

ROTATOR CUFF

CO .RE



CONTENTS

The Basics

The First Week

Sling Information

Stages 1 to 4

Frequently Asked Questions

Common Post-operative Problems

Shoulder Terminology

THE BASICS

This program outlines the stretches and exercises to undertake during your recovery from rotator cuff repair surgery. It sets out the rehabilitation required to get an excellent result from your rotator cuff repair surgery with a safe but progressive program.

When I talk to patients about rehabilitation, regardless of the joint or procedure, I tell them to think about it in two parts. Rehabilitation involves **stretching** and **strengthening**.

Stretching (passive movement)

Stretching involves moving a joint using external forces. For this reason it is called a “passive” activity. The early phases of rehabilitation are mostly about stretching. It must be done early before scar tissue forms causing stiffness. So it is time critical – you cannot put it off until next week when you are feeling better. Stretches are a low load, long duration activity. The mantra is “stretch and hold”.

Strengthening (active movement)

Strengthening involves moving a joint using your own muscles. For this reason we refer to it as “active” movement. Early on, a rotator cuff repair cannot withstand substantial strength work, or “active” movement. We build in strength work as the repair heals.

In working with your physical therapist, you will become familiar with these two important terms – passive and active movement. They form the basis of the rotator cuff rehabilitation program. We start immediately with passive movement, progress to active assisted movement, and then ultimately active movement.

Fear of re-tear and the frozen shoulder

Everybody worries that they might overdo things and cause a re-tear. This event is actually very uncommon. The stretches and exercises you are given are very safe. Do not hold back for fear of re-tearing. This will lead to a frozen shoulder.

Up to one in ten people will get a frozen shoulder after rotator cuff repair. For some it is not preventable, their body just heals with excessive scar tissue. But early attention to your stretching exercises greatly improves the outcome, shortens the recovery time, and reduces the risk of a frozen shoulder.

Big tears and little tears

Not all rotator cuff tears are the same. Most patients will have a full thickness or complete tear of the tendon and this may also be retracted. This rehabilitation program is suitable for those tears.

Some patients will have small tears or partial tears which repair in a more stable and safer pattern. For those patients, a slightly accelerated program of rehabilitation is permissible. The first six week phase of recovery can be reduced to four weeks in this case and the sling can come off after four weeks. Subsequent phases continue for the normal duration.

THE FIRST WEEK

1. WOUND MANAGEMENT

Dressings applied in hospital generally do not need to be changed. They are waterproof. You can leave them in place until your post-operative wound check with the nurse at seven to ten days. Keep your wounds dry for the first week.

2. SWELLING

In the days immediately after surgery, the shoulder will be very swollen from the arthroscopic fluid. Regular application of ice will reduce swelling and help pain control. Some form of ice should be applied for fifteen to twenty minutes, at least three times a day. This can be as simple as a bag of frozen peas but there are newer devices such as a CryoCuff or Game Ready.

If you have had an AC joint excision, you may get a very prominent round swelling at the top of the shoulder. It will resolve and usually not require treatment. You will also get swelling in the hand and this can persist for weeks or months. The use of a squeeze ball will help pump fluid out of the hand and reduce swelling.

3. BRUISING

Shoulder surgery for rotator cuff repair does involve shaving some of the bone and this will often produce significant bruising. Gravity will cause the blood to move downwards and it can be prominent in the pectoral region or down to the elbow crease. The bruising is not a cause for concern and will resolve over a few weeks.

4. SLING

You will be required to wear a sling at all times except when doing your exercises. The sling will be worn for four to six weeks depending on the size of the tendon tear. Detailed advice on sling use is contained in the next section.

5. SLEEP

Shoulder pain is always worse at night. Getting comfortable to sleep after shoulder surgery can be a real challenge. Some people find the sling very awkward at night. It is important to wear the sling during your sleep and as long as you are wearing the sling, you can position yourself in any way that is comfortable. Some people choose to sleep sitting up in a recliner chair in the early weeks after surgery. You can also prop yourself up with pillows in any position that is comfortable.

If you are taking strong narcotic painkillers, you should not combine these with sleeping tablets. Once you have come off the narcotics, you can use sleeping tablets such as Temazepam (prescription) or Restavit (over the counter). Take Restavit early in the evening or you will be groggy the next day. Start with just half a tablet.

6. HOW HARD DO I PUSH?

A bit of a nudge with the exercises is required. During the entire program, use these simple guides:

- a) Gritting your teeth is okay, but tears in the eyes is not.
- b) You must be able to do tomorrow what you did today. If you wake up so sore you need a rest day – you did too much.
- c) A pain score of 3 out of 10 is okay, no more.

7. PHYSIOTHERAPY

This program is meant to be conducted under the supervision of a physiotherapist where possible. Physiotherapy review every two weeks is advisable in the initial three months.

8. DRIVING

It is not possible to drive while you are wearing a sling, both for legal reasons and to protect the repair. Driving can resume six to seven weeks after surgery.

9. PAIN RELIEF

Shoulder surgery is definitely one of the more painful orthopaedic operations. It is important to get away to a good start with your pain relief in hospital and for that reason Dr Colvin encourages people who are struggling with pain relief to stay in hospital for two nights rather than one. Successful pain relief strategies require regular use of simple analgesics such as Panadol and anti-inflammatories, topped up intermittently with stronger analgesics. Refer to Dr Colvin's guidelines "Pain Relief After Surgery".

SLING INFORMATION

Types of sling

Two types of sling are used following rotator cuff repair surgery. The first sling is called a simple broad arm sling. This allows the arm to rest against your body. This sling is used for small or stable tears. It is usually only required for four weeks.

The second type of sling is called an abduction sling. It has a pillow underneath the arm to hold it away from the body. This takes some tension off the repaired tendons. We use this type of sling for larger tears or where the tendon has been repaired with some tension. It is usually worn for six weeks.

When to wear your sling

The sling should be worn at all times except when doing your exercises. However, if you are sitting down, you can take the sling off and use pillows to hold the arm in a similar position. This will allow you to bend and straighten the elbow and relieve muscle spasm.

Showering

You will be provided with a collar and cuff sling to wear in the shower. This sling can get wet and is removed after the shower.

Be cautious when getting into and out of the collar and cuff sling. When changing the sling over, many people inadvertently lift their arm using their own muscles (active abduction) and this puts stress on the repair.

How to take your sling off

Sit with your arm supported horizontally on a pillow. Remove the waist strap and then the neck strap. Keep the arm still while removing the sling. Slide it off the elbow. Support the arm at the elbow when not wearing a sling.

How to put your sling on

Sit with your arm supported on a pillow. Using your good hand, support the operated arm at the elbow and place it into the open sling. Slide your elbow back into the corner of the sling and the hand is placed thumb up through the loop. Replace the neck strap first and then the waist strap. The neck strap should be tensioned so that your arm is horizontal across the body, elbow bent at ninety degrees. When correctly positioned, you should feel that the entire forearm and elbow are well supported by the sling. Position the pillow at the side or front as comfortable.

Dressing

Put a sleeve over the sore arm first, then pull the shirt over your head. Then the good arm goes in its sleeve. Reverse this procedure to remove a shirt.

STAGE ONE – PASSIVE

WEEKS ONE TO SIX (DAYS 1 TO 42)

This phase goes for as long as you are in the sling - six weeks usually; four weeks for small stable tears.

Right from day one it is all about **stretching** after rotator cuff repair surgery. The tendon repair will not allow us to do any strength work in the first six weeks. The stretching is **passive** - your rotator cuff muscles are not doing any of the work. Getting away to a good start on this at this stage can cut many months off your recovery. Conversely, a slow start and the stiffness will set in even after a week or two.

It is all about the Big 3 - cradle pendulums, passive flexion and passive external rotation. Most of the other exercises in this phase are for comfort or relief of muscle spasm.

