

# BACK TO ACTION



# THE NASS GUIDE TO EXERCISING EFFECTIVELY AND SAFELY FOR PEOPLE WITH **ANKYLOSING SPONDYLITIS**

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The advice in this booklet is as accurate and as comprehensive as possible but it is only general advice and should not be used as a substitute for individual advice you might receive from consulting your own doctor. If you are a health professional using this guide it is important that you use your own clinical judgement when interpreting the information and deciding how best to apply it to the treatment of your patients.

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## SAFETY FIRST

**The kind of moderate exercise recommended in this programme is designed to improve your health and wellbeing and should be good for you and very safe for almost everyone.** However, ankylosing spondylitis (AS) can sometimes affect the heart or lungs and cause conditions that could be worsened by exercise. For this reason we would recommend that you see your doctor before starting the programme and annually.

### **This is particularly important if**

- You have had any operations on your spine or joint replacement surgery. This is very important if you have had a hip replacement because some exercises may cause dislocation of artificial hip joints and your programme will need to be modified to avoid any risk of this.
- You already know that you have a medical condition, particularly if it affects your heart or lungs
- You get chest pain, palpitations (irregular beating of the heart), unexplained breathlessness, dizziness, or have lost consciousness
- You are on medication for your heart or blood pressure
- You are pregnant
- Your AS is affecting your joints, especially the leg joints, causing swelling, pain or stiffness
- You are not used to exercise
- You are aged over 65 years or have had AS for more than 10 years

Of course most people with AS will be seeing a rheumatologist regularly and will already have been advised whether they can exercise.

If you get any unexplained symptoms while exercising such as chest pain, palpitations, unexpected breathlessness, dizziness, faintness or lose consciousness, please **stop** and see a doctor straight away.

If you do need to see a doctor before starting, it would be useful to take the programme with you and in particular point out the next section that explains what is in each part of the programme.



# INTRODUCTION

**IF YOU HAVE ANKYLOSING SPONDYLITIS (AS) AND WOULD LIKE TO START REGULAR EXERCISE, THIS PROGRAMME IS FOR YOU.**

Exercise is very helpful in AS, reducing pain and stiffness and improving posture and wellbeing. In the long term, it may well help your spine to remain mobile. This is why exercise is usually recommended as part of the treatment of AS by rheumatologists and physiotherapists, and also by those who have AS. However, while many people with AS have heard about the benefits of exercise, many don't have a programme, don't do it regularly or do not have a programme that is right for their AS. If you are in one of these categories, this programme is especially for you. It has been devised by the physiotherapists working with NASS and the exercise therapists and doctors who treat military personnel with AS at Headley Court. It uses the most up to date knowledge from the fields of physiotherapy and sports medicine. We have tried to make the programme as clear, straightforward and enjoyable as possible, so that you can use it in a gym or at home as part of your daily routine.

## **Why doesn't everyone with AS do regular exercise?**

We asked a group of people with AS what stopped them doing a regular programme. Here are some of their answers.

- 'What is the point? It is going to get worse anyway.'
- 'I don't know which exercises to do.'
- 'It might hurt. I might damage my back.'
- 'It is too intimidating to go to the gym.'
- 'I don't have time.'
- 'It is too much effort.'

## **What is the point of a regular exercise programme in AS?**

People with AS often have to deal with the day to day symptoms of pain and stiffness and the worry about long term effects on the spine and general health. There are now some very effective medical treatments that can reduce pain and stiffness, so it is important that everyone with AS is under regular care with a GP and rheumatologist. The best results come from a combination of medical treatments and a regular exercise programme. Exercise helps relieve the symptoms of pain and stiffness and helps you sleep and improves your general health. So you feel better, look better and get more out of life.

## **Who is this programme for?**

We have tried to write this programme to be useful for as many people with AS as possible, but inevitably it can't be perfect for everyone. Some people with advanced AS who have lost a lot of movement in the spine or have developed the altered posture may find some of these exercises difficult. We would suggest anyone in this category seeks advice from a qualified physiotherapist or exercise therapist before starting. Most of these exercises will still be very useful, but some adaptations may make all the difference.

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**THIS PROGRAMME HAS BEEN DEVISED TO MINIMISE DISCOMFORT AND RISK OF INJURY. ALL OF THE EXERCISES ARE LOW IMPACT AND ARE CAREFULLY EXPLAINED SO THAT YOU ARE ALWAYS IN CONTROL.**

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THIS PROGRAMME WAS DESIGNED BY SPECIALISTS IN SPORTS AND EXERCISE PHYSIOLOGY. IF YOU USE THIS PROGRAMME, YOU WILL KNOW EXACTLY WHAT YOU ARE DOING AND WHY.

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### **I don't know which exercises to do.**

If you have AS, the priorities are to remain fit and healthy and also to promote good mobility of the spine and good posture. There is a huge range of exercise regimes on offer these days, designed to promote fitness or to improve sporting skills or simply to look good on the beach. They are usually good advice but not necessarily good for AS. This programme uses the most effective exercises for AS. The authors have years of experience prescribing exercise and have designed it so that it shouldn't take too long to get the full benefit.

### **It might hurt. I might damage my back.**

This programme has been devised to minimise discomfort and risk of injury. All of the exercises are low impact and are carefully explained so that you are always in control. The programme starts with a warm up, followed by mobility, cardiovascular fitness and strength training with flexibility and breathing exercises at the end. You start with the basic programme and only progress when ready. It shouldn't hurt, but you will feel the stretching and probably feel pleasantly tired at the end of the cardiovascular section. You may notice some muscle soreness for a few days after doing the strength section. As with all medical conditions, you should check with your GP before starting the programme.

### **It is too intimidating to go to the gym.**

Most people feel intimidated when they first go to a gym. They always seem to be full of super-fit people. In reality most people don't have much direction and many of the most eye catching exercises don't make you much fitter or stronger. This programme was designed by specialists in sports and exercise physiology. If you use this programme, you will know exactly what you are doing and why. This will be very obvious to the staff in the gym and to anyone there who is serious about fitness.

### **I don't have time.**

Not having enough time is one of the commonest reasons for not exercising, so we have kept the programme as short as possible. The full programme has been designed to take 30 to 40 minutes, so it can be done in a lunch break or early evening. If you don't have that long, it can be broken down into shorter sections.

