



This booklet has been produced by PARE Manifesto as part of World Arthritis Day 2006, which promotes better quality of life for people with arthritis/rheumatism.

For more information about the PARE Manifesto, visit www.paremanifesto.org

For further information about World Arthritis Day, visit www.worldarthritisday.org

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With many thanks for their contributions.

Exercise and Arthritis

Take Action  OO

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PARE Manifesto is committed to raising public awareness of the scale and impact of arthritis/rheumatism across Europe and helping people with arthritis achieve a better quality of life.

For more information about the PARE Manifesto, visit www.paremanifesto.org

As we are all different, exercises that would help one person might not be suitable for another. Always check with your doctor, specialist or physiotherapist before commencing an exercise programme.

Take Action!

Exercise and arthritis

People of all ages can develop **arthritis**, an umbrella term that covers over 200 conditions affecting muscles, bones and joints. A common factor for most people with arthritis is the pain it can cause and this can be a major reason why people are put off exercising, but regular and appropriate exercise can have enormous benefits for people with arthritis, which include:

- Better joint mobility and range of movement
- Improved pain management
- Stronger muscles and bones
- Decreased disease progression
- Improved energy levels and general wellbeing
- Weight loss / weight control
- Improved self-esteem and feeling more positive

This leaflet gives you information about exercise and arthritis. Specific exercise sheets are also available for people with rheumatoid arthritis (RA), osteoarthritis (OA) and ankylosing spondylitis (AS).

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What is exercise and how does it work?

Exercise works on something called the *overload principle*; that is by regularly doing a little bit more of a movement than normal, or changing the way you perform a movement, your body will eventually adapt. For example,

- **Stretching** muscles will help to extend or maintain your range of movement, improve or maintain your flexibility and suppleness and keep your joints mobile.
- Adding extra weight or resistance will increase your muscle **strength**. Stronger muscles will help stabilise your joints and improve your posture. You don't need special equipment to add extra weight, lifting your body against the pull of gravity or moving under water add extra resistance. To build muscle strength and bulk you need to do a few repetitions using maximum effort – for example, to strengthen and build your muscles, you could add weights and do one set of slow repetitions x 5. To build muscle stamina you need to use lighter resistance, but do more repetitions of a movement more frequently – for example, you would add no extra weight but perform x 10 repetitions and repeat this x 3 in the day.
- It is important to do both strengthening and stretching exercises. Some exercises may provide more than one benefit. Muscles work in pairs, so to make a movement the muscles on one side of a joint will contract and the muscles on the other side of the joint will lengthen. This means that as you strengthen muscles on one side of your body, you could be stretching muscles on the other side of your body.
- Any physical activities involving continuous motion, which raise your heart rate and make you slightly out of breath, will help improve your cardiovascular stamina, your energy levels and the amount of activity you are able to do before feeling tired. Stamina exercises are also referred to as aerobic, or endurance exercises. This type of exercise also burns calories, so can help you lose weight (see also sector on exercises to help you achieve and maintain a healthy weight).

How much, how often?

Regular exercise means at least three times a week, but there are many ways you can add exercises into your everyday routine. Little and often within your daily routine works well for stretching and strengthening exercises, for example you can do any of the sitting exercises when you are having a coffee break or to watching television.

Finding ways of exercising you enjoy and fit into your lifestyle will help keep you motivated and make exercise as much a part of your life as eating and sleeping.

There may be a small increase in discomfort when you first start exercising as you will be using your muscles in a different way and they need time to adapt (see also, 'when is it best not to exercise'?). You will usually find there is an improvement after about six to eight weeks of regular exercise.

Many people with arthritis want to participate in more challenging sporting activities, or to achieve a higher level of fitness. There is a section at the end of this booklet that deals with participating in sporting activities, but most of the exercises here are aimed at improving joint function for everyday activities and general wellbeing.

Once you have reached your maintenance level of joint function or fitness, you need to keep exercising, but without increasing the 'overload'. When you stop exercising the effect gradually wears off.



When you have arthritis, your condition may affect your muscles in a way that pulls them out of alignment, so part of your exercise routine will be to try and prevent or delay this process.

Doing it right

Because exercise works on the overload principle, whatever you do repeatedly will have an affect on your body. If you keep performing an exercise incorrectly, then your muscles will develop incorrectly, so that's why it is really important to use the right technique. You will find a box with 'Watch Points' beside each exercise. These are little reminders to make sure you are using the right technique for each exercise.

The starting point for everything is holding your body as upright and aligned as possible, whether you are sitting, standing or moving around, in other words, having good posture. If you habitually slump when you sit and/or slouch when you walk this will eventually shape the way you hold yourself.