Early on, when your shoulder is sore, do lots of little sessions. Four times per day is a minimum, every hour if you want, and focus on those three main exercises.

Every exercise block in this program will start with some scapula (shoulder blade) strengthening. This is the one **active** exercise you can do from day 1. The shoulder blade floats on the rib cage, only held in place by muscles and ligaments. A stable scapula is the platform for normal shoulder function. It is said that a shoulder with a weak scapula is like firing a cannon from a canoe. The scapula stabilising muscles are the trapezius, rhomboids, and serratus anterior.

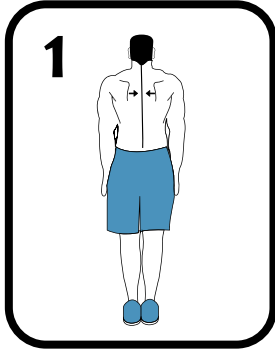
Objectives by the end of this stage

- 1) The passive range of motion targets are:
 - a) Forward flexion 135°
 - b) Abduction 90°
 - c) External rotation 30°Your physiotherapist will measure these movements.
- 2) The sling comes off
- 3) You should have ceased narcotic painkillers.
Manage your pain with regular Panadol, an anti-inflammatory, and possibly a short term sleeping tablet.

WEEKS ONE TO SIX EXERCISES –

PASSIVE

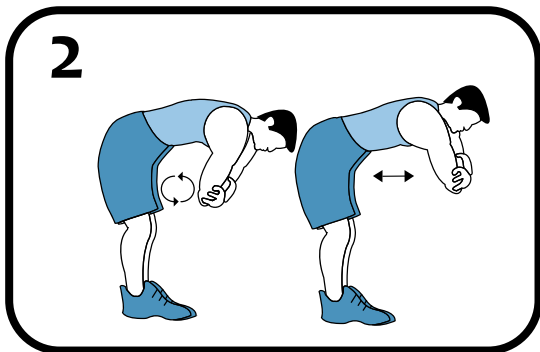
SCAPULA



1. Scapula setting

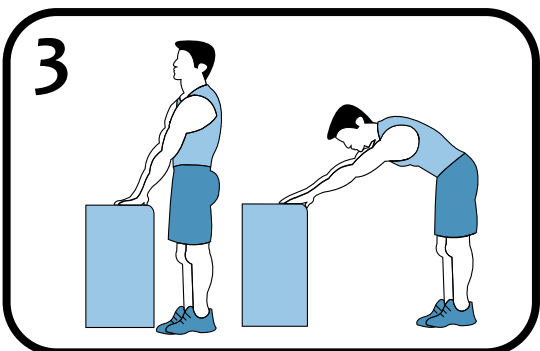
Pull the shoulders back and squeeze the shoulder blades together. Hold for 10 seconds. Repeat x3.

PASSIVE



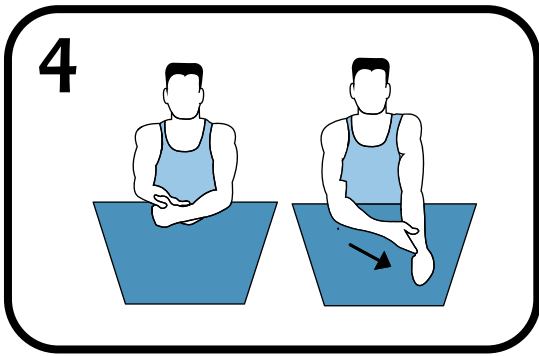
2. Cradle pendulums

Use your good arm to support the forearm and elbow of the sore arm. Lean well forward at the waist. Do 10 circles in each direction, then 10 movements back and forward as far as you can go. Repeat x3. The key to this exercise is to bend further at the waist and make the circles bigger and bigger as each week goes by. This is the core exercise for the program in the first 6 weeks. It is very safe and pushing harder will not do any damage. There is no upper limit to how much time you can spend doing this exercise.



3. Passive flexion table stretch

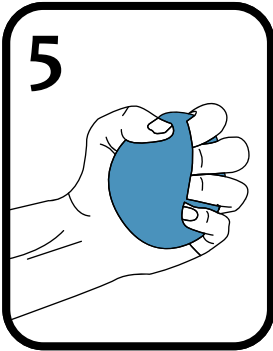
Place your hands on the edge of a table. Walk backwards until you gently feel the stretch. Don't be afraid to bend aggressively at the waist and step well back from the table as you progress. Hold for 30 seconds. Repeat x3.



4. **Passive external rotation – seated**

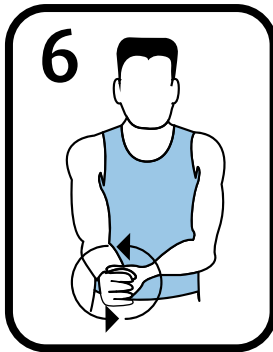
Sit with your arm resting on a pillow or table. Use your good hand to rotate the other arm outwards. Ensure you keep the elbow at your side. Hold for 30 seconds. Repeat x3.

OTHER



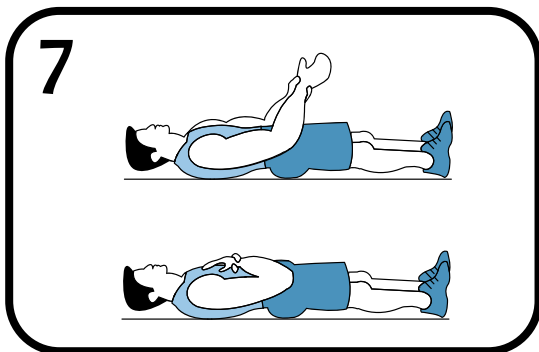
5. **Squeeze ball**

Use the squeeze ball throughout the day. This helps circulation in the hand and reduces swelling in the fingers.



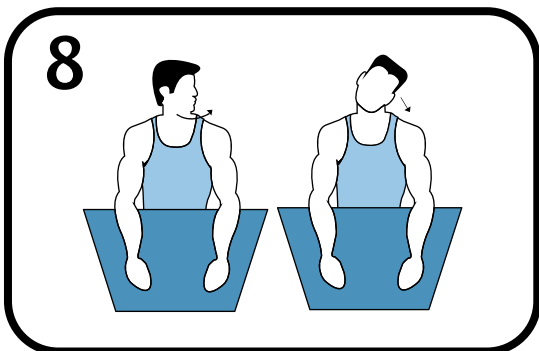
6. **Wrist circles**

Circle clockwise x10, and reverse direction. Repeat with a side-to-side motion instead of circles. Do this throughout the day.



7. **Elbow flexion/extension**

Lie flat on your back with your elbows support by a pillow. Use your good arm to assist bending and straightening the elbow. Repeat x10.



8. **Neck stretches**

Turn and look over your left shoulder for 10 seconds, repeat looking over your right shoulder. Then stretch to the side taking your ear towards your shoulder and hold for 10 seconds. Switch to the other side. Repeat regularly throughout the day.

STAGE TWO - ACTIVE ASSISTED

WEEKS SEVEN TO TWELVE (DAYS 43 TO 84)

This is the second six-week block of your recovery. The sling is off and we move on from passive stretching to **active assisted** exercises. Your muscles are doing some of the work but not all of it. The tendon repair at this stage is about 75% of its final strength.

We ramp up the stretching with pulleys - a key element to the next six weeks. Sessions can be a bit longer, three times per day is adequate.

It is also time to bring in some regular general exercise like longer walks or exercise bike. It is likely you have stacked on a few kilos by now!

It is ok to do some lifting by bending at the elbow - this does not involve the shoulder. So you can lift half a kilogram up to bench level, but not lifting the upper arm.

This phase has a part A and a part B. There is a minor progression after three weeks, with some isometric exercises. The CO.RE motto is - '**You must progress for success**'.

