



York Teaching Hospital
NHS Foundation Trust

Hand Exercises and the Principals of Joint Protection

Information for patients with arthritis

① For more information, please contact:
Physiotherapy/Occupational Therapy Department
Contact Telephone Number 01904 725930

Caring with pride

This booklet contains exercises aimed at improving your hand and wrist strength and mobility. Your therapist will guide you with which exercises are appropriate for you and how many times to do them. The exercises may cause discomfort when you do them but they should not cause pain. Any discomfort caused should improve within an hour.

It is important to do the exercises slowly and not be tempted to rush them.

If you are going through a flare of your arthritis it may be necessary to reduce the amount of exercises you do but try to do some to stop your hands becoming stiff.

Hand Exercises

The exercises need to be done in sitting with your forearm supported on a table or pillow and your elbow at around 90.

Palms up and down

1. Keep your elbow firmly into your side so your hands are held out in front of you. Keeping your elbows still, turn your palms to face upwards.

Hold for ----- seconds.



2. Turn your forearms so your palms face downwards.

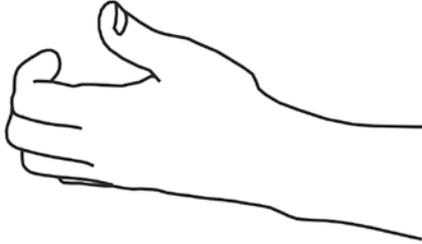
Hold for -----seconds.



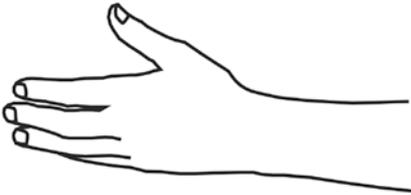
Finger Bends

1. Keeping your knuckles straight bend the first two joints of your fingers as shown.

Hold for -----seconds.

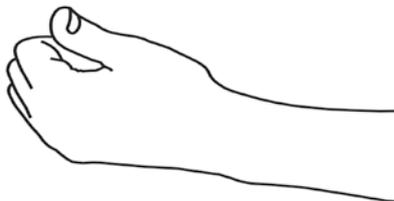


2. Return to the start position.



3. Then bending your fingers try to touch the base of your hand as shown.

Hold for -----seconds.



4. Return to start position.



5. Try to make a full fist as shown.

Hold for -----seconds.

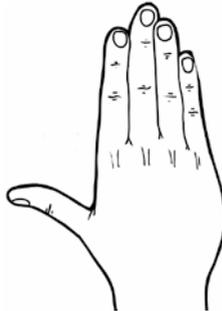


Finger Walking

1. Place your hands palm down on a table so that they are in a straight line from your forearm.



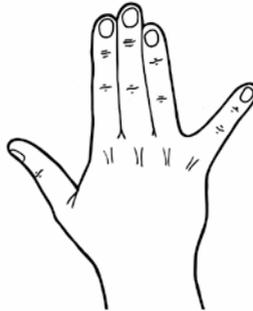
2. Move your thumb out to the side as shown.



3. Lift your index finger and move it towards your thumb.



4. Repeat this with each finger in turn, moving it as close to the thumb as possible.



5. Pick your hands up off the table and place them back in the starting position. Do move them back individually.

Finger Spread

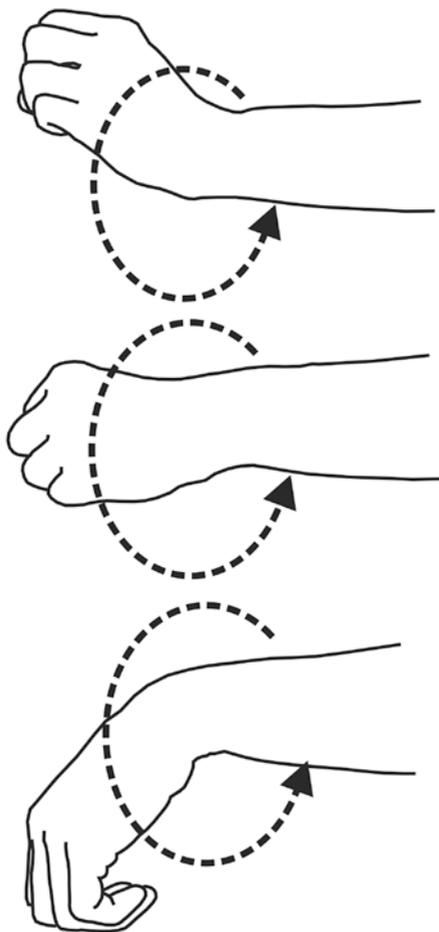
1. Place your hands palm down on a table so that they are in a straight line from your forearm.



2. Spread your fingers as wide apart as possible keeping your fingers straight.
Hold for.....seconds

Wrist circles

1. With your forearm supported on a table or the arm of a chair. Loosely curl your fingers. Move your wrist in a circle keeping your forearm still.