### **It is too much effort.**

This is probably the most difficult objection to answer! You may believe that exercise is important and that the programme is effective, clear and easy. But if you never enjoyed exercise and now on top of that have developed the pain and stiffness of AS, it can seem a lot to ask. All we can say is that many people have found it enormously worthwhile; it really does help your symptoms and can be great fun and great for your confidence. So why not give the programme a serious try? Read the rest of the introduction, pick up some kit, earmark some time and get started.

### **Dr Tim Jones**

*Consultant in Rheumatology and Rehabilitation Medicine  
Defence Medical Rehabilitation Centre,  
Headley Court*

# TYPES OF EXERCISE

## WHAT ARE THE DIFFERENT TYPES OF EXERCISE AND HOW OFTEN SHOULD I DO THEM?

The exercises in this programme are arranged in sections that improve different aspects of your fitness. In the next few paragraphs we will explain a little about these exercises and how often we recommend that you do them.

If you follow the recommendations, you should get the most benefit; but do remember that even a little exercise is far better than none. If you feel that the recommendations are more than you can manage, please don't shelve the whole idea. It is still worth making a start and doing what you can.

### The sections are:

- The warm up
- Mobility
- Cardiovascular fitness
- Strength
- Flexibility
- Breathing

**The warm-up** is a short period of gentle exercise that prepares the body for more vigorous exercise and helps prevent injury.

*You should start every session of exercise or sport with a warm-up which lasts about 5 minutes.*

**The mobility section** consists of exercises that slowly move the different parts of the spine to the limit of their movement. This is the most important section for keeping the spine mobile.

*We would recommend that you do these every day.*

**Flexibility Exercises** These exercises stretch the large muscle groups such as the hamstrings and quadriceps that are anchored around the spine. It is important that these muscles do not shorten or the spine can be pulled into wrong postures.

*We recommend that you do these exercises every day.*

**Breathing Exercises** These exercises are designed to maximise the volume of the chest and lungs.

*We recommend that you do these every day.*

**Strength Exercises** These exercises require the muscles to overcome resistance from weights, rubber bands or sometimes just the body's own weight. The muscles become stronger in the days after a weights session when they rebuild themselves. Strong back, shoulder and hip muscles protect the spine and prevent it collapsing into poor postures. Strength training is an important part of improving sporting performance. It is also good for general health, using up calories and probably preventing some medical

conditions such as diabetes.

A weight training session is made up of repetitions (or reps) of the movement which are grouped into sets. There is usually a rest of a few minutes between each set to allow the muscle to recover. If the weight is on a heavy setting, it will not be possible to do many repetitions before becoming tired. Conversely, if a light setting is used, it will be possible to do more reps. The amount of weight makes an important difference to the effect on the muscles. Heavy weights will only increase absolute strength, whereas lighter weights will improve strength and endurance.

*Strength training should not be done every day. There must be at least a 48 hour gap to allow the muscle to adapt or it will not work. We suggest 2 or 3 weight sessions per week with at least a day between each. We strongly recommend that you keep the weights setting quite low so that you can manage at least 12 repetitions in each set.*

**Aerobic Exercises** Regular aerobic exercise is extremely good for your general health and improves cardiovascular fitness. It lowers blood pressure and helps prevent heart disease and strokes. Well known examples of aerobic exercise include walking, jogging or swimming, but any activity that you can do for a prolonged period and makes you breathless is aerobic. *We recommend that you do 30 minutes of aerobic exercise 5 times a week. Please remember that it only needs to be vigorous enough to make you slightly breathless; it doesn't need to be exhausting. Fast walking is a good example of aerobic exercise. For convenience, you can split it into segments of 10 minutes or more and this will still be good for you.*

# GETTING STARTED

## THE BASIC EQUIPMENT THAT YOU WILL NEED FOR THE MOBILITY, FLEXIBILITY AND BREATHING SECTIONS IS:

- Gym kit that is loose enough to allow you to do the stretches
- Cross training shoes
- A gym ball (see page 10 for how to choose one). If you don't have one at home, you can get away with using a chair
- A gym mat, or carpet if you are at home
- A towel
- A water bottle

The mobility, flexibility and breathing sections can easily be done at home. Remember, we recommend that you do these sections every day.

You will probably need to be at a gym to use the weights machines, (but you only need to do the strength section twice a week).

The cardiovascular section can be walking, cycling or swimming and so can be very flexible, even part of your commute. Remember, the cardiovascular section should be 5 times a week but can be split into 10 minute sections.

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“I AM 43 NOW AND I WAS DIAGNOSED WITH AS OVER 15 YEARS AGO. I WAS IN DENIAL WHEN I WAS DIAGNOSED. NOW I WISH I HAD DONE MY EXERCISES: EVERYONE TOLD ME HOW IMPORTANT IT WAS BUT I CHOSE NOT TO LISTEN.”

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# EXAMPLES OF A WEEK'S EXERCISES

DAY	EXERCISE	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
MONDAY	CYCLE TO WORK – 15 MINUTES CYCLE HOME – 15 MINUTES AT HOME IN EVENING – FLEXIBILITY, MOBILITY, BREATHING		
TUESDAY	VISIT GYM AFTER WORK FOR ALL SECTIONS		
WEDNESDAY	BRISK WALK AT LUNCHTIME – 30 MINUTES AT HOME IN EVENING – FLEXIBILITY, MOBILITY, BREATHING		
THURSDAY	VISIT GYM FOR ALL SECTIONS		
FRIDAY	REST DAY – FLEXIBILITY, MOBILITY AND BREATHING AFTER WORK		
SATURDAY	VISIT SWIMMING POOL FOR 30 MINUTE SWIM FLEXIBILITY, MOBILITY AND BREATHING WHILE STILL IN THE POOL		
SUNDAY	REST DAY - FLEXIBILITY, MOBILITY AND BREATHING		

## CHOOSING A GYM BALL

GYM BALLS ARE NOW COMMONLY SEEN IN MANY GYMS AND HEALTH CLUBS BUT DO YOU KNOW HOW TO PICK THE CORRECT SIZE GYM BALL FOR YOUR HEIGHT AND WEIGHT? DO YOU KNOW IF YOUR GYM BALL IS ANTI-BURST OR NOT?

Addressing these two issues is essential to ensure that you are exercising in a safe and correct way when using a gym ball.

