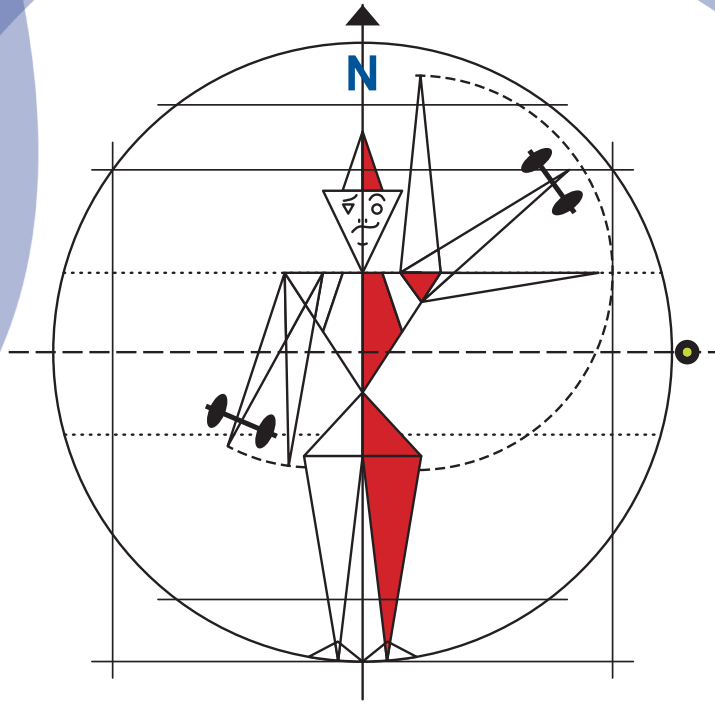


Rest then exercise

REST THEN EXERCISE



This booklet will guide you through the Rest then Exercise programme.

This booklet was written by: Jane Moser (Clinical Physiotherapy Specialist – Shoulders) and Andy Carr (Nuffield Professor of Orthopaedic Surgery) with help from specialist physiotherapy colleagues (Dr Jeremy Lewis, Dr Bobbie Ainsworth and Jo Gibson).

Help and feedback was gratefully received from people with shoulder problems related to their rotator cuff muscles.

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FEBRUARY 2007 VERSION 1

www.chartrials.abdn.ac.uk/ukuff

Disclaimer:

The information contained here is intended solely for the general information of the reader, not intending to diagnose or take the place of professional medical care.

The information is neither intended to dictate what constitutes reasonable, appropriate or best care for people with rotator cuff tears of the shoulder, nor is it intended to be used as a substitute for professional medical care.

This programme was designed for use in the United Kingdom Rotator Cuff Surgery Trial (UKUFF) ISRCTN 97804283 for people with diagnosed rotator cuff tears and as yet, is unevaluated. All content, including text, graphics, images and the information contained within is general information.

It is unable to take into account unique person- specific issues. If you have persistent or worsening problems with your shoulder, please consult your doctor or physiotherapist to access individual medical advice and treatment options. The information in this programme is not a substitute for a medical assessment.

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Introduction

You have a tear in your rotator cuff tendon(s). This is a very common problem which affects many people, especially over the age of 50. What is interesting is that many of your friends and family of a similar age may also have this tear and yet are NOT affected by a troublesome shoulder. A research study has shown that 28% of people over the age of 60 had a tear of the tendon, but reported no problems with their shoulder. We know that you have a tear and you ARE having problems with your shoulder.

This programme aims to

- decrease the pain
- increase movement
- increase strength

in your shoulder.

So, even though you still have a tear in your tendon, it does not cause a problem in your daily life. We know that these improvements are definitely possible, even when a tear has been found. Research studies have shown that people who have a tear in the tendon can have a satisfactory outcome without surgery. The Rest then Exercise Programme can be viewed as an extra treatment, of very low risk and some potential benefit.

This is a summary of the Rest then Exercise Programme

- 4 weeks of relative rest & modification of activities to reduce the pain
- 8-12 weeks of exercises to work all the muscles around your shoulder

The exercises are used widely and have been recommended by shoulder rehabilitation experts.

The first section of this booklet explains what the rotator cuff muscles are and do. It also includes frequently asked questions.

If you just want to know what we are suggesting you do, please go straight to page 5.