There are two natural curves in your spine; at the back of your neck and in your lower back. In people with bad posture and in some forms of arthritis, these curves become exaggerated. Sitting or standing straight does not mean that you will lose these curves altogether – see diagram below. The term 'lengthening your spine' is used to describe sitting or standing straight or 'tall'.



Standing well

Doing it right

Standing well

- Stand tall. Imagine you are being drawn up by a string attached to the top of your head
- Feel the back of your neck lengthen, drop your chin so your jaw is level
- With your arms hanging loosely at your sides, relax your shoulders down and back so your hands rest on your outer thigh
- Draw yourself up so you lengthen the space between your ribs and your hips without lifting your shoulders
- Pull in your abdominal muscles so you feel your tailbone tucks under, your buttocks tighten and your hipbones tilt back (pelvic tilt)
- Have your feet hip-width apart, knees soft, with your weight evenly balanced between your heels and the balls of your feet

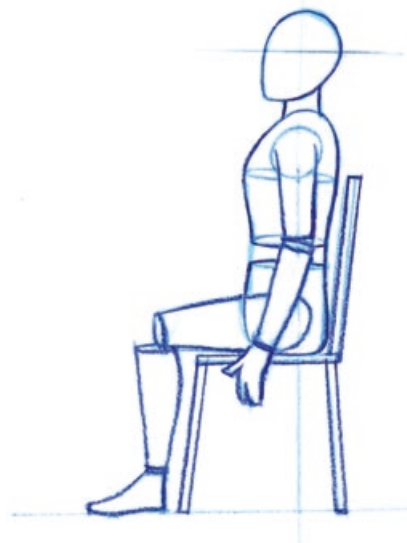
If you are not used to standing straight, even making small adjustments to achieve this position may feel quite strange and unbalanced at first.

- Check yourself in a full-length mirror, from the front – both shoulders and hips should be level – and from the side – check there are no exaggerated curves in your back, your abdominals are pulled in and your bottom is tucked under.
- It may be hard at first, but try not to be rigid when you move
- Your body may have to relearn good posture, so keep checking in the mirror to ensure you have the right position, or ask a family member or friend to help you.

Doing it right

Sitting well

- Sit tall. Lengthen the back of your neck, drop your shoulders, draw yourself up and lightly tighten your abdominal muscles so your back is straight and you are sitting on the two pelvic bones. You can rock your pelvis gently back and forwards to find the right position
- Place your heels below your knees, feet flat on the floor and hip-width apart
- Avoid crossing your legs as this restricts the circulation to your lower limbs and can cause you to twist your pelvis
- Try not to sit for too long in one position. Move around at least every 30 minutes
- If you are working at a desk or table, ensure your chair is the right height for the work surface
- Use a chair that supports your back and is the right height for you
- If you are using a computer make sure the screen is within your eye-line, so you don't have to tip your head back



Sitting well

Good posture also improves your breathing, digestion and circulation.

Exercising when you are overweight

Being overweight can put additional strain on your weight-bearing joints – that is your spine, hips, knees and ankles and feet. Exercising in water, or while sitting or lying down, means your weight-bearing joints are supported, so you can exercise without overstressing them.

Stamina exercises, combined with a healthy diet, can help you lose weight and/or maintain a healthy weight.

Exercising in water is very good for people with arthritis who are overweight. Even if you can't swim, there are plenty of exercises you can do in a swimming pool to give you an aerobic workout. Moving your limbs under water in a swimming or hydrotherapy pool adds resistance, and is a good way of helping to strengthen your muscles. *(See also exercises to help improve your stamina)*

It is best to exercise when you have least pain and stiffness, when you are not overtired and when your medication is having maximum effect.

Arthritis pain and exercise

Many people become less active when they develop arthritis because of pain and the fear of causing damage. This can lead to muscles becoming weaker and wasted. Exercise can help build-up muscles, stabilise joints, and alleviate pain and stiffness in joints.

Treatments to help control pain

There are a number of different types of treatment to help control pain in arthritis. These include oral medications:

- **Paracetamol and compound analgesic preparations:** paracetamol used alone or in combination with a mild opioid are used to treat mild to moderate pain in arthritis. Well tolerated.
- **Traditional non-steroidal anti-inflammatory drugs (NSAIDs):** treat both pain and inflammation. Lower doses are safer than higher doses, but may be less effective in treating pain. They may have serious side-effects, especially in the gut and bowel. NSAIDs may increase blood pressure and may cause heart problems, especially if blood pressure is not monitored. NSAIDs also affect blood clotting.
- **Topical NSAIDs:** available as sprays, creams and patches applied to the area. Topical NSAIDs are absorbed into the body and can have the same side effects as NSAIDs taken as tablets.
- **COX-2 inhibitors:** a newer type of NSAID, which is less likely to cause stomach and intestinal problems. As with NSAIDs, they may increase blood

pressure and may cause an increase in heart problems, if blood pressure is not monitored.