**The following points should help you to answer all of the questions that you may have about selecting a gym ball during your work out.** Remember however that there are many different manufacturers of gym balls and so you should seek advice and guidance from your gym instructor if you are unsure of any points.

■ Gym ball, exercise ball, Swiss ball, fit ball, Reebok ball, stability ball – are all names for the same thing.

■ Originally made for back rehabilitation, gym balls are now used for many different forms of exercise including yoga and Pilates.

■ **Always** work with an **anti-burst / burst resistant** gym ball – anti-burst gym balls are labelled as being so. They are made of specially designed vinyl, sometimes with several layers, that when punctured will deflate slowly giving you time to stabilise yourself with your hands or feet as necessary. Non-burst resistant balls literally pop and can cause serious damage.

■ Gym balls come in different colours according to their different size. Do not select a gym ball because it is your favourite colour!

■ Generally most good quality gym balls are designed to take up to three times your body weight if the correct size is selected.

■ If your gym ball is too small, your core centre is not as active as it should be and you will have the tendency to lean forward while sitting on the ball.

■ If you are positioned too high, then you are working in a much more unstable position.

■ A gym ball does not have to be pumped up so it is rock hard; it should be firmly inflated, so that when pressed with one finger, a slight dent is created, approximately 2 inches (5cm) across. Air can be added or removed from a gym ball easily and as required. To add or remove air from your gym ball seek the help of your gym instructor.

**Anti-burst gym balls** tend to be non-shiny and slightly textured – **choose this ball.**

**Non-burst resistant gym balls** tend to be shiny and smooth – **avoid this ball.**

*If not already available request that your gym provides the appropriate gym ball for your safety*

# CHOOSING THE CORRECT SIZE GYM BALL

■ The general rule for choosing the correct gym ball size is to have your knees and hips bent to 90° (thighs parallel to floor) when sitting on the ball. Use the following as a rough guide to select a gym ball according to your height. Then try sitting on the gym ball as recommended above to get a good sitting position.

YOUR HEIGHT	GYM BALL SIZE TO SELECT
UNDER 5' 2" (1.57M)	45CM
5' 3" - 5' 8" (1.60M-1.72M)	55CM
5' 9" - 6' 2" (1.75M-1.88M)	65CM
ABOVE 6' 3" (1.90M)	75CM

If you have back pain or longer legs it is acceptable to have your hips slightly higher than your knees but you must never have your hips lower than your knees.

If you are unsure if you are using the correct gym ball size for your height and weight please seek advice from your gym instructor.



## REMEMBER:

### REMEMBER TO SEEK MEDICAL ADVICE

if you become faint, short of breath, dizzy, unwell or experience unaccustomed chest pain during any exercise session.

## SAFETY/POINTS TO REMEMBER

■ **Some trained gym staff** may not have heard of ankylosing spondylitis and may not understand how it affects you. Take time to explain your condition and use this guide to help discuss what exercise you should be focusing on (see page 65).

■ **Don't overdo it.** Keep within your limits. Some people overdo it when they first start.

■ **Don't expect** all gym equipment to look the same. Often different makes of gym equipment are set up slightly differently, so ensure a trained member of staff has shown you how to use each piece of equipment safely before you start. Don't overdo it.

■ **You will have good and bad days** where you are able to do a bit more or may need to do a little bit less.

■ **Pick a good time of day** to exercise – most AS patients experience some stiffness and pain in their spine or joints in the morning, so this is probably not a good time to exercise.

■ **Don't worry** if you have some mild aches or pains when you are exercising. This is normal for people with AS. The pains should ease off after the exercise session is completed. If you have anything more than mild aches or pains that do not ease after the exercises, stop and seek medical advice.

■ **Focus on stretching** anterior muscle groups (muscles at the front of the body – abdominals, pectorals and biceps).

■ **Focus on strengthening** extensor muscle groups (muscles at the back of the body – lower back, trunk, shoulder blades and buttocks).

■ **Use a regime** that involves low weights and high repetitions – remember you are trying to stay mobile, strong and healthy. You are not training for a weight lifting competition.

■ **Maintain a good posture** with all of your exercises. Neutral spine is an important part of this and is explained in the next section.

■ **Stay motivated** – you may not notice big changes in your appearance but remember the exercises are to help you stay healthy, mobile and to help maintain a good posture.

■ **Vary your exercises.** Remember that you need to do a mixture of strengthening, cardiovascular and stretching exercises.

**The best programmes are individually tailored.** This is our recommendation to get you started. It gives most of the benefits and shouldn't take too long. As you get fitter you may want to progress. For this, we would recommend that you consult an experienced exercise therapist or physiotherapist who knows about AS.

## PROMOTING GOOD POSTURE- NEUTRAL SPINE

■ Looking from the side, the normal human spine at rest has three gentle curves: at the small of the back; between the shoulder blades; and at the neck.

■ During movement, these curves may flatten or increase, but the closer they stay to their original shape, the better, because this shape leads to less strain on the ligaments and joints and therefore less risk of pain or injury. This position of good posture is often called the neutral spine position.

■ Unfortunately, the pain and stiffness of AS encourages the spine to hunch forwards and over time, the spine may lose the ability to straighten back up.

■ Here is a checklist that you can use to educate your spine to keep in a good posture. We suggest that you do this as often as possible through the day and while doing these exercises.

### STARTING POSITION:

Stand with the feet shoulder width apart and grip the pelvis between the fingers at the front and the thumbs at the rear. Starting at the top is the best way to visualise correcting your posture. Making a mental check list is a good way to help.

#### 1 Head position

#### 2 Shoulder position

#### 3 Hand position

#### 4 Pelvis position

#### 5 Knees

**1** Draw the chin in but keep the head vertical aiming to line up the ear lobe with the mid line of the shoulder. This will bring the head back towards the mid line of the body (figure 1). Another way of thinking of this is to imagine that you are holding a tennis ball under your chin.

**2** Draw the shoulders downwards towards the feet and lengthen the collar bones so your shoulders are open but NOT pinched back. Try to utilise the muscles in the mid and lower back rather than those at the top of the back. This will draw the shoulders back so they are not rounded, opening the front of the chest.

**3** If your shoulders are rounded then you will find your hands tend to rest on the front of your thighs. To correct this you need to draw your arms, shoulders and shoulder blades back so your hands are now resting on the outside of your thighs (palms resting on your trouser seam).