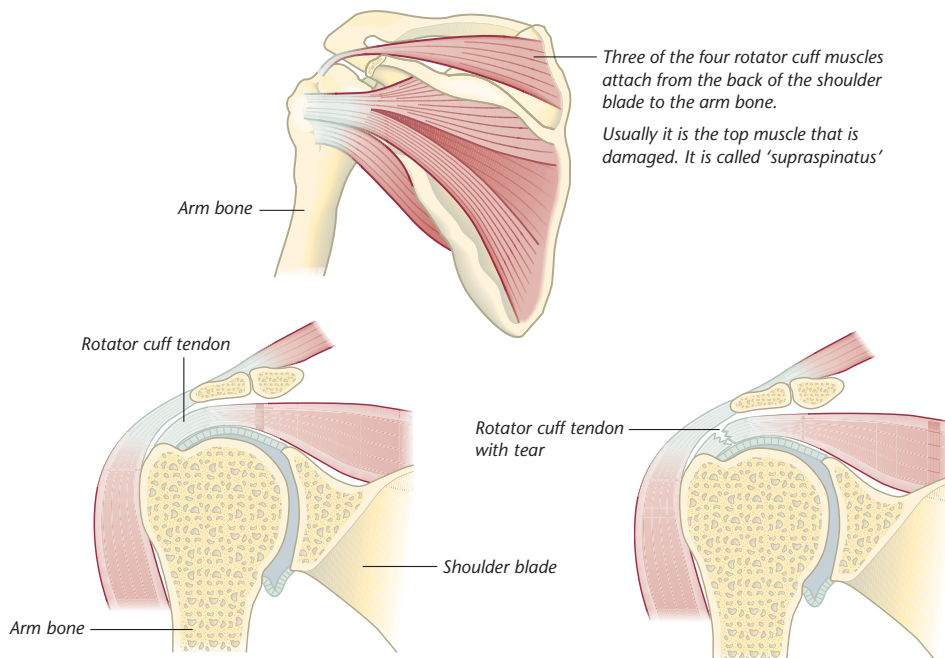
SECTION 1

Frequently asked questions

What are the rotator cuff muscles/tendons?

- They are a group of four deep muscles*, think of them as 'undercoat muscles'
- They attach from your shoulder blade (scapula) to the arm bone (humerus)
- They form a hood around the arm bone
- Commonly there is a problem with one tendon (supraspinatus)

**supraspinatus, infraspinatus, subscapularis and teres minor*



What do the rotator cuff tendons do?

Tendons connect your muscle to the bone

The four muscles work together and act like 'guy ropes', keeping the ball positioned well against the socket

- The rotator cuff muscles (and tendons) work when you take your arm away from your side and/or overhead
- They work harder when you are lifting or carrying a weight
- They work together with other muscles around your shoulder
- They work with 'overcoat' or 'outside' muscles to move your shoulder
- They stabilize the ball in the socket and help your power muscles to move your arm
- They work as a group together

What happens to the tendons as I get older?

- The supraspinatus tendon 'wears' with everyday life and may eventually split and tear
- This does not always lead to pain or loss of function
- Torn rotator cuff tendons are common with older age
- Not everyone with a torn tendon has problems with the shoulder
- The torn tendon does not repair itself
- There is a genetic link which means that some people are more at risk of developing this than others

If my tendon is torn, surely I will not be able to move my arm?

- There are people who have a tear in the tendon and can move their arm without pain or apparent weakness. We don't know why this is or what is different about them
- In fact many people over the age of 50 who do not have any pain or symptoms have torn tendons
- Your shoulder may improve with this simple programme
- There is absolutely no guarantee that you will have a reduction in pain or increase in strength or function following Rotator Cuff repair surgery
- Your arm may not be as strong as it used to be, especially when your arm is out to the side
- For some people this lack of strength can also remain after surgical repair (an operation)

If my tendon is torn, will it hurt until it is repaired?

- There does not always appear to be a direct relationship between the pain and a tear in the tendon
- A big tear does not mean you will have a lot of pain and many big tears cannot be repaired with surgery
- Some people can have a torn tendon and have little or no pain
- Pain can vary even though the tear in the tendon is present all the time
- Pain can stop muscles working so that your arm feels weaker still
- Pain can be eased with methods other than an operation (tablets, heat, injections, rest, exercise etc.)
- The Rest then Exercise Programme is a method of treatment and has been shown in at least ten research studies to be an effective way of reducing pain and increasing functional ability

The Rest then Exercise Programme

- 4 weeks of relative rest & modification of activities to reduce the pain
- 8-12 weeks of exercises to work all the muscles around your shoulder to compensate for the damaged tendon. The non-damaged muscles/tendons can be trained to take a greater 'share' of the work which may result in less pain and more movement and strength.

SECTION 2

Relative rest phase – 4 weeks

Some of the feeling of 'weakness' in the arm may be due to the pain 'stopping' the undamaged muscles working normally around the shoulder.

Therefore to start your treatment, we would like you to avoid doing things that make the pain worse. To begin this process, we would like you to give your shoulder a 'rest'.

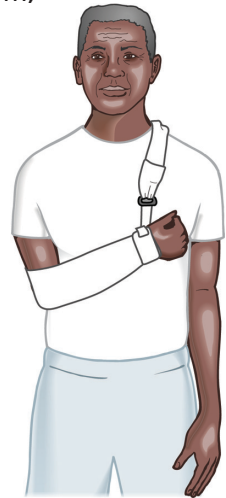
This is also what we would advise you to do if you had an operation on your shoulder. It may be that resting the shoulder is an important factor in improving your symptoms.

We appreciate that this 'rest' for your shoulder will affect your ability to perform your normal activities, which may be very annoying!

However if the rest helps reduce the pain, you may then find it more comfortable to move your arm. This, in the long term, may help you with your daily tasks.