Objectives by the end of this stage

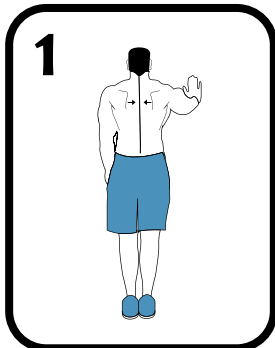
You should have near full range of motion with assistance.

- 1)** Flexion 160°
- 2)** Abduction 135°
- 3)** External rotation 45°

Your physiotherapist will track your range of motion.

STAGE 2A – WEEKS 7 TO 9 – ACTIVE ASSISTED

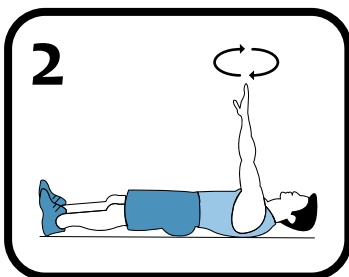
SCAPULA



1. Wall push

Lightly push your straight arm into the wall and squeeze the shoulder blades together. Note that you will need to assist your arm up to this position. Do not lift your operated arm under its own power. Hold for 10 seconds. Repeat x3.

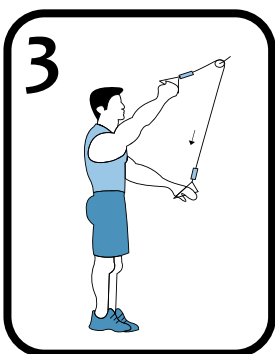
Repeat this drill with your arm at a higher point on the wall (above horizontal) and at a lower point on the wall (below horizontal).



2. Lying alphabet

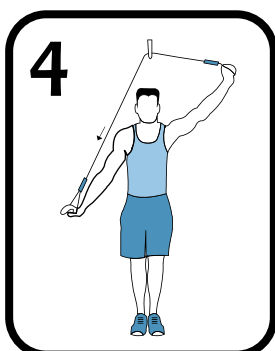
Lying on your back, use the opposite arm to assist your arm into a vertical position. Write the letters of the alphabet from A to Z in the air.

PASSIVE



3. Pulley flexion

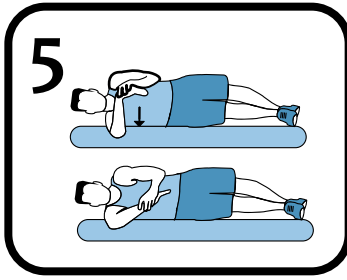
Set the pulley up at the top of a door. Stand facing the door. Pull down with your good arm to bring the operated arm forward and up (flexion). Stretch and hold for 10 seconds, relax. Repeat 3 sets of 5.



4. Pulley abduction

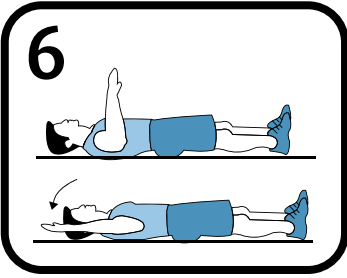
Set pulley up in the top of a doorway. Stand with your back to the door. With your good arm, pull down to lift the operated arm up to the side (abduction). Stretch and hold for 10 seconds. Relax. Repeat 3 sets of 5.

5. Side lying internal rotation



Lie on your side with the operated shoulder down. The upper arm is directly out from your body. The forearm acts as a lever and you can use your good arm to push the forearm towards the bed. Stretch and hold for 10 seconds. Repeat x5.

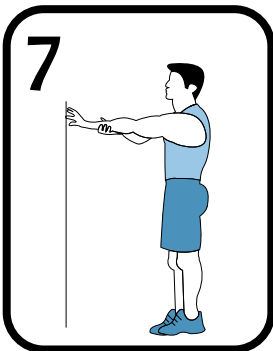
6. Supine external rotation



Lie on your back with your upper arm out at 90 degrees. Allow the forearm to fall backwards with gravity into a “stop sign” position. For a more forceful stretch, use your good arm to push down further. Stretch and hold for 10 seconds. Relax. Repeat x5.

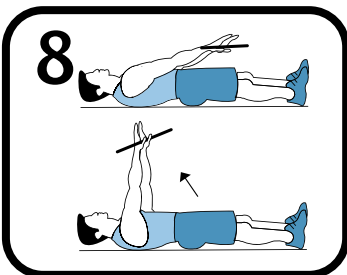
ACTIVE ASSISTED

7. Walk fingers up wall – assisted flexion

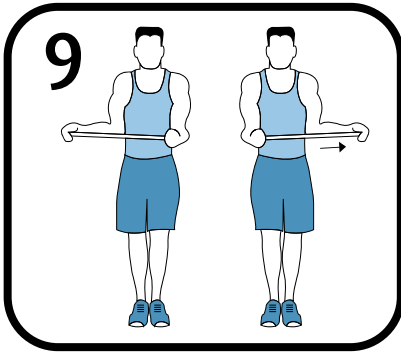


Stand facing a wall and support your operated arm at the elbow with your fingertips on the wall. Walk your fingers up the wall until you feel the stretch. Hold for 10 seconds. Assist your arm to slide down the wall. Repeat x5.

8. Broomstick flexion – lying



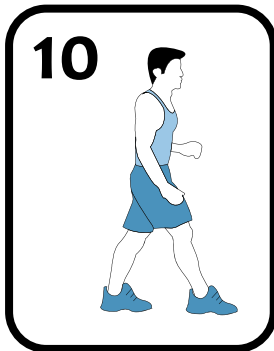
Lying on your back, both hands hold a short piece of broomstick across the front of your thighs, your good arm assisting weak arm. Lift the arms straight up as far as possible. Hold for 10 seconds. Lower down. Repeat x5.



9. External rotation – broomstick

Start with your operated arm pointing straight ahead, elbow held firmly against the side. Use a short length of broomstick in the opposite arm and push the stick horizontally to turn the operated arm outwards. Ensure that the elbow stays by your side or the stretch is lost. Hold for 10 seconds and then relax. Repeat x5.

GENERAL



10. Walking

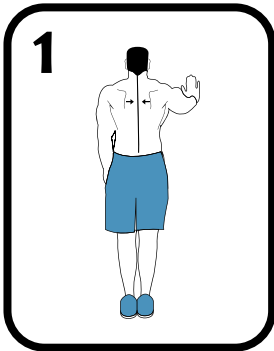


11. Exercise Bike

STAGE TWO B - ACTIVE ASSISTED-

WEEKS TEN TO TWELVE

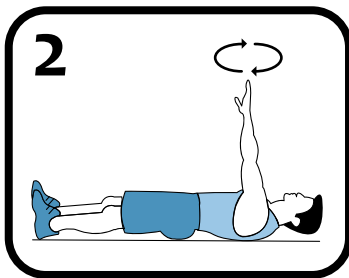
SCAPULA



1. Wall push

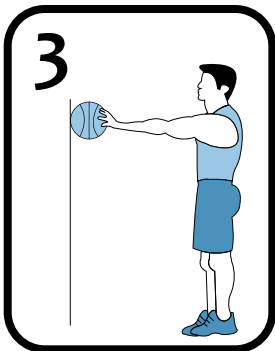
Lightly push your straight arm into the wall and squeeze the shoulder blades together. Note that you will need to assist your arm up to this position. Do not lift your operated arm under its own power. Hold for 10 seconds. Repeat x3.

Repeat this drill with your arm at a higher point on the wall (above horizontal) and at a lower point on the wall (below horizontal).



2. Lying alphabets

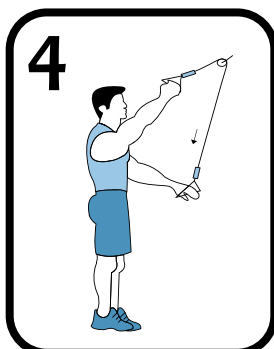
Lying on your back, use the opposite arm to assist your arm into a vertical position. Write the letters of the alphabet from A to Z in the air.