- **Opioid analgesics:** the strongest medication used to treat severe uncontrolled pain. The main side effect is constipation.

Since people's response to medications varies, it is best to speak to your doctor about the benefits and risks of different treatments to ensure you are receiving the most appropriate treatment for you.

Other options include:

- **Transcutaneous electrical nerve stimulation (TENS):** uses electrical stimulation to help relieve pain.
- **Massage:** gently massaging or rubbing the painful area will help soothe sore muscles.
- **Hot and cold packs:** hot and cold applied to the area of pain increases nerve impulses that block pain. Heat is good for relaxing tight muscles, cold for reducing inflammation.
- **Acupuncture**
- **Hypnosis**
- **Glucosamine**

When is it best not to exercise?

General:

- When you are unwell, for example if you have a cold or fever.
- Taking energetic exercise within an hour of eating a meal etc.
- When an exercise hurts, especially in the joint itself.
- If there is persistent pain for two hours after finishing exercising.
- If there is any injury whilst exercising.

Specifically for people with arthritis

- During a flare up
- When joints are more painful than usual
- When you are very tired

Always check with your doctor or physiotherapist before you start an exercise programme.

It should be noted that pain does not necessarily equate to damage when you start to take more exercise. If you have not been active your muscles will feel a bit sore when you start to exercise – this is normal for everyone (see also delayed muscle soreness). **Not being active can make your arthritis worse and increase joint damage.**

Regular exercise can not only help your arthritis, general health and well being, it can also be enjoyable, help improve your self-esteem and make you feel more positive about yourself

Getting started

If there are no suitable facilities for exercising close to you, or you are self-conscious about exercising in front of others, you can try the exercises in this booklet at home. These are general exercises for people with arthritis, but there are also exercise sheets available specifically for people with RA, OA and AS.

Start gently and slowly and build up gradually. If you have stopped exercising for a while you will probably have to start exercising at a lower level than when you left off. However you will soon be able to build up again.

Muscles work best when they are warmed up. Any movement that increases the blood circulation to your muscles will help. Marching on the spot (without stamping your feet down) whilst gently swinging alternate arms backwards and forwards until you slightly raise your body temperature. You can also do this sitting by alternately lifting one knee and then the other.

Wear comfortable clothing that does not restrict your movements. If you are standing and exercising wear flat, comfortable shoes that support your feet, such as trainers.

Breathing is an important part of exercising. Don't hold your breath when you exercise. For most of the exercises described here you just need to breathe normally.

Delayed muscle soreness: You may find that your muscles become sore and/or stiff after you have exercised, which is just a sign your muscles are adapting to the additional demands you are putting on them. If this continues it may be a sign you are overdoing it, or using the wrong technique.

If you are feeling persistently more tired and/or you have a decreased range of movement, joint pain or swelling or pain after exercise for a continued period of time you should seek immediate advice from your doctor or physiotherapist.

Getting started

AVOID:

- Rapid, jerky movements
- Bouncing when you are stretching
- Forcing joints
- High-impact exercises on damaged joints, such as running on hard surfaces or playing squash
- Doing strengthening/resistance exercises when a joint is inflamed
- Circular movements of the head/neck

STOP!

- If exercises cause dizziness or any visual disturbance
- You have difficulty breathing or feel sick
- You feel a sharp pain, or sudden increase in pain
- You have palpitations

YOU ARE OVERDOING IT IF YOU HAVE:

- Persistent fatigue
- Decreased range of movement
- Increased joint swelling
- Continuing joint pain

Doing exercises little and often is better than overdoing them and straining your muscles.

Exercises for your upper body

It is best to do these exercises sitting on a firm chair, or stool, so your weight-bearing joints (spine, hips, knees ankles and feet) are supported, giving you a firm base and making it easier to focus on good technique, but they can also be done standing.

You do not need to do all of these exercises at once. Choose the ones that best suit your needs. Rest between exercises if necessary.

- Make sure you can sit comfortably with your knees hip-width apart and feet flat on the floor. (See *sitting well*)
- **Perform all movements smoothly and slowly.**

You may hear some clicking and crunching in your joints as you move them. This is called 'crepitus'. It is safe to exercise, even if there is crepitus, as long as there is no sharp pain in the joint.