What to do

- We would like you to REALLY rest your shoulder for 4 weeks
- We want you to try and keep your pain levels as LOW as possible
- You can use a sling to help you do this (available at chemists or online).
- Make sure the weight of your arm is fully supported by the sling

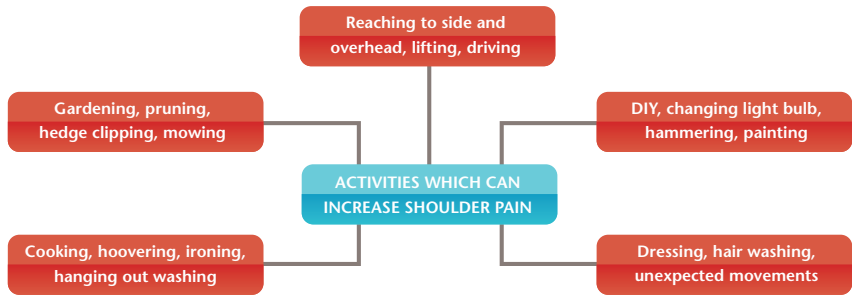


When to wear the sling

- Give your shoulder pain a score between 0–10
- Imagine a score where 0 is 'no pain' and 10 is the 'worst pain imaginable' in your shoulder
- If you taking medication think of your pain score while you are taking them

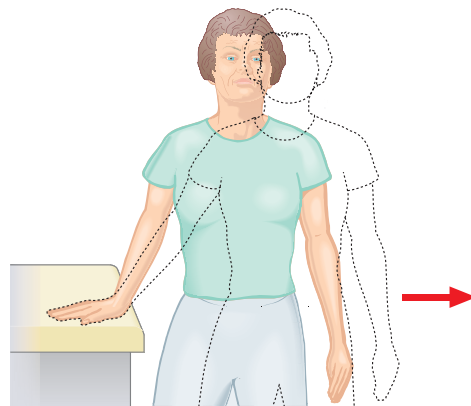
No pain	0	1	2	3	4	5	6	7	8	9	10	Worst pain imaginable
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- We would like you to AVOID all activities and movements that consistently increase your pain above 4
- Therefore we would advise you to wear the sling for activities that would increase your pain above 4
- If your pain is always above 4 then you need to wear the sling ALL DAY
- This may be a real nuisance but we would like you to do this for 4 weeks
- It may take 4 weeks for pain to settle down once you have stopped aggravating activities
- This MAY mean that you will NOT be able to do your usual activities!



- If the pain increases above 4 on the scale we would advise you to STOP or CHANGE the way you do that particular thing
- Usually the pain is worse when you reach with your arm, so try and avoid activities that involve this
- It may mean that you will have to move things that you use everyday to a lower height or closer to you
- Sometimes using a step can help raise you up but make sure you are safe!
- If possible, ask other people to do certain difficult tasks
- If moving your arm out sideways is painful (eg for washing armpit and putting on deodorant), try placing your hand (or elbow) on a surface and move your body away

REST THEN EXERCISE



Remember, it is just for four weeks to see if the pain will reduce with rest. If you feel it would help, write down some things that often/usually make **your** shoulder pain worse. In the opposite column, record possible ways of avoiding the aggravating activities for the next four weeks.

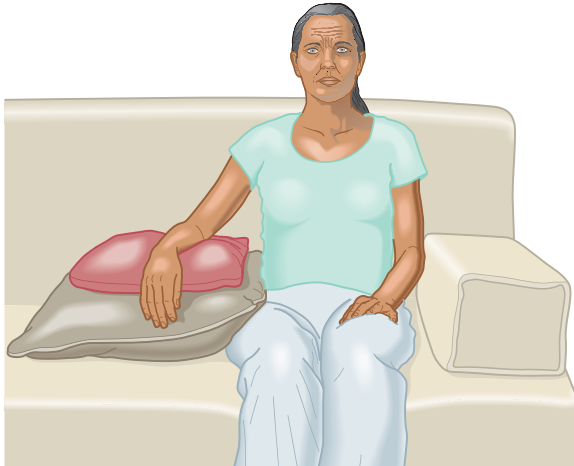
Today's date is	4 weeks' time the date is
What things make my shoulder hurt?	How can I do this differently or not at all?

What to do at night/resting

- Take the sling off at night unless it is very helpful at this time
- Try different resting positions at night
 - When lying on your back, place a folded towel or pillow under your upper arm
 - When lying on your good side, place a pillow or two in front of you so that your arm cannot drop across your body



- When sitting, try propping your arm on a cushion



What else to do

- Research has shown a healthy diet may have an effect on tendon health and improve symptoms
- A healthy diet includes
 - reducing/stopping smoking
 - eating more fruit and vegetables (increases anti-oxidants)
 - increasing omega 3 essential fatty acid intake (eg.oily fish, flaxseeds, walnuts, kidney beans, winter squash)

Don't let the shoulder get stiff!

- Although we want you to rest the shoulder tendons, we do not want the shoulder to stiffen
- It may be easier to do the exercises with someone the first time
The person can read the instructions whilst you try the actions

These are **gentle exercises** that we recommend you to do

Remember!