3. Roll ball on wall

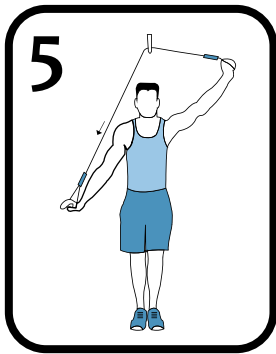
Stand facing a wall and use your arm to push a light ball into the wall. Roll the ball in clockwise then anti-clockwise circles for 1 minute. Repeat.

PASSIVE



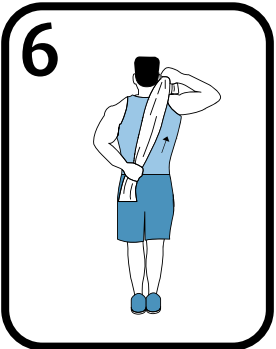
4. Pulley flexion

Set the pulley up at the top of a door. Stand facing the door. Pull down with your good arm to bring the operated arm forward and up (flexion). Stretch and hold for 10 seconds, relax. Repeat 3 sets of 5.



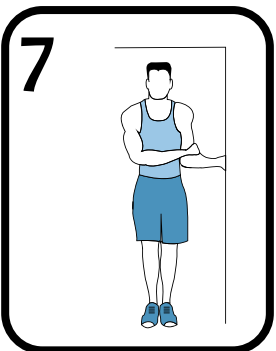
5. Pulley abduction

Set pulley up in the top of a doorway. Stand with your back to the door. With your good arm, pull down to lift the operated arm up to the side (abduction). Stretch and hold for 10 seconds. Relax. Repeat 3 sets of 5.



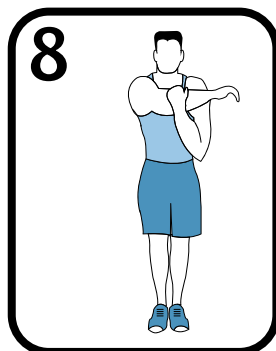
6. Internal rotation stretch

Stand upright. Hold a towel in both hands behind your back. The lower hand is the shoulder being stretched. Use your good arm at the top to pull the affected arm up behind your back. Stretch and hold for 10 seconds. Relax. Repeat x3.



7. External rotation stretch

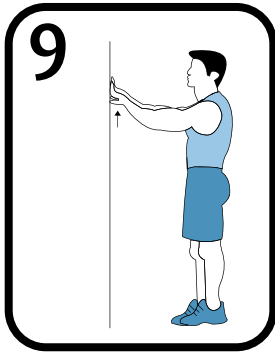
Stand in a doorway with your elbow by your side, palm on the doorway. Use your good hand to hold the elbow firmly against the body as you twist the hips for a forceful rotation of the arm outwards. Stretch, hold for 10 seconds, and relax. Repeat x3.



8. Stretch posterior capsule

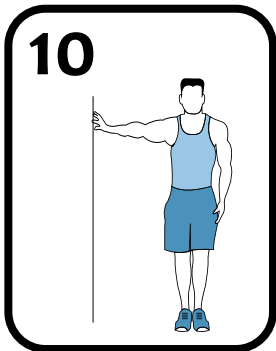
Standing, bring your arm across the body horizontally. Use the good hand over the elbow to push the arm closer to your chest. Hold for 10 seconds and relax. Repeat x3. Note – this is a very important shoulder stretch. Do it frequently.

ACTIVE ASSISTED



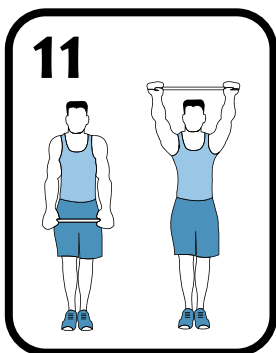
9. Walk fingers up wall – unassisted

Stand facing a wall. Start with your hand below horizontal. Walk the fingers up the wall as far as possible and hold the stretch at the top for 10 seconds. Lower your arm back to the starting position by dragging the fingers against the wall. Use as little resistance on the wall as possible to recruit deltoid muscle strength. Repeat x5.



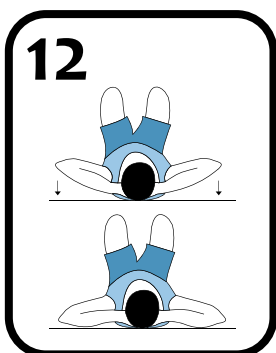
10. Walk fingers up wall – abduction

Stand side on to a wall. Walk the fingers starting down low up to a point where you feel the stretch. Hold for 10 seconds. Drag the arm down the wall using finger pressure resistance to stop the arm falling. Use as little resistance as necessary. This will start your deltoid muscle working. Repeat x5.



11. Standing broomstick flexion

Start with your arms down, shoulder width apart holding a short length of broomstick. Raise both arms up as far as possible, stronger arm assisting weaker arm. Pause at the top and then lower back down. Repeat x5.

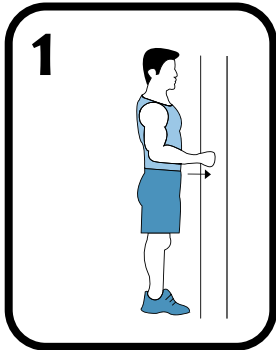


12. Butterfly exercise

Lie on your back, hands behind your head. Push the elbows down towards the bed as far as possible. Pause and lift the elbows up. Repeat 3 sets of 5.

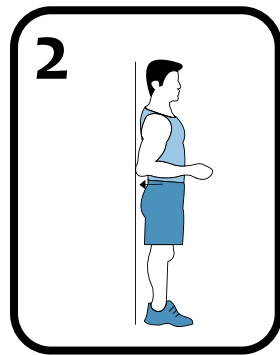
ISOMETRICS

Isometrics are a good way to start some strength work at this phase, if you have time to do additional exercise.



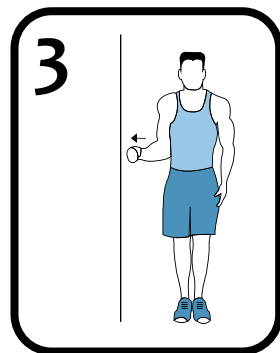
1. Isometric flexion

Stand facing a wall. Push your fist forwards into the wall. Hold for 10 seconds. Repeat x3.



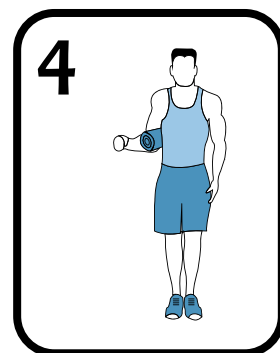
2. Isometric extension

Stand with your back to a wall. Push your elbow backwards into the wall. Hold for 10 seconds. Repeat x3.



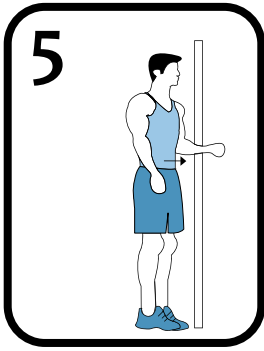
3. Isometric abduction

Stand side on to a wall. Push the outside of your forearm against the wall. Hold for 10 seconds. Repeat x3.



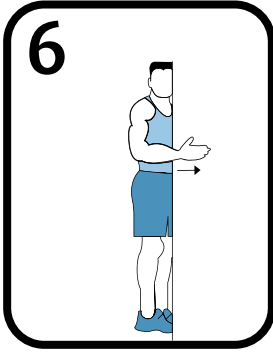
4. Isometric adduction

Use your elbow to hold a rolled up towel against your body. Squeeze for 10 seconds. Relax. Repeat x3.



5. Isometric external rotation

Stand in an open doorway with the outside of your wrist against the frame. Keep your elbow by your side. Push the wrist outwards. Hold for 10 seconds, then relax. Repeat x3.