Picture 1. Shoulder moves

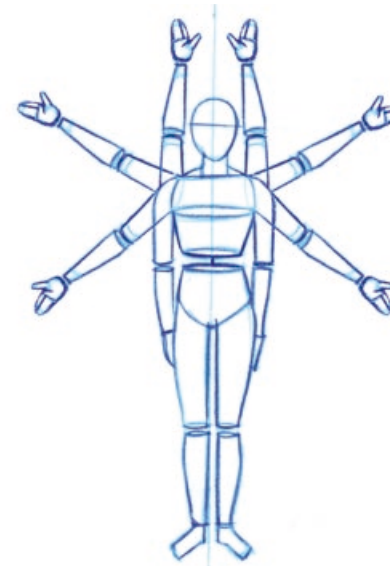
Shoulders & upper back

- Lift your shoulders up towards your ears and then allow them to relax down as far as they will go with out forcing. Repeat X 5 – 10. (see picture 1)
- Keeping them down, move your shoulders forwards and then backwards, so you can feel your shoulder blades press gently together in the centre of your upper back. Repeat X 5 – 10. (see picture 2)
- Circle your shoulders smoothly backwards incorporating each of these points – forwards, up, back and down. Repeat X 5 – 10.



Picture 2. Shoulder moves

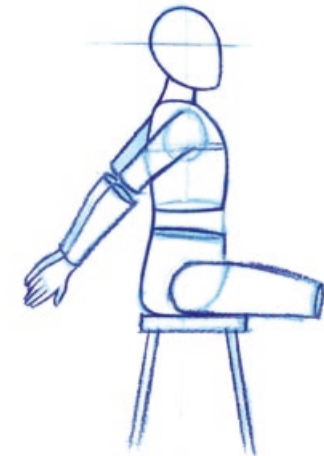
Shoulders and upper back



Picture 3. Backward arm circles

- Start with your arms relaxed by your sides. Keeping your shoulders down, slowly raise your arms up in front of you until you are reaching upwards. Slowly lower them to the side and behind you. Repeat X 5 – 10. (see picture 3)

- Keeping your shoulders down, take your arms behind you as far as they will comfortably go with your elbows straight, but not locked, and palms facing inwards. Pull your shoulder blades together and then release (repeat X 5 – 10). Keeping this position, lift your arms up behind you as far as you can without lifting your shoulders or forcing the movement. Hold for 5-10 seconds and repeat X 5. (see picture 4)



Picture 4. Shoulder / upper back squeeze

Shoulders and upper back

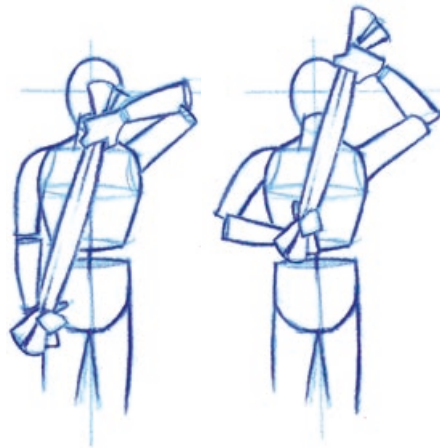
- Bend your arms at a right angle with lower arms parallel in front of you, palms upwards. Tuck your elbows into your waist and slowly move your lower arms outwards as far as they will go. Hold for 5 – 6 seconds and take them to the starting position. Repeat 5–10.

(see picture 5)



Picture 5. Shoulder rotation

- Roll up a small towel and hold it as if you were drying your back, with your right arm over your right shoulder and left arm in the small of your back. Gently pull the towel down with your left hand and hold for 5-6 seconds, feeling the pull in your right arm. Pull the towel up with your right hand and hold for 5–6 seconds feeling the pull in your left arm. Repeat X 5–10, then swap hands to work the other side. (see picture 6)



Picture 6. Shoulder mobiliser

Shoulders and upper back

- Straighten your arms out in front of you with your palms together at chest level. Reach forwards at the same time as pulling in your abdominal (stomach) muscles to tilt your pelvis gently back, and rounding and stretching your upper back between your shoulder blades. Try breathing out slowly as you pull in your abdomen and reach forwards. Breathe in again as you release and come upright again. Hold the stretch for a few seconds and then repeat X 2–3. (see picture 7)
- Finish the exercises with your shoulders relaxed down and back.