- The exercises do not make the muscle/tendon work hard
- The exercises should feel 'easy' and 'sliding' without the feeling of muscles working with effort
- **Do the exercises once or twice a day**
- Do not do them if it is a struggle
- Do not force the arm to move if it does not want to
- Do not let the pain rise over 4

All exercises are shown for the right arm.

Set A Keeping the shoulder moving – for four weeks

A1) Shoulder blade exercise

Sitting or standing

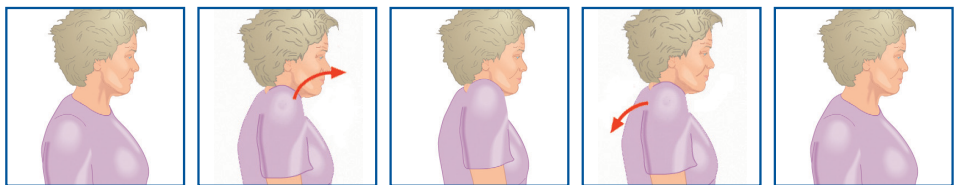
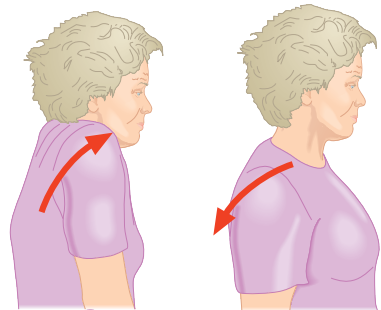
Keep your arms relaxed by your sides

Shrug shoulders up and forwards

Roll shoulders down and back

Relax

Repeat 5 times for each movement



START

FINISH

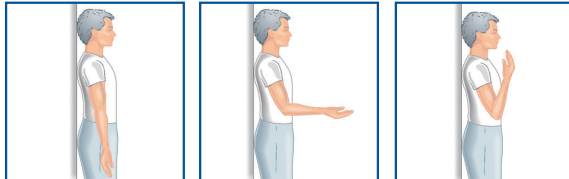
A2) Elbow exercise

Standing

Straighten arm fully

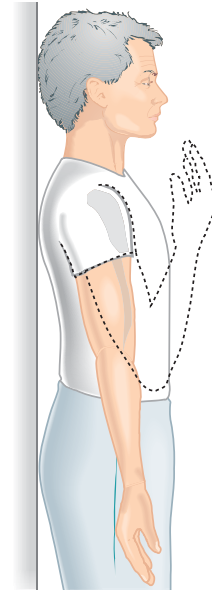
Bend elbow so hand is coming towards shoulder

Repeat 5 times



START

FINISH



A3) Shoulder elevation stretch

Stand facing a flat horizontal surface at waist height
e.g. table, work surface

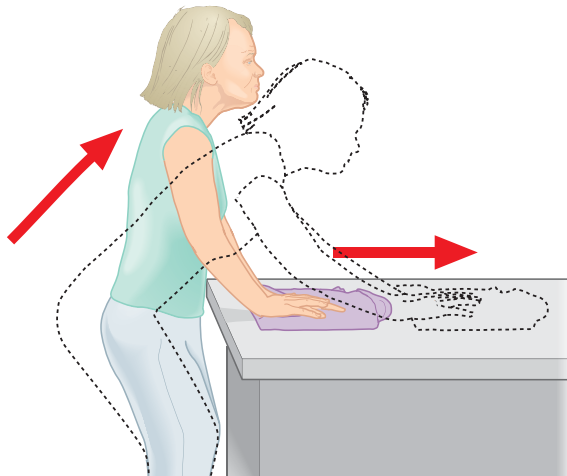
Place both hands on a slippery towel, on the surface

Bend your knees and push your backside away from the table;
at the same time let your arms slide forwards

Then stand up again, sliding your hands back towards you

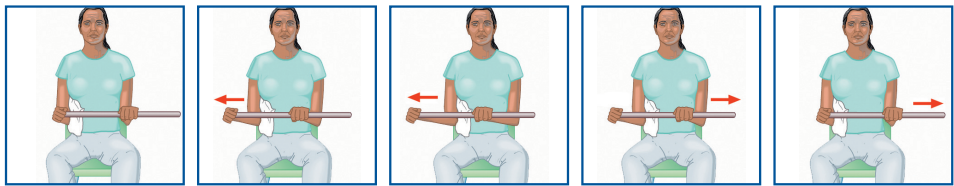
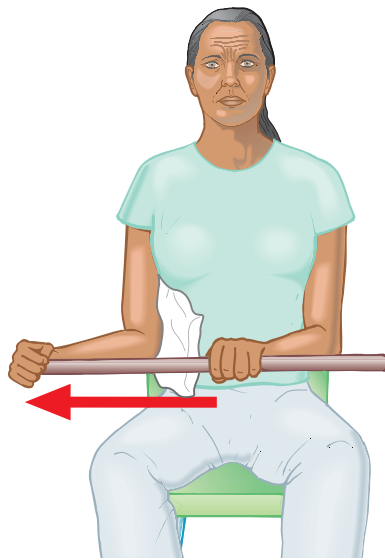
As you repeat, try and stretch forwards as far as you comfortably can