6. Isometric internal rotation

Stand in an open doorway. Put your palm against the doorway and keep your elbow by your side. Push inwards for 10 seconds and relax. Repeat x3.

HYDROTHERAPY

Hydrotherapy can be undertaken if supervised by a therapist. Walking breaststroke is a good pool exercise.

STAGE THREE - ACTIVE

WEEKS THIRTEEN TO SIXTEEN

You have made it this far - congratulations. Some people look back on it as the worst twelve weeks of their life. But you are over the hump. The tendon repair is now at ninety percent of its final strength. We can safely progress onto active movement - moving the arm under your own steam.


If you have done a good job so far and hit all the goals, you do have the option of dropping out of formal rehabilitation now. For three months your shoulder has been the focus of your life. There are some things that the best rehabilitation in the world cannot speed up. Blood vessels grow in, new tendon cells form, nerves follow. Get on with your life, do your normal things and let your body do its healing. Work within your pain limits, no heavy lifting or overhead work. You will see gradual improvements over the next year. Do not be surprised if you have the occasional random flare up of pain for a day or a week.


For those of you with sporting ambitions or work demands, the program marches on, with a great strength builder - therabands. We also ramp up a solid stretching program.

Note that shoulder therabands progress by colour:

Band Strengths

 Yellow - Easy

 Red - Light

 Green - Medium

 Blue - Hard

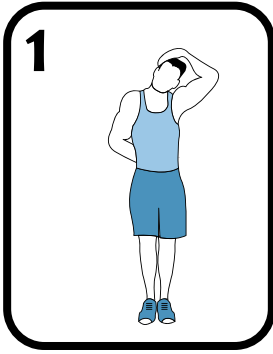
Objectives by the end of this stage

By the end of this phase you should have almost full active range of motion.

- 1)** Forward flexion 170°
- 2)** Abduction 170°
- 3)** External rotation same as normal arm

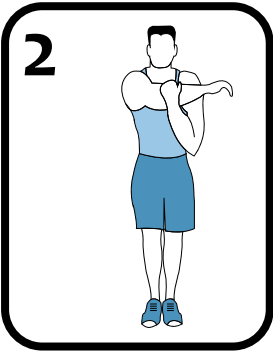
Your physiotherapist will track your range of motion.

STRETCH



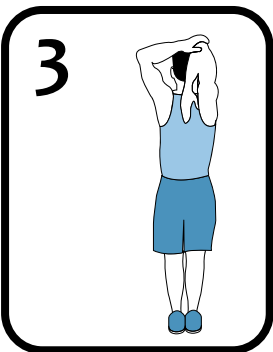
1. Trapezius

Stand upright, take your uninjured arm over the top of your head and use it to pull your head to the side. Feel the stretch in the trapezius, hold for 10 seconds and relax. Repeat x3.



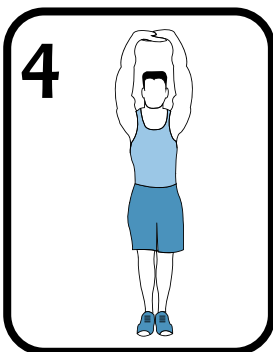
2. Posterior deltoid/capsule

Standing, bring your arm across the body horizontally. Use the good hand over the elbow to push the arm closer to your chest. Hold for 10 seconds and relax. Repeat x3. Note - this is a very important shoulder stretch. Do it frequently.



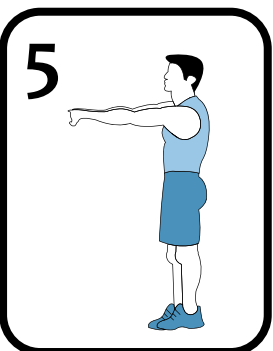
3. Triceps

Lift your arm and then place your palm between the shoulder blades. Use your unaffected hand to pull the elbow to point directly at the ceiling. Hold for 10 seconds and then relax. Repeat x3.



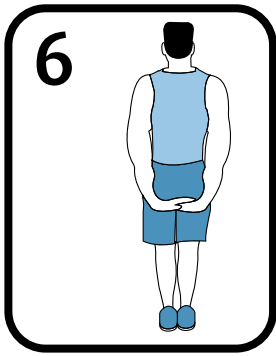
4. Lat dorsi

Interlock your hands and push the palms directly up towards the ceiling as far as possible. Hold for 10 seconds, then relax. Repeat x3.



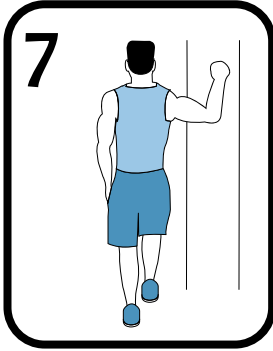
5. Rhomboids

Interlock your hands and push the palms out forward in front of you. Hold for 10 seconds, then relax. Repeat x3.



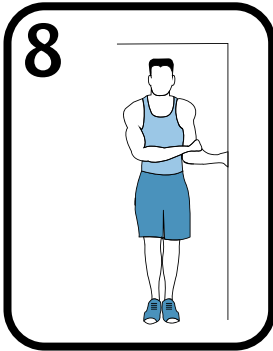
6. Lower pecs

Interlock your hands behind your back. Lift the hands up away from your back, hold for 10 seconds and relax. Repeat x3.



7. Stop sign

Stand in a doorway with your arm in a "stop sign" position. Step through the doorway for a more forceful stretch. Stretch and hold for 10 seconds. Repeat x3.

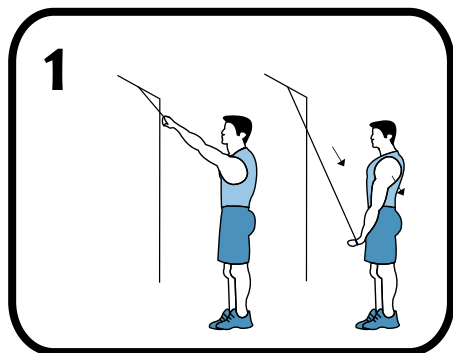


8. Doorway ER

Stand in a doorway with your elbow by your side, palm on the doorway. Use your good hand to hold the elbow firmly against the body as you twist the hips for a forceful rotation of the arm outwards. Stretch, hold for 10 seconds, and relax. Repeat x3.

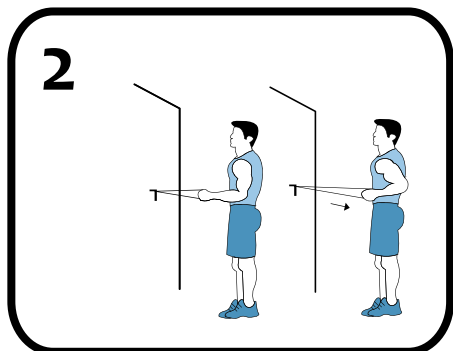
STRENGTHEN - THERABANDS

1. Pull downs



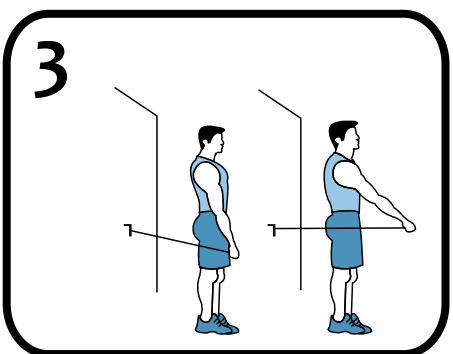
Attach the band to an elevated point like the top of a door. Start by facing the attachment point with your arm outstretched. Keep the arm straight and pull down until your hand is at the front of your thigh, pause and return back up. Repeat x10.