**4** To understand figure 2, the correct position of the pelvis, imagine that you are holding a bucket of water. Tipping water out of the front of the bucket will tip the pelvis forwards and vice versa. Working only in a range of movement that is comfortable, tip water out of the front, then back of the bucket, several times. At this point, stop in the mid position. Then slowly tip the bucket forwards to gently dribble water from the front of the bucket (slightly anteriorly tilted).

**5** Finally, fully straightened knees can contribute to bad posture. Therefore softening and slightly bending the knees will help.

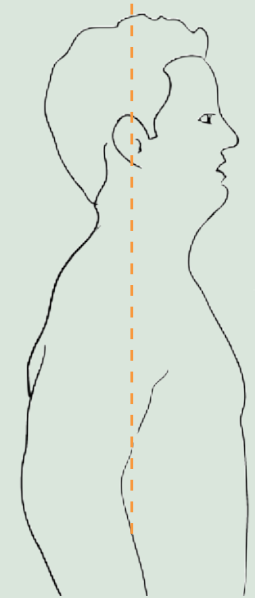


Figure 1

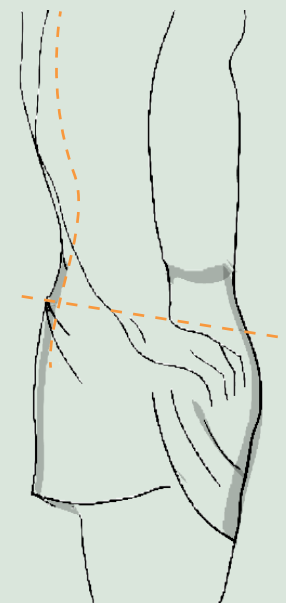


Figure 2

PRACTISE THIS AS OFTEN AS YOU CAN

## WARM UP

- You should always warm up prior to any exercise session and especially before stretching.
- A warm up does exactly what it says it does and warms up your body by increasing the blood flow to the working muscles. This prepares your body for exercise and means the muscles are ready to exercise and are less prone to injury.

### WARM UP IN THE GYM:

Static bike or cross trainer for 5-10 minutes on easy to moderate resistance. You should be able to hold a conversation throughout your warm up and not get out of breath. Remember even during your warm up you should be aware of your posture in sitting or standing and if using the cross trainer try not to let your chin poke forward.

### WARM UP AT HOME:

March on the spot or use a bottom stair for step ups or else go for a walk for 5-10 minutes. You should be able to hold a conversation throughout your warm up and not get out of breath. Remember even during your warm up you should be aware of your posture in standing and if doing step ups try not to let your chin poke forward.

# MOBILITY EXERCISES

▤ Mobility exercises are exercises that work your joints through their full, available, range of movement. The movement should be smooth and pain free. Don't worry if at times exercising to one side is easier than the other, just perform each exercise to the best of your ability every time. Remember that when you exercise, especially at first or after a break from regular exercise, you will probably experience some discomfort when you exercise but it should not be painful. ▥



## MOBILITY EXERCISES

# LOOKING DOWN

■ **Benefit of exercise:** To help maintain or increase your downward neck movement

■ **Equipment required:** Gym ball

■ **If dizziness is experienced** during the exercise, discontinue the exercise and seek medical review

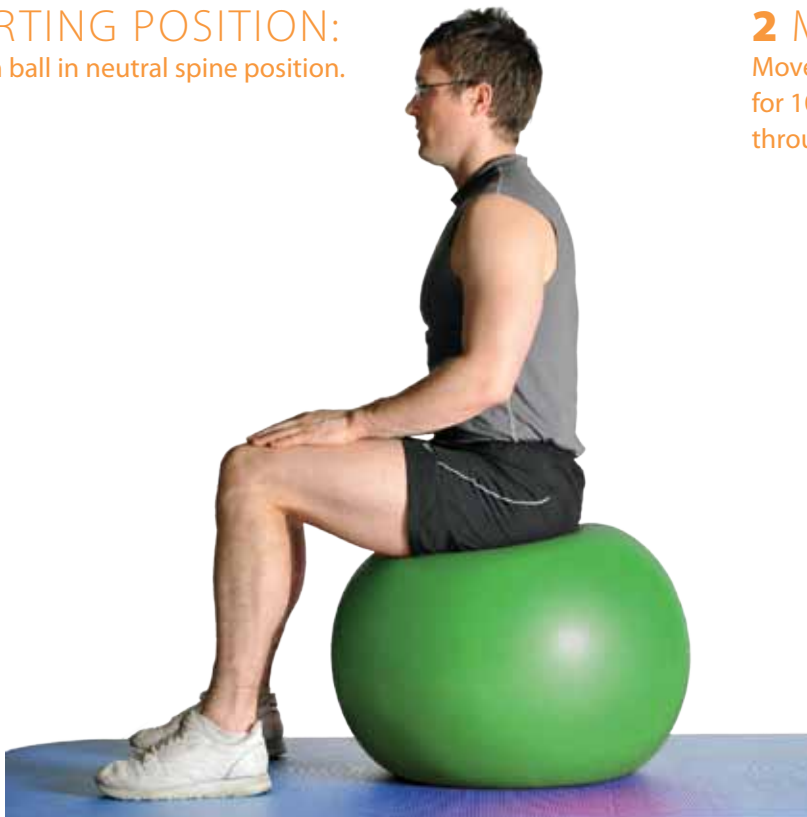
■ **Repetition:** 3-5 times

### HINTS AND TIPS:

- Maintain neutral spine position throughout movement
- Ensure slow, continuous movement throughout