Repeat 5–10 times



START

FINISH



START

FINISH

A4) Shoulder rotation stretch

Sit back in chair

Bend elbows to right angle

Place cushion/towel in-between elbow and waist on the bad shoulder side

Using both hands, hold a stick/umbrella/rolling pin

Using the stick, push your hand on the bad side outwards

Keep the elbow against the cushion/towel

Your hand should be now outside your elbow

Do the movement gently, use the stick rather than your muscles around the bad shoulder

Feel a stretch, hold the stretch for 20 seconds

Relax

Repeat 3–5 times

If the movement is painful rather than stretchy **DO NOT CONTINUE** with **THIS** exercise

If you prefer you can do this lying down, with a folded towel under your upper arm

SET B General fitness exercises

There is evidence that general exercise can help reduce pain levels. Your ability will be dependent on your general health. Consult your GP if you are unsure of your suitability to exercise or if you experience any unusual symptoms during the programme. However, we would encourage you to remain as active as possible without increasing the shoulder pain above 4

If you are not usually active, here are some ideas

- Walking
- Step ups
- Standing up from a chair without using your arms (the lower the chair the more your legs work)
- Using an exercise bike



In all these activities you can wear the sling to keep the shoulder tendon/muscle relatively still.

- If you enjoy swimming,
 - still go to the pool
 - make your legs and body work
 - avoid arm movements if they increase your pain over 4

Please concentrate on **RESTING** the arm and doing these few maintenance/general fitness exercises for 4 weeks.

It may feel like a long time, but compared with the work and activity your muscle/tendon has done in your lifetime it is only a short rest!

AFTER 4 WEEKS

MOVE ON TO THE EXERCISES IN THE NEXT SECTION

Remember the date which will be

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SECTION 3

EXERCISE PHASE – for twelve weeks

- After 4 weeks we would like you to start to exercise your shoulder muscles
- You can exercise in a lying (set C) or upright position (set D, sitting or standing)
- When you start these exercises, we suggest you try both set C and set D. There is no right or wrong exercise, try them and see which suits you
- The exercises are in a certain order (or progression), so that most people find the exercises at the beginning are easier than the ones at the end of each session
- **IF AN EXERCISE INCREASES YOUR PAIN ABOVE 4, THEN STOP THAT PARTICULAR EXERCISE**
- Do not do any exercise which makes the pain worse
- **Choose the exercise or position that is the LEAST painful for your shoulder and do THIS exercise daily**
- You may feel that your shoulder or arm muscles are working and the exercise feels 'hard work' or 'difficult to control'. When this happens the exercise is often helpful and we would encourage you to do it!
- Ideally we want you to find an exercise from those shown, which is relatively pain-free that you will be able to practise regularly
- If you find an exercise which you can do, and it becomes easier (which may take 6 weeks or longer) try the progressions that are suggested (e.g. light weights) or try an exercise in a different position. Please experiment with the exercises shown.
- Repetition rates are given as a guide only. You may well find that your muscles get tired and that you will have to build up the number of times you can do the exercise. For example start with 3–5 repetitions. Sensations of 'hard work', 'stiffness', 'uncomfortable' and muscle 'ache' are all expected and will tend to improve over 6–8 weeks
- Try to **do the exercises once every day**. You need to do them at least 4 times a week to make a change.
- All exercises are shown for the right arm

SET C LYING DOWN EXERCISES

You will need:

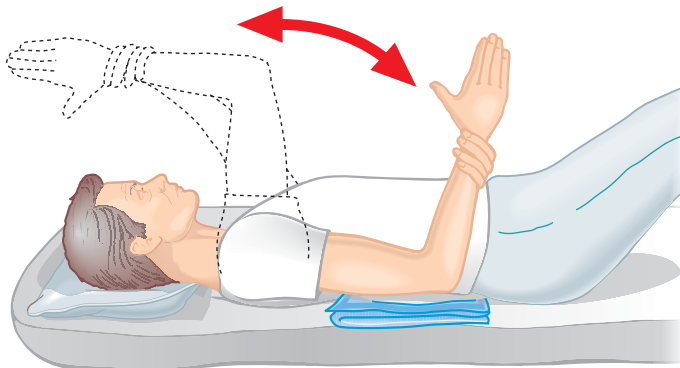
- A pillow
- A hand towel folded
- A weight (possibly) – see exercise C3

The first two exercises start with your arm up in a vertical position. You may have to find your 'own way' to get your arm into this position. If you cannot tolerate the vertical position – do not do THIS exercise.

Getting into the start position

Many people find this the easiest way to get into the start position

- Lying on your back with knees bent up, feet flat on the floor, pillow under your head
- Folded towel under your upper arm
- Use your good arm to lift your bad arm up in the air



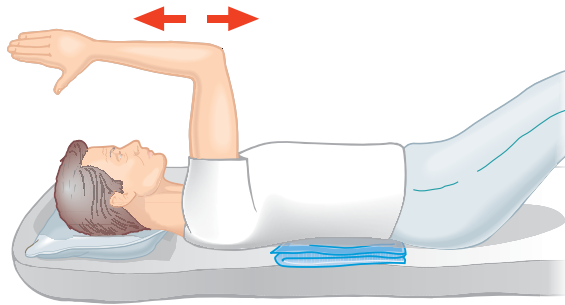
- Keep your bad arm as 'relaxed' and 'floppy' as possible. It will feel heavy to lift!
- When your upper arm is vertical, still support your bad arm but bend the elbow, you are ready to start!