Picture 7. Upper back / shoulder stretch

Watch points

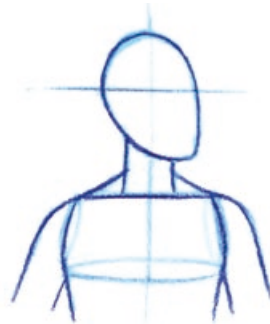
- Keep your neck long and your chin level whilst you perform these exercises. If your head pushes forward you will take the strain in the back of your neck.
- Unless you are specifically lifting your shoulders, make sure they stay relaxed down and back. Your shoulder blades should lie flat across your upper back not stick out.
- Stop and rest if you begin to strain. You do not need to do a full set of all these exercises every time.

Neck

If you have rheumatoid arthritis always check with your doctor before doing neck exercises

Watch points

- All neck exercises should be performed gently, slowly and smoothly, especially if your neck is very stiff.
- Do not jerk your head or force a position.
- Avoid circular movements of the neck (head circles).
- If your neck is very stiff, try lying down with a heat pack at the back of your neck after exercising.
- Keep your chin down so the back of your neck is lengthened, turn your head slowly and smoothly to look over your right shoulder as far as it will comfortably go and hold for 10–20 seconds. Then turn your head slowly to look over your left shoulder and hold for 10–20 seconds. Repeat X 2–3 each side. (see picture 8)
- Without lifting your chin and keeping your shoulders down and level, tilt your head to the side so your right ear goes down towards your right shoulder. Feel the stretch up the left side of your neck. Hold this position for up to 5-10



Picture 8. Neck mobilise - head turns

seconds and bring your head back to the centre. Tilt your head over to the left to feel the stretch up the right side of your neck. Hold for 5-10 seconds. Take a deep sighing breath and try and relax into the stretch. You can repeat this movement two, or three times a day.

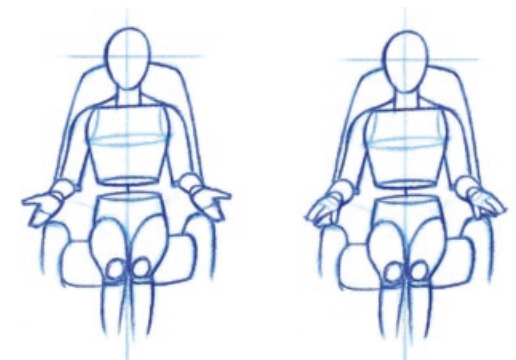
(see picture 9)



Picture 9. Neck stretch - head tilts

Hands, wrists and elbows

- Curl your fingers into a fist and then stretch them out again, spreading your fingers wide. Repeat X 5 - 10.
- Circle your thumbs backwards and forwards X 5 - 10 each way.
- Stretch your thumb away from the palm of your hand and then bring your thumb in to touch the tip of each of your fingers in turn. Repeat X 2 - 5 times with each hand. (see picture 10)



Picture 11. Elbow rotations

- Resting your forearms on the arms of a chair, flex your wrists so your hands come up towards you, palms facing outwards, and then bend them down with your palms facing inwards.

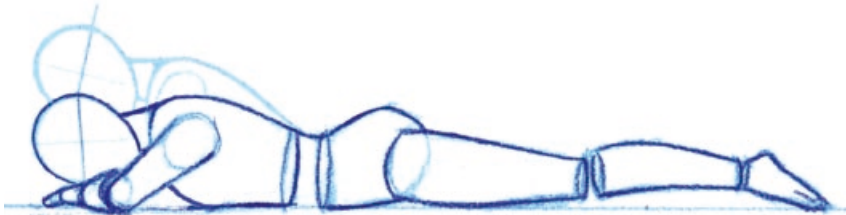


Picture 10. Finger exercise

- Resting your forearms on the arms of a chair or table top, rotate your forearms so the palms face upwards and then rotate them back so your palms face downwards, keeping your elbows in a fixed position. Repeat X 5. (see picture 11)

Upper back

- Lie on your stomach with your hands under your forehead, elbows out to the side. Breathe in as you raise your shoulders and upper chest a little way off the floor, hold for 5 seconds and then breathe out as you lower slowly to your starting position. You should only feel this in your upper back, not below your waist. Repeat X 5–10. (see picture 12)



Picture 12. Upper back lift

Exercises for your middle body

It is important to balance the strength at the front and back of your body. The large muscles of your abdomen (stomach muscles) are particularly important as they provide your core strength, which helps support your lower back and maintain your posture.

Side bends and waist turns are best performed sitting on a firm chair or stool, as for upper body exercises.

The abdominal and lower back exercises are best performed lying on a firm surface, such as the floor or a firm bed. Pelvic tilts with abdominal breathing and hip hitches can also be performed in bed.