2. Theraband standing row



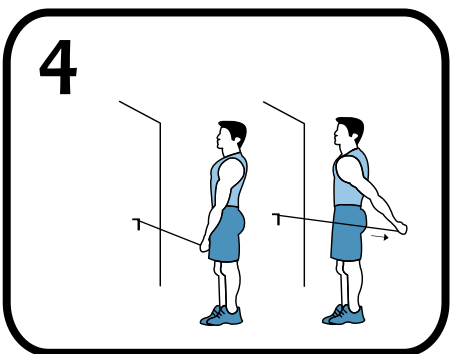
Attach the band to a door handle. Stand facing the attachment point with your hands outstretched, elbows at your side. Pull until your hands reach your belly button. Pause, then return to start position. Repeat x10.

3. Theraband flexion



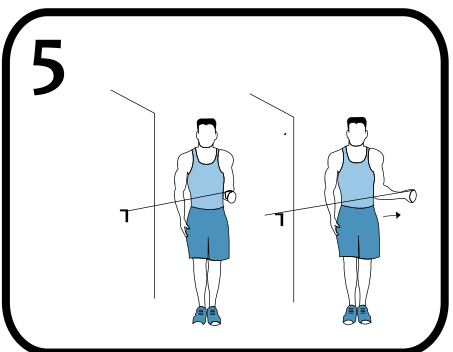
Attach the band to a door handle. Stand with your back to the attachment point, hand by your side. With a straight arm, reach forward, coming almost to the horizontal position if possible. Pause and return to the start position. Repeat x10.

4. Theraband extension

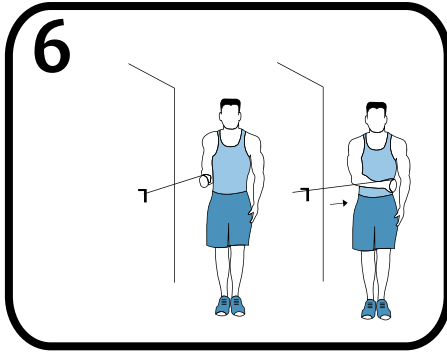


Attach the band to a door handle. Stand facing the attachment point with your hand by your side. Push a straight arm backwards as far as you can, pause, and return to start position. Repeat x10.

5. Theraband external rotation - "open the gate"

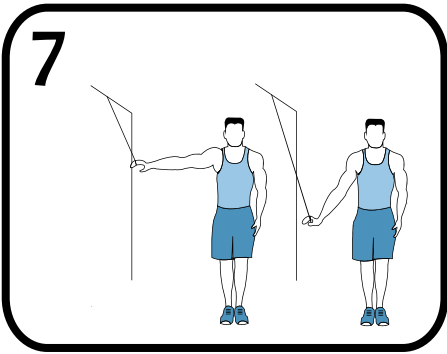


Stand side on to the door with your injured side away from the door. Hold the band with your elbow by your side and bent at 90 degrees. Rotate the arm outwards as if you are "opening the gate". Return to neutral. Repeat x10.



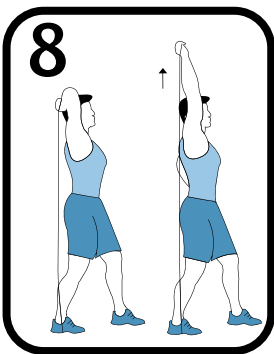
6. Theraband internal rotation – “close the gate”

Attach the band to a door handle. Stand side on to the door with your injured shoulder closest to the door. Keep your elbow at the side and bent 90 degrees. From the straight-forward position, rotate the hand inwards towards your belly button. You pull the theraband across your body in a “closing the gate” motion. Return to neutral. Repeat x10.



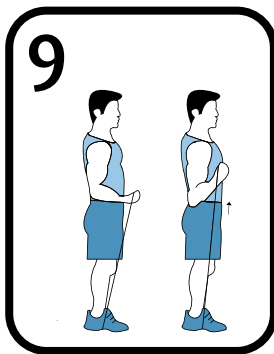
7. Theraband adduction

Attach the band to an elevated point like the top of a door. Stand side on. Start with the arm elevated. Keeping the arm straight, pull the hand down to your thigh. Pause and return back to the start position. Repeat x10.



8. Theraband triceps

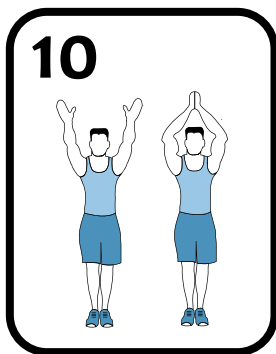
Fix the theraband at the back of your heel. Hold the other end in one hand behind your head. Extend the elbow vertically until the arm is fully straight. Return to the start position. Repeat x10.



9. Theraband biceps

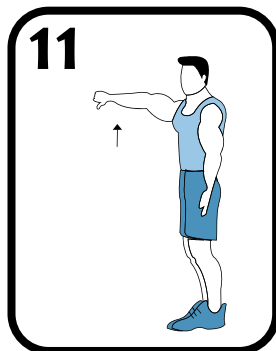
Fix the theraband around your forefoot. Hold the band with your hand by your side. Start with your hand by your side. Bend the elbow as far as possible, pause and return to the start position. Repeat x10.

STRENGTHEN - ACTIVE



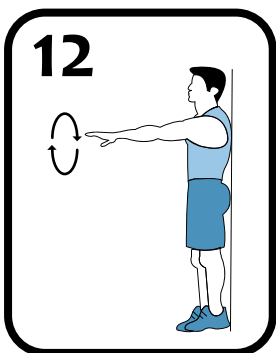
10. Overhead hand claps

Start with your hands by your sides. Lift the arms directly sideways into an overhead clap. Return to the start position. Repeat 3 sets x10.



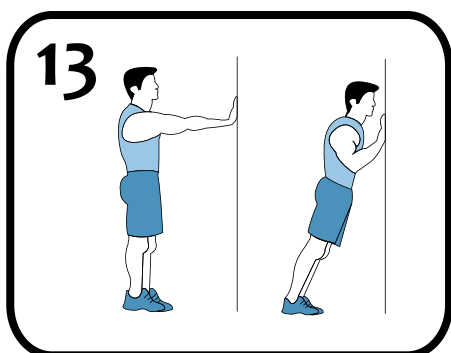
11. Empty can exercise

The start position is similar to emptying a can of soft drink. The thumb is pointing to the ground with the arm held out. The arm is neither directly sideways nor directly forwards, but approximately midway between these 2 points. Lift the arm up, pause then lower. Repeat x10. Do 3 sets



12. Standing alphabets

Stand with your back against the wall, arm out horizontal. Set the scapula by pulling the shoulder blades together. Draw the letters of the alphabet in the air.



13. Wall push ups

Stand upright facing a wall, arms out straight against a wall. Bend the elbow and lean towards the wall until your nose touches the wall. Push back to vertical. Repeat x10.

STAGE FOUR - STRENGTH

WEEK SEVENTEEN ONWARDS

From four months post surgery we take on some serious strength building and a graduated return to sport.

The key elements of the program at this stage are:

- 1)** Dumbbells can replace most of the theraband exercises.
- 2)** The classic body weight exercises commence - push-ups and triceps dips.
- 3)** Compound theraband exercises and resisted abduction commence.

Dumbbells should not exceed two kilograms until six months post surgery.

Return to sport

- Running
 - o 4 months
- Swimming
 - o Walking, breaststroke - 4 months
 - o Swim with fins – 5 months
 - o Freestyle – 6 months
- Golf
 - o Chip and putt – 4 months
 - o Irons on practice range – 5 months
 - o Normal play – 6 months
- Tennis
 - o Social doubles – 6 months

Objectives by the end of this stage

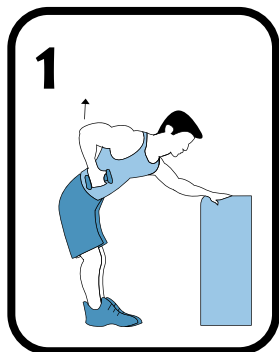
Return to sport and manual occupations.