Note: If you have problems with both sides you may find getting into this start position difficult. If you cannot support your bad arm with the other, as both hurt or are weak, move on to the exercises in the next section (Set D), page 18.

C1) Balancing exercises

1. Try and keep this position (elbow of the bad arm bent (90°) and upper arm vertical), as you let go with the other hand
2. Balance the arm in this position, using your muscles
3. Sway your elbow gently up and down
4. Rest the shoulder muscles by holding the bad arm with your other hand again
5. Aim to repeat this balancing, swaying movement 10 times and build it up to do 3 sets (i.e. 30 repetitions in total)

If this arm position is painful, try with your hand nearer the opposite ear! Try and find a position/angle which does not increase the pain.



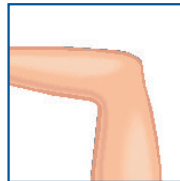
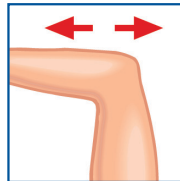
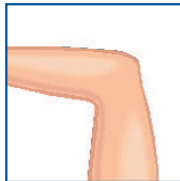
rest

balance

sway

balance

rest

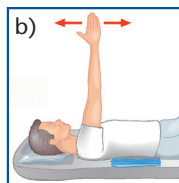
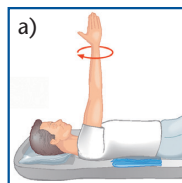


START

FINISH

6. Progress this exercise by

- a) straightening your arm and moving your arm in small circles
- b) trying the swaying movement with your elbow straight

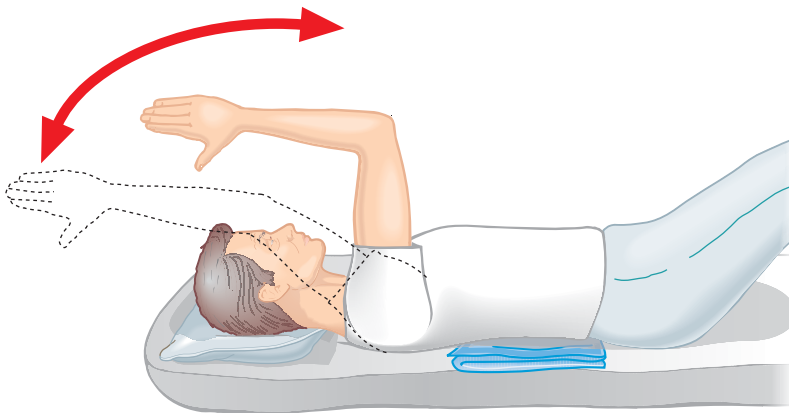


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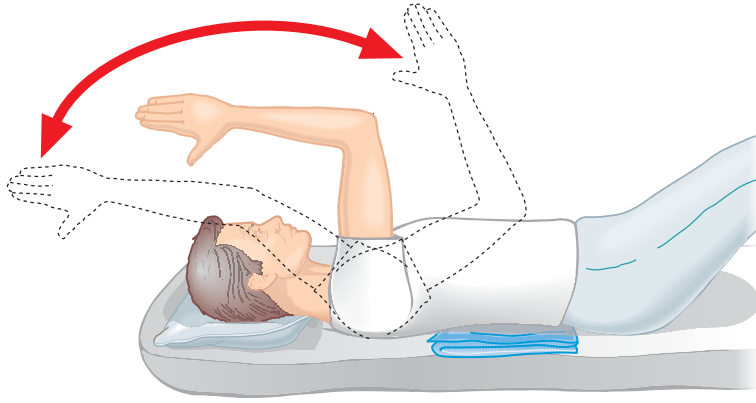
FINISH

C2) Controlling your arm moving

1. Get into the start position (see above), let go with good arm
2. Move the elbow so you are trying to reach up overhead, towards the pillow
3. You may only be able to move a small amount to begin with
4. Keep the pain below 4
5. Allow your arm to straighten as it moves overhead
6. **You may need to experiment with your elbow or hand in different positions to find the 'painless route' or 'best route' for YOU to get your arm overhead.** There is not a right or wrong way. If you find a way to get your arm up overhead - do that!
7. Then return your arm back to the vertical start position with elbow bent or straight
8. Aim to repeat this 10 times and build it up to do 3 sets (i.e.30 repetitions in total)



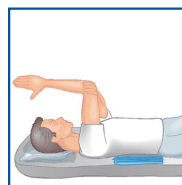
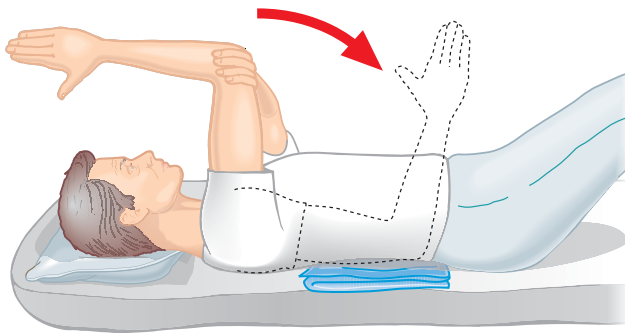
9. Progress this exercise by
 - a) Gradually lowering your arm, with elbow bent, back down towards your side
 - b) Eventually you may be able to touch the folded towel with your elbow and stretch up overhead again