Side bends

- Sitting or standing with your spine lengthened, hips level, hands resting on your shoulders, elbows in and shoulders relaxed, tilt your upper body over to the right so you feel a stretch in the left side of your waist between your rib cage and your hips. Try and relax into the stretch without collapsing in the middle. To increase the stretch try and gently increase the space between your rib cage and your hips on the left. Hold for 5-10 seconds and come slowly upright. Rest and repeat to the other side. Repeat X 2–5 each side. (see picture 13)



Picture 13. Side bends

Watch points

- Keep your spine lengthened when you perform side bends.
- Don't lean backwards, twist your body or slump over to the side.
- Lift up and then bend to the side keeping both shoulders down.
- Breathe out as you go over, and in as you come up.

Waist turns

- This mobilises your spine. Start with your shoulders above your hips, hips facing forwards. Keeping your hips facing forwards, breathe out as you gently rotate your upper body to the right as far as it will comfortably go and hold this position for 5–10 seconds. Breathe in as you slowly turn back to your starting position. Repeat to the left. Repeat X 5–10 on both sides. (see picture 14)

Watch points

- Keep your spine lengthened. Be careful not to lean back as you turn.
- Keeping your chin slightly down, move your head with your shoulders as you turn
- Turn slowly and smoothly, do not jerk or try and force round further
- Keep breathing



Picture 14. Waist turns

Abdominals

These exercises should be performed on the floor or a firm bed.

Watch points

- If you feel a pull on your lower back when doing abdominal exercises, stop! You are using the wrong muscles to perform the movement.
- Ensure your abdominals are held in before you add any additional resistance. If your abdominal muscles (or any muscles) start to quiver when exercising them, stop as they are straining. Rest, and/or decrease the level at which you are exercising.
- Don't hold your breath whilst doing abdominal exercises. Breathe out when you are tightening these muscles and in as you release them.
- Roll up a towel or put a cushion under your knees when you are in the cat stretch position. If there is too much strain on your wrists, rest on your forearms.
- Don't poke your head and shoulders forwards when reaching your arms forwards (picture 17). If your neck is straining, try placing a pillow under your head neck and shoulders, or do the alternative exercise (picture 18) using your legs as resistance.

- Tightening your pelvic floor muscles at the same time as you tighten your abdominal muscles increases the effectiveness of these exercises

- Lie on your back with your knees bent and hip-width apart and your feet flat on the floor or bed. Take a long breath in and then breath out slowly at the same time as tightening and pulling in your abdominal muscles. You should feel your hip bones tilt back and your lower back lengthen and press into the floor or bed. Breathe in and release. Repeat X 5–10. **This is known as a pelvic tilt with abdominal breathing and it forms the basis of all abdominal exercises.** (see picture 15)



Picture 15. Pelvic tilt

Abdominals



Picture 16. Cat stretch

- You can perform the same movement on your hands and knees (known as the cat stretch). With your knees below your hips and hands below your shoulders and back flat, take a deep breath in. Breath out slowly at the same time as pulling your abdominal muscles up and in, so you back gently arches. Breath in and release back to a flat back. Repeat X 5-10 . (see picture 16)
- Lying on your back, tighten your abdominals and tilt your pelvis. Add extra resistance by lifting your head and shoulders and sliding your hands up

your thighs so you are curling up a little way as you tilt. Repeat X 5–10.

(see picture 17)

- Tighten your abdominals and tilt your pelvis. Add extra resistance by lifting your right knee in towards your chest and slowly lowering your right foot to the floor again. Make sure you can hold the weight of your leg in your abdominal muscles as it lifts and lowers toward the floor or bed. Lift each knee alternately X 5–10. (see picture 18)



Picture 17. Abdominal curl



Picture 18. Abdominals - using legs as resistance

Lower back

- Hip hitches work your waist and are good for mobilising your lower back. Lie flat on your back. Keep your spine lengthened, lightly contract your abdominal muscles, keeping the natural curve in your lower back. Push your right leg down and away from you whilst pulling your left hip up towards you, then slowly push your left leg away from you, pulling up on your right hip. Keep the movement slow and smooth and repeat X 5-10 on each side. (see picture 19)



Picture 19. Hip hitch

- Lie on your stomach and place your hands under your shoulders, elbows out to the side, legs and feet together.