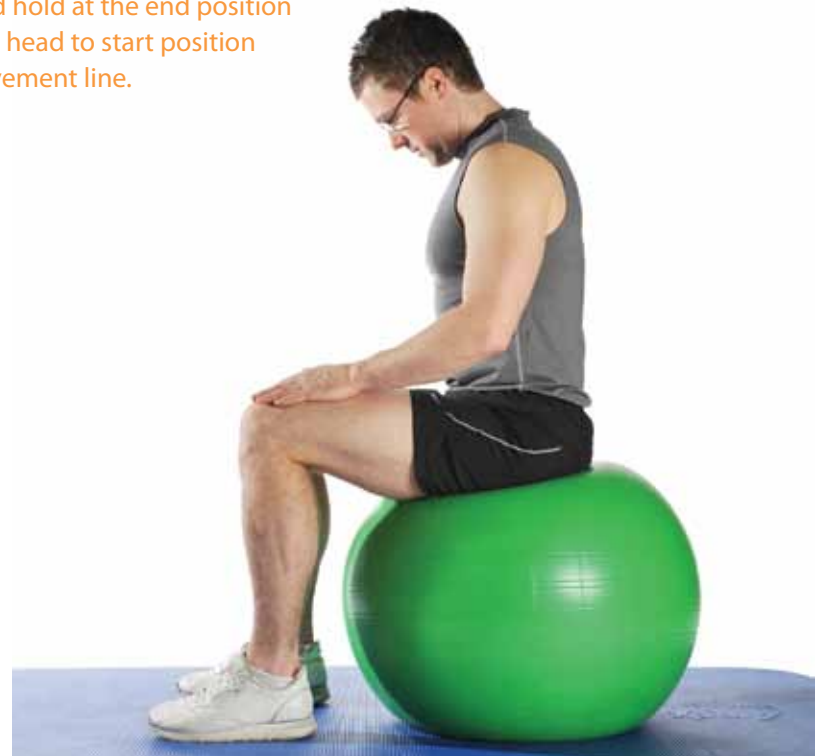
## 1 STARTING POSITION:

Sit on gym ball in neutral spine position.



## 2 MOVEMENT / ACTION:

Move chin to chest and hold at the end position for 10 seconds. Return head to start position through the same movement line.



## MOBILITY EXERCISES

# LOOKING UP

■ **Benefit of exercise:** To help maintain or increase your upward neck movement

■ **Equipment required:** Gym ball

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

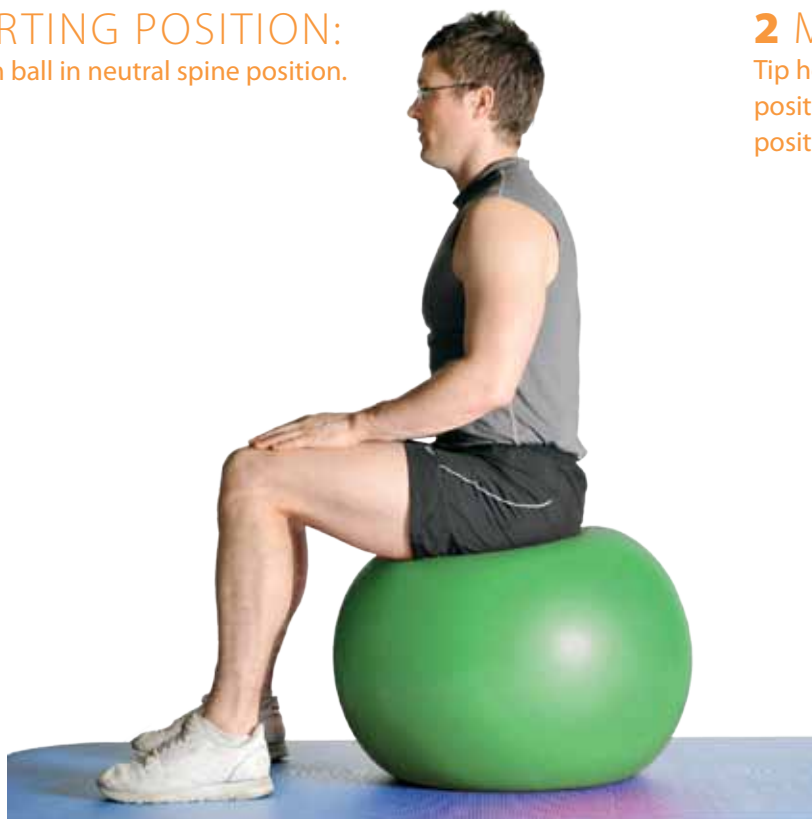
■ **Repetition: 3-5** times

### HINTS AND TIPS:

- Keep mouth shut throughout the exercise
- Maintain neutral spine position throughout movement
- Ensure slow, continuous movement throughout

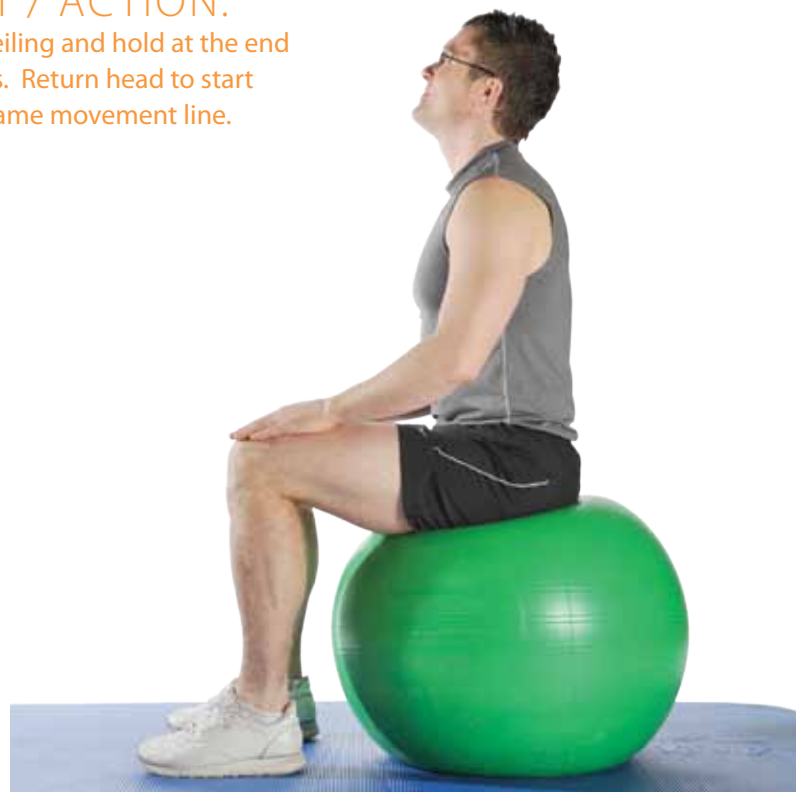
### 1 STARTING POSITION:

Sit on gym ball in neutral spine position.



### 2 MOVEMENT / ACTION:

Tip head up towards ceiling and hold at the end position for 10 seconds. Return head to start position through the same movement line.