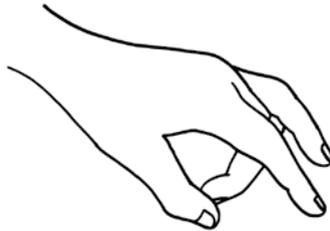
Repeat in the opposite direction.

Finger pinch

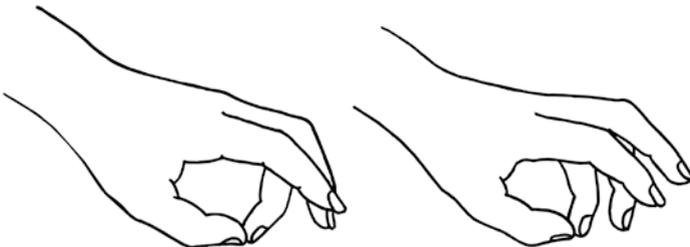
1. Bring your thumb to touch the tip of your index finger. Try to make a circle shape with your thumb and finger.



2. Take it to your middle finger, again trying to keep a circle shape.

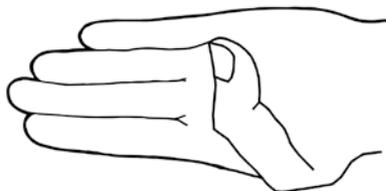


3. Repeat with your other fingers.



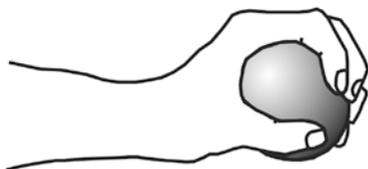
4. When you get to the tip of your little finger take the tip, of your thumb, down the little finger towards your palm.

Hold forseconds.



Gripping

1. Hold a small ball or balled up socks in the palm of your hand. Squeeze the ball as hard as you can comfortably for two seconds. Relax. You can rest your hand on a table if it more comfortable.

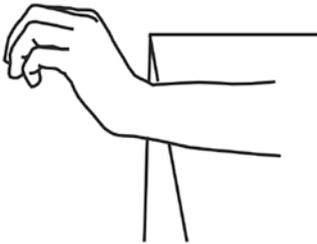


Wrist strengthening

1. With your forearm supported on a table or the arm of a chair. Loosely curl your fingers and let your hand relax forwards over the edge.



2. Bend your wrist backwards as much as comfortable. Hold forseconds.



3. Let your hand relax down again.

Your therapist will advise you on adding a weight in your hand to increase your wrist strength.

The Principals of Joint Protection

Arthritic joints suffer from inflammation with pain and swelling of the joint and surrounding tissues. They are unable to tolerate as much stress as healthy joints. Muscles can become weakened and joints can become unstable, and pushing, pulling or twisting motions can be painful. You can help maintain your joints by protecting them in various ways.

Joint protection is about looking after your joints by adapting activities and movements and reducing strain or force on the joints.

The following advice is a guide to help you to maintain and protect your joints

Aims of joint protection

- Manage and/or reduce pain during activities.
- Reduce local inflammation in joints which is caused by mechanical pressures on joints.
- Improve or maintain function.
- Help limit the development and/or progression of deformities.

Principles of joint protection

- Distribute strain over as many joints as possible.
- Use larger joints.
- Avoid gripping too tightly.
- Avoid holding one position for too long.
- Avoid forcing your joints into deforming positions.
- Balance between rest and activity.

- Exercise little and often.
- Find easier work methods.
- Wear your splints (if appropriate).

1. Distribute the strain over as many joints as possible

The theory is that the more joints you use to do an activity, less strain will go through each individual joint and therefore reduce the risk of moving the joint out of alignment. Also, reducing the amount of strain placed on the joint will lead to less pain.

- Use the palms of both hands to carry plates instead of grasping them in your fingers
- Use hips instead of hands to push open doors
- Use both hands to lift a pan or use vegetable baskets to reduce the weight
- Use a trolley in the supermarket instead of a basket
- Slide objects along a counter or workbench rather than lifting them
- Use your hips, knees and thigh muscles to rise from a chair instead of pushing up using your knuckles.

2. Use larger joints

The theory is that the larger the joint the better it can take the strain

- Carry items such as laundry, sheets & books across both arms.
- Use a shoulder bag instead of a handbag and carry the shoulder bag across your body.
- Carry heavy items close to your chest supporting them with your forearms and keep your elbows close to your body.
- Use a pump dispenser toothpaste and flask (using the palm of the hand).

Sometimes it may not be possible to use a larger joint but a larger surface area could be used instead. This way the load is spread over a greater surface area and therefore less on individual joints.

3. Avoid gripping too tightly

The smaller the object is, the tighter we tend to try and grip it (subconsciously our brain is probably saying hold on tight, you've dropped this before!). When an object is gripped tightly the forces acting on the joint increase and are therefore more likely to push the joint into deforming positions. It also places three times the force on the knuckles and palm. A wider grip causes less force on the joints. An easy way of combating this problem is to increase the size of any objects that you need to get hold of.