Picture 20. Lower back stretch

Gently push up lengthening your upper back and keeping your hips and stomach on the floor. When in position breathe out and sink into the stretch whilst keeping your shoulders down and looking straight ahead. Hold the position for 5 - 6 seconds and then lower slowly down again. Repeat X 5. (see picture 20)

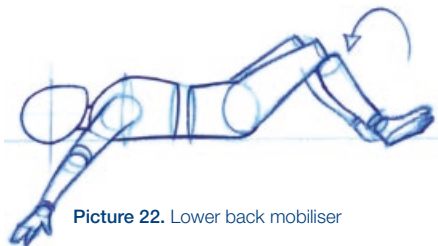
- Lie on your stomach with a firm cushion or pillow placed under your hips and your forehead resting on your hands, elbows out to the sides. Tighten your buttocks and lift your left thigh a little way off the floor without lifting your hips off the ground. You should feel your buttock and lower back muscles working, but not straining. Lower your leg and repeat the lift X 5–10 with each leg. (see picture 21)



Picture 21. Lower back strengthener

Lower back

- Release your lower back by lying on your back and clasping your knees in towards your chest.
- Lie on your back with your arms out to the side of your body at shoulder level, knees bent and feet together. Using your abdominals to keep your back on the floor or bed, slowly let your knees roll over to the right as far as they will go without your hips or shoulders lifting. Hold this position for 5–10 seconds and then bring your knees back to the starting position and repeat to the other side. Keep facing upwards throughout the exercise. (see picture 22)
- The muscles at the back of your thighs (hamstrings) can also be associated with a tight lower back. To stretch your hamstrings and lower back sit on the floor or a firm bed with your back straight - you can support it against a wall or the bed-head. With your knees bent up, place a rolled up towel under your feet, holding either end. Slowly



Picture 22. Lower back mobiliser

straighten out your legs, keeping your back straight. Feel the pull at the back of your thighs. Take deep sighing breaths and try and relax into the stretch. Hold for 10–20 seconds and relax. To increase the stretch, straighten your legs fully and then gently take your body forwards, bending from your hips, rather than rounding your back or shoulders.

(see picture 23)

Watch points

- Weak abdominals are often the cause of lower back problems. The large muscles in your buttocks are also important to supporting your lower back.
- Always engage your abdominal and/or buttock muscles when performing exercises for your lower back.



Picture 23. Hamstring stretch

Exercises for the lower body

Hips

- Lie on your right side, prop up your head on your right hand and use your left hand for balance. Slightly bend your underneath leg, but keep your top leg straight with the knee facing forwards. Slowly raise the top leg about 60cms, but do not let your hip roll back. Slowly lower your leg and repeat X 10. Turn over and repeat with the left leg.
- Sitting upright on a firm chair or stool, straighten your right leg out in front of you and lift it a little way off the floor. Slowly rotate the leg outwards from the hip so your foot is turned out and then rotate the leg inwards from the hip so your foot turns inwards. This is a small movement and you should not feel any stress in your knee. Repeat X 5–10 with each leg. You can also do this movement standing up, holding onto the back of a chair for support. (see picture 25)



Picture 24. Hip strengthener



Picture 25. Hip rotation

Knees

- Sitting upright on a firm chair or stool, hold in your abdominals and straighten your right leg out in front of you with your toes pointing upwards, so your foot lifts off the ground. Hold for 10 seconds. Feel the muscles on the front of your thigh (quadriceps) tightening. Repeat X 5–10 with each leg. (see picture 26)
- Lying on your front, bend your right knee and bring your heel in towards your right buttock, without arching your back or lifting your right hip off the ground. If you can, reach behind you and hold onto your right foot with your left hand. This stretches the muscles at the front of your right thigh (quadriceps). Hold the stretch for 10-20 seconds and repeat on the left leg. This can also be done standing up using a chair back for support.(see picture 27)



Picture 26. Strengthening knees

Watch points

- Lift your leg smoothly, don't snap your knee straight
- You should not feel any pull or strain in your lower back when straightening and lifting your leg



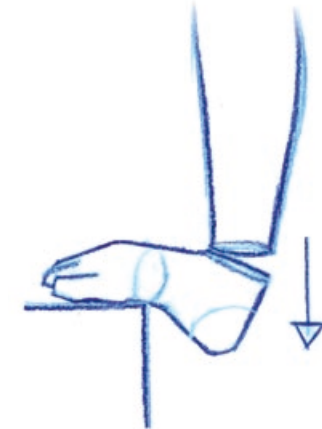
Picture 27. Quadricep stretch

Ankles and feet

- When lying down or sitting with your feet up, point your toes and then bend your feet up towards you. Repeat X 10.
- Sitting with your heels resting on the floor, wiggle your toes and try to spread them, holding for 5 seconds. Repeat X 2-3.
- Sitting with your knees together, heels apart and resting on the floor, sweep your feet outwards and lift your little toes towards the outside of your ankle. Sweep your feet inwards and lift your big toes up towards your inner ankles. Repeat X 5–10. (see picture 28)
- Standing with the balls of your feet towards the edge of a bottom stair, use the banister for balance, rise up onto the balls of your feet and then lower slowly so your heels drop below the edge of the stair – you should feel a stretch in your calf. Repeat X 5–10. (see picture 29)



Picture 28. Ankle mobiliser



Picture 29. Calf stretch

Exercises to improve your stamina

To benefit from aerobic exercise you need to build up to a sustained level of continuous movement for 20–30 minutes at least two or three times a week.