## MOBILITY EXERCISES

# CHIN TUCK

■ **Benefit of exercise:** To help maintain good posture and prevent forward poking of chin

■ **Equipment required:** Gym ball

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

■ **Repetition: 3-5** times

### HINTS AND TIPS:

- Keep eyes level – do not look down to the floor or tip head up to ceiling
- Keep shoulders still
- Keep mouth shut throughout the exercise
- Maintain neutral spine position throughout movement
- Ensure slow, continuous movement throughout
- You should feel an upward stretch up the back of the neck

### 1 STARTING POSITION:

Sit on gym ball in neutral spine position.



### 2 MOVEMENT / ACTION:

Tuck your chin in to give yourself a double chin and hold position for 10 seconds. Return head to start position through the same movement line.



## MOBILITY EXERCISES

# LOOK OVER SHOULDER

■ **Benefit of exercise:** To help maintain or increase your ability to look over your shoulder

■ **Equipment required:** Gym ball

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

■ **Repetition:** **3-5** times to the left then **3-5** times to the right

### HINTS AND TIPS:

- Keep eyes level – do not look down to the floor or tip head up to ceiling
- Keep shoulders still
- Maintain neutral spine position throughout movement
- Ensure slow, continuous movement throughout

## 1 STARTING POSITION:

Sit on gym ball in neutral spine position.



## 2 MOVEMENT / ACTION:

Turn your head to look over your shoulder as far as you can. Hold position for 10 seconds. Return head to start position through the same movement line.



## MOBILITY EXERCISES

# TRUNK ROTATION

■ **Benefit of exercise:** To help maintain or increase your ability to rotate your trunk

■ **Equipment required:** Gym mat

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

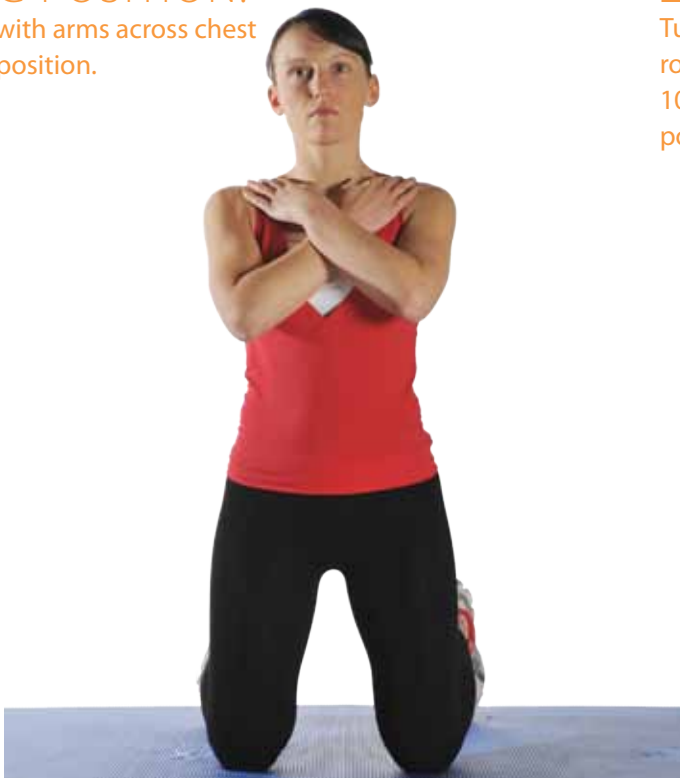
■ **Repetition:** 3 times to the left then 3 times to the right

### HINTS AND TIPS:

- Keep eyes level – do not look down to the floor or tip head up to ceiling
- Do not allow yourself to bend forwards or backwards during movement
- Relax shoulders back and down
- Ensure hips and pelvis remain still, facing forwards
- Ensure slow, continuous movement throughout

### 1 STARTING POSITION:

Kneeling upright, with arms across chest and neutral spine position.



### 2 MOVEMENT / ACTION:

Turn / rotate trunk from the waist as far round as you can. Hold this position for 10 seconds. Return trunk back to start position through the same movement line.



## MOBILITY EXERCISES

# TRUNK SIDE BEND

■ **Benefit of exercise:** To help maintain or increase your ability to side bend at the waist

■ **Equipment required:** Gym mat

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

■ **Repetition:** 3 times to the left then 3 times to the right

### HINTS AND TIPS:

■ Do not allow yourself to bend forwards or backwards during movement

■ Do not allow yourself to rotate / turn your trunk

■ Keep shoulders relaxed

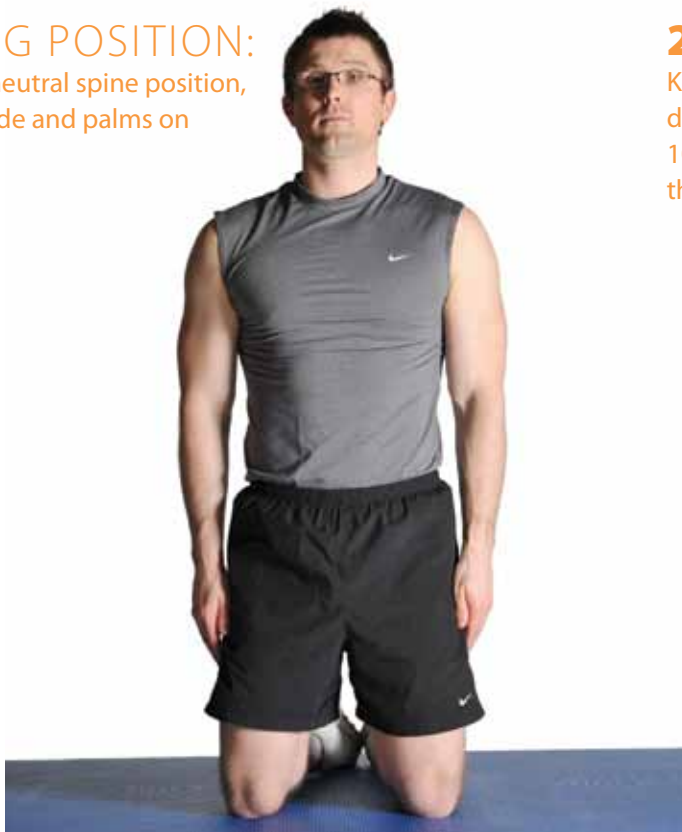
■ Ensure hips and pelvis remain still, facing forwards