- Choose a larger pen with a fibre tip, or an ink type pen (they require less force to hold and write with).
- Pad out handles on pens, toothbrushes cutlery and tools.
- Try to avoid activities requiring a static grip for long periods of time without moving your hands regularly e.g. telephone, car steering wheel, holding a heavy book, knitting.

Built up handles decrease the amount of finger flexion required at the joints of the fingers and will help reduce pain

4. Avoid holding one position for too long

You will have personal experience of sitting, standing or doing something for too long. Usually it results in increased pain and stiffness that may last longer than the original activity that caused the problems! It is better to try and change the activity that you are doing before this happens to prevent a build up of deforming forces around the joints.

- Move around regularly.
- Do not sit for long periods of time without moving.
- Try to avoid poor positions e.g. standing on one leg, sitting in a twisted position, head bent over a book or other work, chin in your hands.
- Build rest stops into long car journeys.
- Rest your hands flat or open rather than in a tight fist.
- Alternate between standing and sitting and light and moderate tasks throughout the day.
- Take rests when out walking.

5. Avoid forcing your joints into deforming positions (Rheumatoid Arthritis)

When joint structures are loosened by the disease process of Rheumatoid Arthritis they are more likely to go out of shape if they are pushed into awkward positions. To avoid these positions it is necessary to understand how they develop and the types of movements that are most likely to cause them. Then it is a question of watching how you do things and changing your method if necessary.

- Avoid placing pillows under knees whilst in bed as this can encourage the development of flexion contractures.
- Push up from the chair using the flat of your hands and not your knuckles.
- Avoid pushing the small joints of your fingers sideways whilst dusting, wiping a surface or resting your chin on your hand.

6. Balance between rest and activity

This is particularly relevant to people who have Rheumatoid Arthritis as one of its symptoms is fatigue. Too much activity one day can have a lasting effect and cause problems the next day. Similarly too much rest can cause joints to stiffen. It is better to pace yourself so that you can carry out the things that you need to do while leaving enough energy to enjoy the things that you want to do.

- Spread tasks throughout the day (don't cram all into one session).
- Mix light with more demanding tasks and allow rest periods in between.
- Decide on your priorities for the day and leave other tasks until another day.
- Spread tasks throughout the week (e.g. don't do a huge pile of ironing in one session.)
- Remember to exercise as advised by your physiotherapist, following the instructions provided.

7. Exercise little and often

It is important to keep your joints moving and your muscles strong. If arthritis is causing pain, you may not want to move. But this can increase stiffness and in the long term your muscles will weaken, making movement even more difficult. Exercise is important because it can help you to:

- Ease stiffness
- Improve joint movement
- Strengthen muscles
- If you have joint pain, start gently and gradually increase the length of time you're exercising. You can break this into smaller chunks if you need to.
- Little and often is generally a good approach to exercise.
- You should aim to do 30 minutes of exercise that makes you a bit short of breath five times a week.
- Try three or four 10-minute sessions throughout the day if it suits you better than doing it in one go.
- Do something you enjoy

If you are unsure, speak to your physiotherapist who will advise on the best type of exercise for your particular condition

8. Find easier work methods

Finding an easier way to do something can often save pain.

- Try a different technique.
- Try a labour saving device such as an electric can opener, electric food mixer, electric screw driver.
- Use a sharp vegetable knife instead of a dinner knife as it requires less pressure.
- Wear clothes are easy to get on and fasten.
- Dry yourself after bathing / showering by wearing a towelling dressing gown instead of lifting large heavy towels that strain the hands and fingers.
- Wring out a dish cloth by wrapping them around the tap.
- Use a trolley to transport heavy loads around the house.

9. Wear your splints

Splints provide by your Occupational therapist are designed to support, protect and rest painful, swollen or weak joints.

- Working splints are used to support your wrist and/or thumb and hand joints in the correct position whilst you are carrying out your daily tasks. They are worn with the aim of reducing pain, increasing grip strength and enhancing function
- Night resting splints are used to support your joints when you are resting with the aim of reducing pain and inflammation

Your Occupational Therapist will have given you full wear and care instructions at the time of issue

Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:
Heather Harrison, Physiotherapy Department,
Archways, Belgrave Street, York YO31 8YZ.]

Teaching, training and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

Patient Advice and Liaison Service (PALS)

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email pals@york.nhs.uk.

An answer phone is available out of hours.

Please telephone or email if you
require this information in a different
language or format

如果你要求本資訊以不同的語言
或版式提供，請致電或發電郵

Jeżeli niniejsze informacje potrzebne
są w innym języku lub formie,
należy zadzwonić lub wysłać
wiadomość e-mail

Bu bilgileri değişik bir lisanda ya da
formatta istiyorsanız lütfen telefon
ediniz ya da e-posta gönderiniz



01904 725566

email: access@york.nhs.uk



Braille



Audio e.g.
CD



Large print



Electronic

Owner	Rheumatology Therapists
Date first issued	December 2019
Review Date	November 2021
Version	1 (issued December 2019)
Approved by	Rheumatology Therapists
Document Reference	PIL 1413 v1

© 2019 York Teaching Hospital NHS Foundation Trust. All Rights reserved