START

FINISH

Note: If it is painful to lower your arm towards the folded towel, try this trick. If possible, place the hand of your good arm, under the elbow or grip your wrist. When you start to lower your arm, resist the movement with your good arm so that you are pushing down against the good arm, rather than just lowering. If this helps, continue to do the exercise using this trick. Over time you may find that you can reduce the resistance and eventually you can imagine you are pushing down against something.



START

FINISH

C3) Controlling your arm moving with a weight

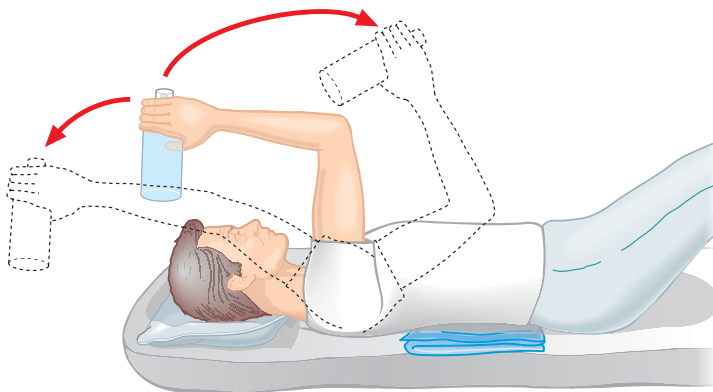
1. If exercise C2 becomes easy, progress it by holding a weight in your hand
2. Choose a weight that you can control (e.g. start with 100g or 1lb)
3. Gradually increase the weight, but always keep the pain less than 4
4. You may be able to build this to 1.5 kg (3lbs 5oz).

Suitable things to use for weights include 0.5 litre plastic water bottles (with different amounts of water in), sealed bags of rice etc.

n.b. 0.5 litres = 500gms/1lb 2oz.

Small hand-held weights can be bought from sports shops and retail outlets.

Please be careful and make sure that you use something that you can grip safely.



START

FINISH

SET D STANDING & SITTING EXERCISES

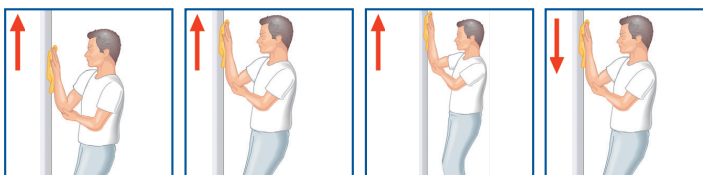
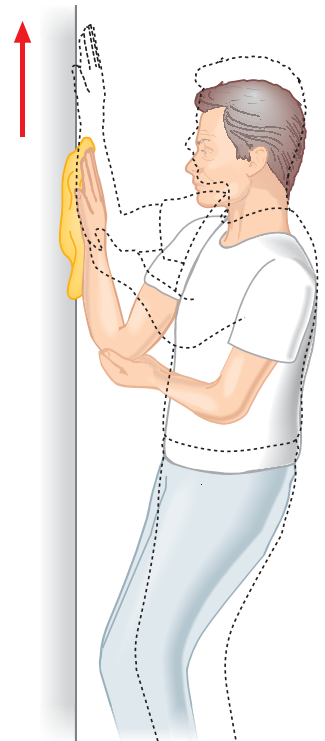
These two exercises are similar. Try them both and choose which you prefer or find easier to do in your daily routine. It will also be fine to do both.

D1) Regaining arm movement while standing

You will need a

- a) 'blank' wall or back of a door that you can stand close to. Ideally it needs to have a smooth surface
- b) drying-up cloth or small towel – something slippery or which will slide

1. Stand facing the wall/back of the door
2. Using your bad side take a cloth/towel and place it against the wall/door
3. Now slide your arm up the wall supporting it with your other hand
4. Bend your knees a little and then straighten them as you **HELP** the bad arm slide up the wall with the good one
5. Stretch up as high as you comfortably can
6. Then slide the hands down
7. Keep the hand in contact with the wall all the time
8. Give as much help as is needed to make the movement seem smooth and relatively easy. Do **NOT** struggle
9. If it is painful lowering your arm, try resisting the movement so that you are **PUSHING** down against the pressure of the other arm. If this reduces the pain continue doing this. Over a period of weeks you may find that you can gradually reduce the amount of resistance you are giving
10. Repeat 10 times and build it up to do 3 sets (i.e. 30 repetitions in total)