■ Maintain even weight through your knees throughout the movement. Do not allow the opposite knee to lift

■ Ensure slow, continuous movement throughout

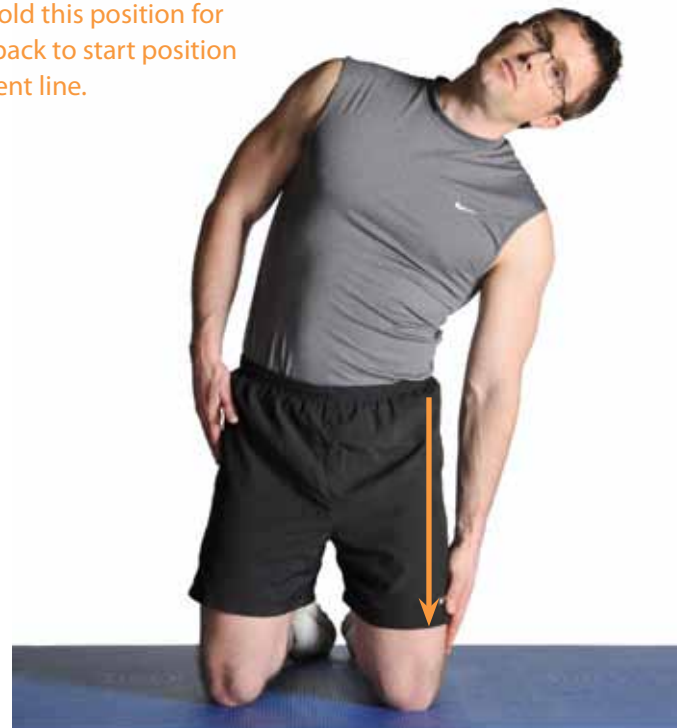
## 1 STARTING POSITION:

Kneel upright in neutral spine position, arms resting by side and palms on outer thigh.



## 2 MOVEMENT / ACTION:

Keeping hand in contact with side of leg reach down towards the floor. Hold this position for 10 seconds. Return trunk back to start position through the same movement line.



## MOBILITY EXERCISES

# ARM OPENING

■ **Benefit of exercise:** To stretch the upper chest

■ **Equipment required:** Gym mat  
Gym towel – folded to place under head  
(We have used a foam block in the photograph to show the position clearly)

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

■ **Repetition:** 3 times to the left then 3 times to the right

### HINTS AND TIPS:

- Keep knees together and still – do not lift your top leg
- Keep shoulder of resting arm in contact with floor
- Ensure slow, continuous movement throughout

### 1 STARTING POSITION:

Lie on your side with hips and knees bent to 90° and your arms lying on top of each other at shoulder height. Folded towel placed under head to achieve neutral spine position.



### 2 MOVEMENT / ACTION:

Keeping elbow straight, lift your top arm up towards the ceiling, turning the head to follow the movement of the arm.



### 3 CONTINUE TO MOVE THE TOP ARM:

Rotate the body and aim to get the arm to touch the floor on the opposite side at shoulder level. Hold this position for 10 seconds. Return trunk back to start position through the same movement line.





## MOBILITY EXERCISES

# KNEE ROLLING

■ **Benefit of exercise:** To help maintain or increase your ability to rotate your trunk

■ **Equipment required:** Gym mat, gym towel

■ **For all exercises** when you are lying on your back on the floor, if the back of your head does not easily rest on the floor, then we would advise you to place a folded towel under your head to help you achieve a neutral spine. By this we mean that you should fold the towel just enough times so that your head is supported with your chin level and not pointing up to the ceiling, or resting on your chest.

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

■ **Repetition:** 3 times to the left then 3 times to the right

### HINTS AND TIPS:

■ Keep knees and ankles together

■ Keep shoulders and arms resting in contact with floor

■ Ensure slow, continuous movement throughout

### 1 STARTING POSITION:

Lie on your back with knees bent up together and your feet together flat on the floor. Lie your arms out to your side at shoulder height, palms facing up.



### 2 MOVEMENT / ACTION:

Keeping knees and ankles together, lower your knees down to one side, allowing your lower trunk to rotate as you move.



### 3 HOLD THIS POSITION FOR 10 SECONDS:

Return knees back to start position through the same movement line and then lower knees to opposite side.



## MOBILITY EXERCISES

# ALTERNATE KNEE TO CHEST

■ **Benefit of exercise:** To help maintain or increase your ability to bend your hips and lower back

■ **Equipment required:** Gym mat, gym towel

■ **For all exercises** when you are lying on your back on the floor, if the back of your head does not easily rest on the floor, then we would advise you to place a folded towel under your head to help you achieve a neutral spine. By this we mean that you should fold the towel just enough times so that your head is supported with your chin level and not pointing up to the ceiling, or resting on your chest.

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

■ **Repetition:** 3 times to the left then 3 times to the right

## HINTS AND TIPS:

■ Keep shoulders and head resting in contact with floor

■ Maintain neutral spine throughout movement- do not allow the lower back to over arch

■ Ensure slow, continuous movement throughout

## 1 STARTING POSITION:

Lie on your back with knees bent up and your feet flat on the floor, shoulder width apart. Rest your arms by your side, palms facing down.



## 2 MOVEMENT / ACTION:

Raise one knee up towards your shoulder, allow your hip and knee to bend as you move. Hold the front of your shin to facilitate the movement further. Hold this position for 10 seconds. Return knee back to start position through the same movement line.





## MOBILITY EXERCISES

# DOUBLE ARM RAISES ABOVE HEAD

■ **Benefit of exercise:** To help maintain or increase your ability to raise your arms forward and above your head

■ **Equipment required:** Gym mat, gym towel

■ **For all exercises** when you are lying on your back on the floor, if the back of your head does not easily rest on the floor, then we would advise you to place a folded towel under your head to help you achieve a neutral spine. By this we mean that you should fold the towel just enough times so that your head is supported with your chin level and not pointing up to the ceiling, or resting on your chest.