However, this can be made up of 10 minutes three times a day. If you are just starting you may need to build up to this level starting with 5 minutes, then ten minutes, etc. The intensity you need to work at should be enough to raise your heart rate (pulse) and make you slightly out of breath. You should never be so out of breath you cannot talk whilst you are exercising. If you are very unfit when you start, you may find it takes very little movement to raise your pulse rate at first. As you build your stamina you may be able to increase the intensity of your movements, for example, by swimming or walking faster.

Warm up and cool down

Don't go straight into more vigorous types of exercise when your muscles are cold and stiff. Start off with some easy movements to increase your circulation and include a few gentle stretches for the muscles you are going to work. For example if you are going to walk, stretch your hamstrings and calves and ankles before you set off.

When you have finished exercising, don't just stop. Slow down your movements until your breathing and heart rate are back to normal. This is an ideal time to stretch, as your muscles are warm and more malleable. Breathe deeply and relax into your stretches.

Types of exercise

Walking

Although walking does not suit all people with arthritis, it is the most common and accessible form of exercise.

- Wear supportive, well-fitting, cushioned shoes with non-slip soles, such as trainers.
- Remember good posture and walk tall. Land on the heel of your foot and roll forwards to drive off the ball of your foot.
- If you need to use a stick, hold it in the opposite hand to the painful hip, knee or foot.
- Avoid rough terrain if you have damaged joints, or joint replacements.
- Avoid going down steep hills if you have knee problems.
- Don't try and walk too far at first.
- Build up distance and pace slowly.

Water exercises

Exercising in water is ideal for people with arthritis as the weight of the body is supported and joints can move freely. The water adds resistance so it can help strengthen muscles.

- Swimming and aqua aerobic classes are an excellent way of building stamina
- Breaststroke can be unsuitable for hips and knees and strain the back of the neck if you swim with your head out of the water. Try other strokes such as crawl or backstroke, which may be more suitable.
- Some hospitals and centres have hydrotherapy pools, which have heated water to help relax muscles and where therapeutic exercises can be performed under the supervision of a physiotherapist.

Cycling

Modern bicycles and tricycles can be adapted to suit individual needs.

- Cycling can offer an enjoyable way of taking exercise, but may not be suitable for those with knee problems.

Types of exercise

Gym

Gyms provide expert supervision and a range of equipment. They will often run classes and may also have a swimming pool, steam room or sauna, which are good for people with arthritis.

- Some people may find the thought of going to a gym intimidating, but it is worth going along to check out the facilities before you decide to join.
- When you join a gym you will be shown around the equipment. Make sure the instructor understands your problems so they can give you a programme to tailored to meet your needs.
- Gym instructors should have up-to-date qualifications and will show you exactly how to use the equipment you will be using. They can also provide you with personal training if you need extra help to get you started and to ensure you are using the right technique.
- There should always be instructors on hand to answer questions and help you out.

Exercise to music and dance classes

Exercising with others and to music can add to the enjoyment of the experience, as well as providing a good way to keep fit.

- Find a class with a qualified teacher.
- Make sure your teacher is aware of your joint problem so they can advise you on any exercises to avoid or how to adapt certain exercises for your needs.
- Dance styles to try include line dancing, salsa, jazz and ballroom.

Yoga, Pilates and Tai chi

These are different types of slow, controlled exercise, which work through the whole body. They include stretching, strength, balance, relaxation and breathing techniques, all of which can be very beneficial to people with arthritis.

Sports

Many professional athletes and people who are very fit develop arthritis, but this need not mean you have to give up sports altogether.

When you develop arthritis you may find that you are no longer able to do some of the exercises and sporting activities you were able to enjoy previously. For example, if you did contact or high impact sports such as squash or rugby, you may have to find something that is less stressful for your joints, but there are many ways you can still keep fit and enjoy competitive sports. Talk to your doctor or physiotherapist about options that will suit you.

Even if you are in a wheelchair there are many sports that can be adapted for people with a disability. A support group for people with arthritis or disabilities may be able to put you in touch with organisations that can help.

Disclaimer

Whilst every care has been taken in preparing these materials the authors and producers of this booklet/fact sheet do not accept responsibility for any injury caused as a result of undertaking any of these exercises or activities. It is recommended that medical advice is taken if there is any doubt about the suitability of these exercises for an individual.