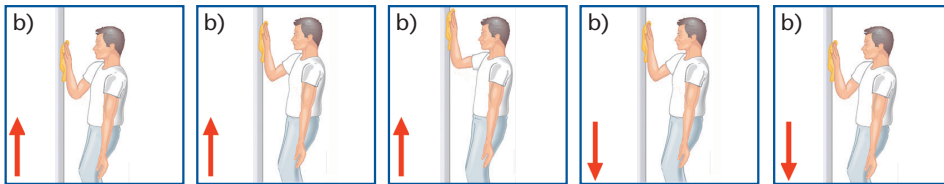


START

FINISH

11. Progress this exercise by

- Reducing the help given by your good arm
- Eventually try and slide your arm up and down the wall by itself
- Lifting your hand off the wall when the arm is overhead



START

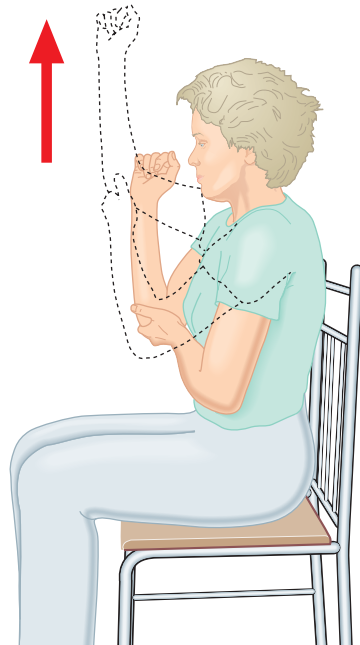
FINISH

D2) Regaining arm movement while sitting (or standing)

You can sit or stand for these exercises. (If you stand make sure you do not 'cheat' too much by leaning back or over-arching your back.) If you do these exercises sitting down, you will need a firm chair (kitchen type).

If you get low back pain, or feel unsteady on your feet, we suggest that you do these exercises sitting down.

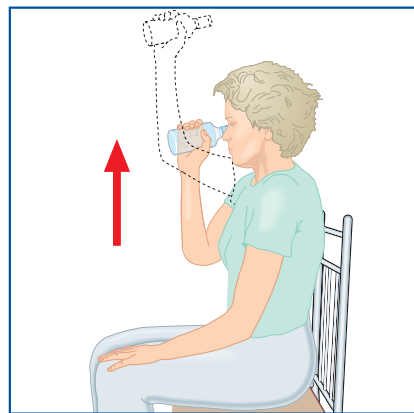
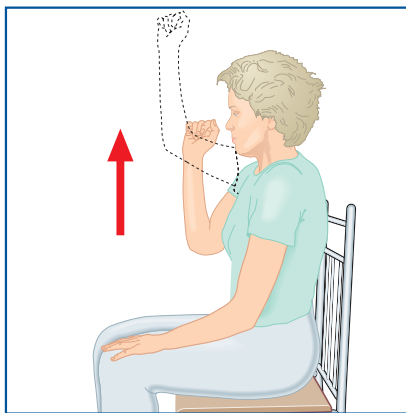
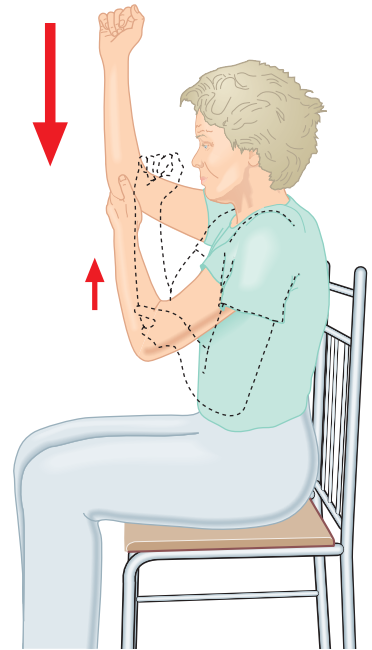
- Support the elbow or wrist of your bad arm with the good
- Start with your elbows bent and then stretch your arms overhead
- Help support the weight of the bad arm as you lift
- Lower your arm bringing your elbow into your side
- If able, gradually reduce the amount of help (on the way up) you are giving with the other arm
- Try and 'find the painless route' with your elbow or hand at slightly different angles
- You are aiming to move the bad arm up and down without needing both arms



START

FINISH

8. Then build the repetitions to 10 times, 3 sets
9. 'Tricks' to try:
 - lifting the elbow first then straightening the arm
 - doing the movement fast (almost like you are throwing your elbow forwards and up).
 - If it is painful lowering your arm, try resisting the movement so that you are **PUSHING** down. If this reduces the pain continue doing this. Over a period of weeks you may find that you can gradually reduce the amount of resistance you are giving
10. To progress this exercise
 - a) Add a small weight and continue the exercise
 - b) You may find there is a point beyond which you cannot increase the weight. Stop when you get to this stage.



Using your arm for daily activities

We hope that this programme will have eased the pain and improved movement and strength in your shoulder. Use your arm for daily tasks but avoid things that 'stir-up' your pain. You may still have several restrictions and may need to continue to modify your lifestyle. However this result may be the best you can achieve. You have taught your 'over coat' muscles to compensate to the best of their ability. You may find that you do not need to keep doing the exercises. If you have found them helpful, keep this information in a safe place for future use.

