elevated to 90 degrees and the elbow at a 90-degree angle, rotate the hand and arm slowly backward and then return slowly to the start position.







# Theraband internal rotation at 90°.

Stand with the theraband attached behind you. Keeping the arm elevated to 90 degrees and the elbow at a 90-degree angle, rotate the hand and arm slowly forward and then return slowly to the start position.





# Theraband diagonal-up

Stand with the theraband attached on your left side for your right hand. Start with your right hand on the left hip with the thumb facing the hip. Start by pulling the band so that your hand travels up and behind your head.





# Theraband diagonal-down

Stand with the theraband attached behind you at shoulder level. Start with your arm in throwing position. Pull the band down and across your body so that your thumb faces the opposite hip.