This will be somewhere between six and 12 months post surgery.

STAGE FOUR EXERCISES – STRENGTH

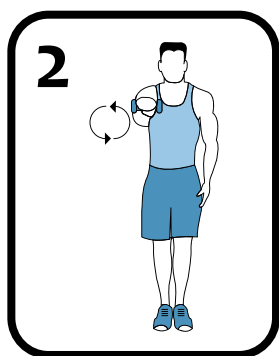
WEEK 17 ONWARDS

DUMBBELLS



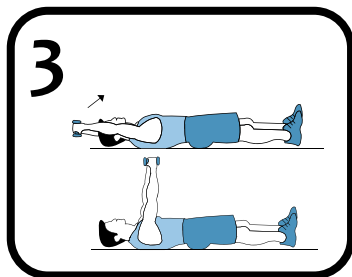
1. Bent over rowing

Lean forward with your resting hand on a table or chair. Bend aggressively at the hips. Your arm hangs down holding the dumbbell. Raise your elbow up straight as high as you can, squeezing the shoulder blades together. Pause, then lower. Repeat x10.



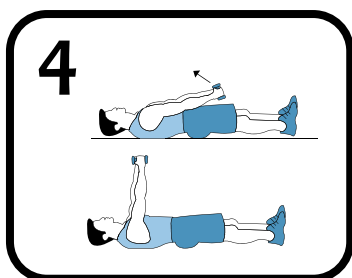
2. Standing alphabets

Stand with your back against the wall. Set the shoulder blades by squeezing them together. Holding a light dumbbell with your arm out horizontal, draw the letters of the alphabet from A to Z. Or do small circles in both directions.



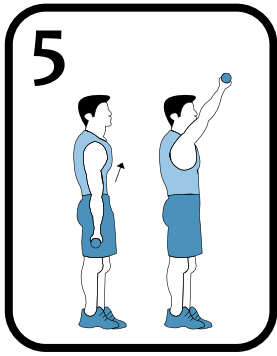
3. Pull overs

Lying flat, hold a single dumbbell in both hands above your head. Keeping the arms straight. The arms “pull over” to a vertical position. Pause, then return to start. Repeat x10.



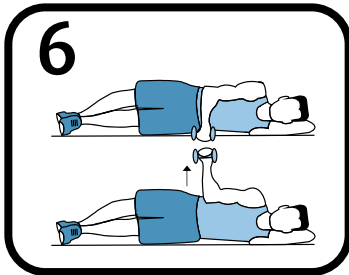
4. Lying flexion

Lying on your back, hold a single dumbbell in 2 hands on the front of your thighs. Lift the arm straight up to a vertical position, pause then return to start. Repeat x10.



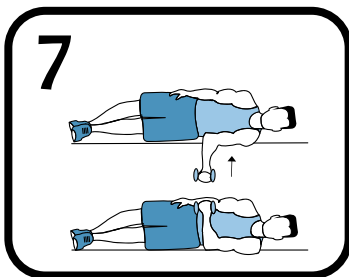
5. Standing flexion

Start with your arms at the side holding a pair of dumbbells. Raise one arm forward with a straight elbow. Lift up until it is directly over your head. Pause then lower back to the start position. Repeat x10.



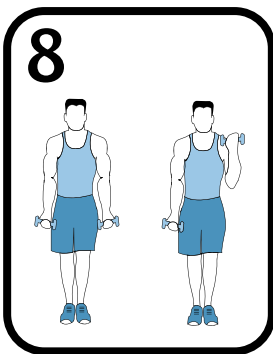
6. External rotation

Lie on your side with the injured shoulder uppermost. Rest the dumbbell in front of you with elbow bent 90 degrees. Keeping the elbow at your side, rotate the arm outwards with an "open the gate" motion. Pause, then return to the start. Repeat x10.



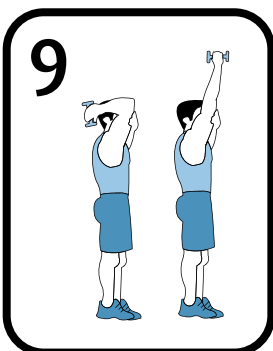
7. Internal rotation

Lie on your side with the injured shoulder down. Rest the dumbbell in your hand with the elbow bent 90 degrees. Keeping the arm at your side, rotate the forearm upwards in a "close the gate" action. Pause at the top then lower back slowly. Repeat x10.



8. Biceps

Stand with the arms by your side, dumbbell in each hand. Alternate arm curls bending at the elbow to bring the dumbbell up to your shoulder. Return to the start position. Repeat x10.

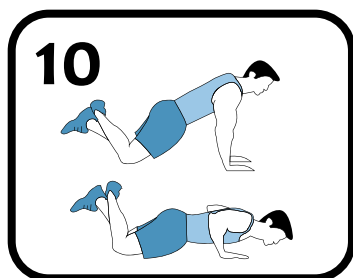


9. Triceps

Start with your hand holding a dumbbell behind your head. Support the elbow with your opposite hand if necessary. Straighten the elbow until the hand is directly above your head. Pause and return to the start position. Repeat x10.

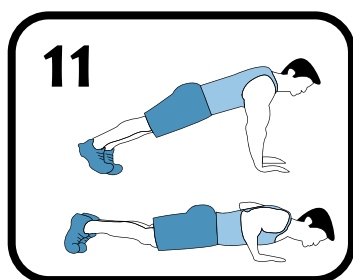
BODY WEIGHT EXERCISES

10. Push ups - knees



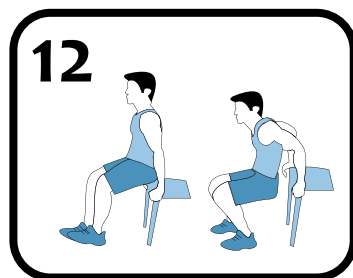
With your hands slightly wider than the shoulders, do a push up pivoting on the knees. Go as low to the ground as possible and keep knees, hips, shoulders and head aligned throughout. Return to the top. Repeat x10.

11. Push ups - full



Start with your hands slightly wider than the shoulders, weight balanced on your toes. Keep your ankles, hips, shoulders and head aligned throughout the exercise. Lower your nose to the ground, pause and return up. Repeat x10.

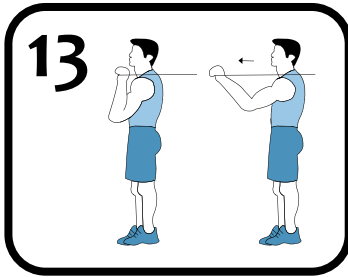
12. Triceps dips



Support your weight with your hands holding the leading edge of a chair or bench behind you. Feet out in front. Lower your bottom towards the ground as far as strength permits, pause and then push back up. As you get stronger, move the feet further away from the support. Repeat x10.

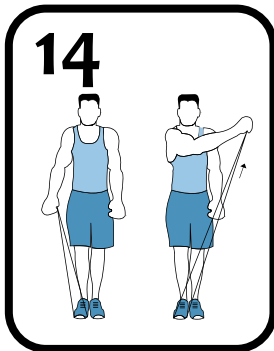
COMPOUND THERABANDS

13. Theraband stop sign



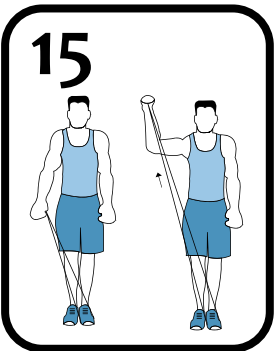
Attach the theraband to the top of a door, and stand with your back to the door. Place your hand in a stop sign position with the elbow bent 90 degrees. Push your hand horizontally forward until the arm is straight, pause and return to the start. Repeat x10.

14. Theraband D1 pattern



Secure the theraband around your forefoot. Stand with your arm down, theraband in the hand on the same side. Bring your arm diagonally across your body as far as possible, pause and return to the start. Repeat x10.

15. Theraband D2 pattern



Secure the theraband around your forefoot. Your opposite hand is by your side holding the theraband. Bring your arm up and out into the stop sign position. Pause and return to the start. Repeat x10.

FREQUENTLY ASKED QUESTIONS

1. If I have a rotator cuff tear and I keep using the shoulder, will it cause further tearing?

Rotator cuff tears do extend and increase in size over time. However this process takes months and years rather than days and weeks. Quite frequently patients who have a known rotator cuff tear will have episodes of severe pain and weakness following a minor injury. It is possible that these episodes are caused by an increase in the size of the tendon tear. The tear can increase in size even without re-injury.

In general terms, if the shoulder is continuing to be a cause of pain and if the weakness is increasing then specialist review is indicated and surgery may be a consideration. Exercise that is pain free is unlikely to be causing further damage in itself.

2. When should I see an orthopaedic surgeon for a rotator cuff tear?

All patients diagnosed with a rotator cuff tear should be reviewed by an orthopaedic surgeon. It may be necessary to undertake further testing including an MRI scan to accurately define the size of the tear and the age of the tear. Furthermore, if surgery is required then it may be preferable to have the surgery sooner rather than later to achieve optimal results.

If non-surgical treatment is decided upon, the surgeon can suggest alternative treatment options to help with pain.

3. Can a rotator cuff tear heal without surgery?

No, not usually. Rotator cuff tears have very limited capacity to heal themselves. Once the tendon tears it pulls away from the bone and starts retracting. The tendon cannot cross that gap to allow it to heal back onto the bone on its own.

However some rotator cuff tears are treated non-surgically and the pain can settle with simple treatments. If the tear remains pain free and allows a good range of motion and adequate function then surgery may not be indicated. Small tears within the tendon (in substance tears) may persist indefinitely without causing problems.

4. When does a rotator cuff tear require surgery?

The problem that most commonly causes patients to undergo surgical repair for a rotator cuff tear is pain. In particular when the pain starts to interfere with sleep then some form of treatment generally becomes critical. Other factors indicating that surgery is likely to be required would include reduced ability to lift the arm or significant weakness in the arm.

Rotator cuff tearing at a young age is a strong indication for surgery because we know the tear will increase in size over time. If left for too long, it can retract to the point where it is not repairable.

If you are undertaking high demand work or sporting activities then surgery is more likely to be required.

5. What rehabilitation do I require following rotator cuff repair?

Getting the rehabilitation right is as important as the surgery itself. The rehabilitation treads a fine path between the importance of getting the shoulder moving quickly to prevent a post-operative frozen shoulder, and on the other hand not stressing the tendon repair to the point where it is damaged. There is a well established and accepted protocol for rehabilitation following rotator cuff repair. It is advisable to have a physiotherapist involved in your rehabilitation to ensure that you are reaching the appropriate goals and undertaking appropriate exercises for your point in the recovery timeline. The physiotherapist's main role is to instruct you in the exercises. Hands on physiotherapy is not as crucial. The bulk of the rehabilitation involves you undertaking exercises at home on your own time on a regular basis in order to achieve improvements in movement and strength.

6. How long do I need to wear a sling?

Usually four to six weeks depending on the size of the tear.

7. How soon can I drive after surgery?

Driving is usually restricted for a period of six weeks. This is necessary both to protect the repair and also for legal reasons.

8. When can I return to work after rotator cuff repair?

You can return to office and supervisory duties using the non-operated arm approximately ten days after surgery. Light lifting up to half a kilogram to bench level is permitted six weeks after surgery. Moderate lifting can resume three months after surgery. Physically demanding occupations resume somewhere between six and twelve months after surgery (usually closer to twelve months).

Maximum recovery can take up to eighteen months.

9. When can I play sport after rotator cuff repair?

- Running
 - o 4 months
- Swimming
 - o Walking, breststroke - 4 months
 - o Swim with fins – 5 months
 - o Freestyle – 6 months
- Golf
 - o Chip and putt – 4 months
 - o Irons on practice range – 5 months
 - o Normal play – 6 months
- Tennis
 - o Social doubles – 6 months

POST-OPERATIVE PROBLEMS

1. “I hate the sling”

Unfortunately it is a vital part of the healing process for your tendon. You can adjust the sling for comfort and the hand can be towards the front or side of the body, whatever feels best. If you are sitting down, it is quite okay to take the sling off and use pillows to produce a similar position. This might give your neck some relief.

2. Problems caused by the sling

The sling can cause some issues:

- **Neck pain** – the strap puts load on the neck and can aggravate neck pain in the short term. Use ice/heat, massage.
- **Olecranon bursitis** – the sling might irritate the elbow causing swelling of the bursa at the point of the elbow. This is usually temporary. You can pad the sling with lamb wool for comfort.
- **Numbness in the little finger** – the sling can cause temporary compression of the ulnar nerve at the elbow. Spending some time out of the sling using pillows to support the arm will help relieve this symptom.

3. Stiffness and frozen shoulder

Everyone gets stiffness in the shoulder after rotator cuff repair surgery, it is inevitable. However, some people get severe stiffness called frozen shoulder. It is estimated that up to one in ten people get moderately severe frozen shoulder after surgery.

There are two ways frozen shoulder can develop:

- Failure to get the shoulder moving early with the stretching exercises. It is critical that you undertake these exercises right from day one and that you progress them to an ever increasing range of motion. This is the commonest cause of frozen shoulder following surgery.
- Some people do all the right things and still get a frozen shoulder. There may be underlying biologic reasons why they have a tendency to form more scar tissue than others.

Frozen shoulder almost always resolves but can extend the recovery period from twelve months up to eighteen months following rotator cuff repair. There are some things that can be done for frozen shoulder including cortisone injections into the shoulder joint starting three months post surgery.

4. Tingling and numbness in the hand

There are several possible causes of temporary tingling and numbness in the hand and arm after surgery. Nerves to the arm may be irritated at the neck, or as they run under the collarbone (thoracic outlet syndrome), or due to swelling at the elbow or wrist (carpel tunnel syndrome). Compression at the elbow can also be caused by the sling. All of these things are usually temporary. Rotator cuff repair does not usually endanger any nerves. The main nerves to the arm are under the shoulder and the surgery is done on top of the shoulder.

5. A “Popeye” biceps

At the time of surgery, it may be necessary to cut or repair the “long head of biceps tendon” as it runs through the shoulder. This is done for tearing or dislocation of the biceps tendon. It may cause the biceps to look “bunched up”. It does not cause loss of strength.

6. Clicking or catching in the shoulder

There are many possible causes for these symptoms including clicking from the scapular region or from the repaired tendon. It generally resolves over an extended period of time as the tendon heals. Painless clicking in the longer term does not require treatment.

SHOULDER TERMINOLOGY

ABDUCTION	The action of lifting your arm up to the side away from your body.
ACTIVE	A movement initiated by your own muscles. This movement will build strength.
ADDUCTION	The action of moving your arm towards your body from the side.
CONCENTRIC	Contracting and shortening a muscle (the usual form of exercise).
EXCENTRIC	Contraction while lengthening a muscle (a controlled release).
EXTENSION	The action of moving your arm backwards behind your body.
EXTERNAL ROTATION	The action of rotating your arm and hand away from your body outwards.
FLEXION	The action of moving your arm forward away from your body and up over your head.
INTERNAL ROTATION	The action of rotating your hand towards your body and then behind your back.
ISOMETRIC	Contracting muscle without shortening it (ie. no movement of the joint).
PASSIVE	A movement initiated by external forces, a stretching exercise.
PRONE	Lying on your abdomen.
RANGE OF MOTION	How far you can move a joint in any one direction (measured in degrees).
SUPINE	Lying on your back.