■ **If dizziness is experienced,** discontinue the exercise and seek medical review

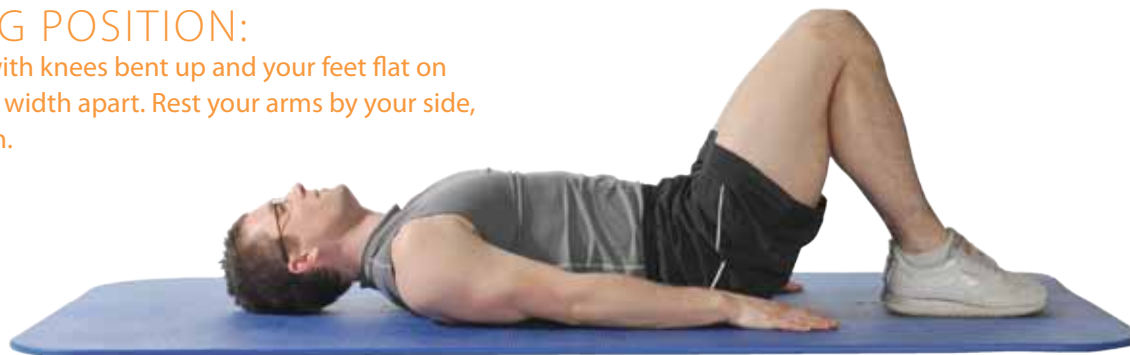
■ **Repetition: 3-5** times

## HINTS AND TIPS:

- Keep elbows straight throughout the movement
- Keep head resting in contact with floor
- Maintain neutral spine throughout movement – do not allow the low back to over arch
- Ensure slow, continuous movement throughout

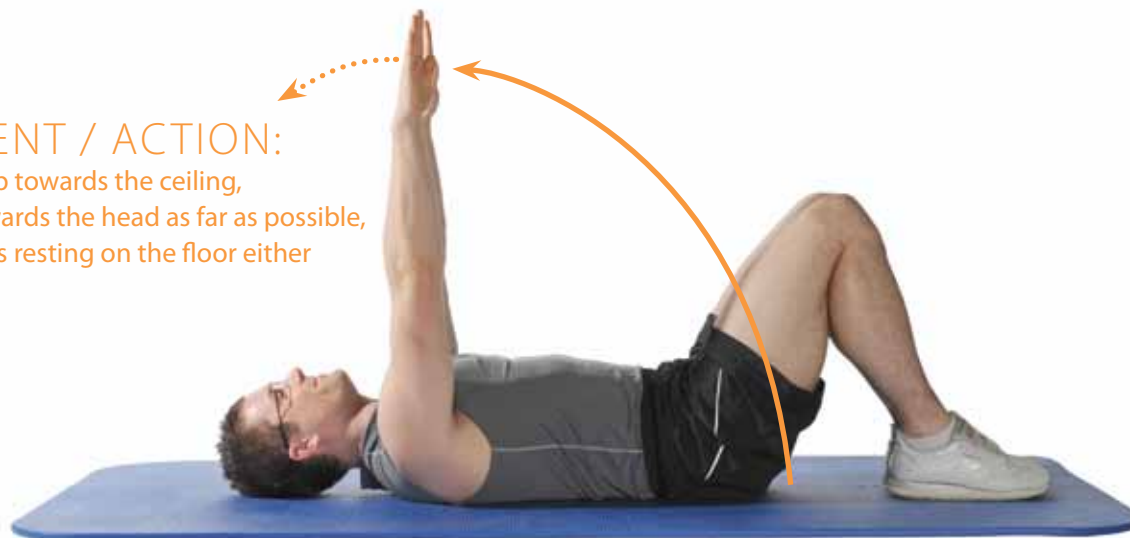
### 1 STARTING POSITION:

Lie on your back with knees bent up and your feet flat on the floor, shoulder width apart. Rest your arms by your side, palms facing down.



### 2 MOVEMENT / ACTION:

Raise both arms up towards the ceiling, continuing up towards the head as far as possible, finishing with arms resting on the floor either side of your head.



### 3 HOLD THIS POSITION FOR 10 SECONDS:

Return arms back to start position through the same movement line.



# CARDIOVASCULAR EXERCISES

┌ You should aim for 30 minutes of exercise on 5 days of the week but you can break it up into 10 minute segments. Don't push yourself; you should be mildly breathless but able to hold a conversation throughout. ┐



## CARDIOVASCULAR EXERCISES

### TREADMILL

- We advise walking rather than running because the impact of running can make your pain worse.
- Keep good upright posture.
- Keep speed gentle without over striding.
- Adjust treadmill speed and gradient so that you are mildly breathless.
- As you become fitter, you may want to do more by increasing the duration or gradient. The gym staff will be able to advise you.



## CARDIOVASCULAR EXERCISES

### CROSS TRAINER

- Adjust the settings so that you are mildly breathless throughout the session.
- Keep good posture in an upright position.
- Don't hunch forwards.
- You can use arms and legs as shown, or you can keep your arms still holding the handles and just use your legs.



## CARDIOVASCULAR EXERCISES

### STATIC BIKE

■ Adjust the settings so that you are mildly breathless throughout the session.

**Before starting make sure you adjust saddle height. This can be checked by looking at the following:**

- When standing next to the bike the top of the saddle should be hip height.
- Sit on the bike and place the ball of the foot on the pedal and push down. When the pedal is at the bottom of the rotation your leg should remain slightly bent.
- At no time during the rotation should your knee be completely straight.





## CARDIOVASCULAR EXERCISES

# ROWING MACHINE

We have included this exercise because it gives you a good workout BUT it must be done with good technique as poor technique can damage your back. We suggest you ask the gym staff to advise you on the correct technique. We recommend you do this exercise for no more than 10 minutes and do a further 20 minutes of CV exercise on different machines.

### HINTS AND TIPS:

- Keep pelvis and back moving together
- Keep elbows close to body
- Don't let your back round forwards when sliding backwards (see photo 2)
- Move from your hip joints
- Use your legs

### 1 STARTING POSITION:

Set the resistance to a low setting. Lean very slightly forward with your arms straight and shins almost vertical.

### 2 MOVEMENT / ACTION:

Push back through the feet, sliding yourself backwards.

### 3 GRADUALLY LEAN BACK AND FINISH PULLING WITH YOUR ARMS:

Finish with your legs straight and arms bent, elbows back as you pull through with your arms. Arms should be by your side with the handles pulled to your stomach.





# STRENGTH EXERCISES

Keep the weight setting low so that you can manage the full number of reps in each set without difficulty. Allow at least 1 day rest between each session. All movements should be done slowly and in a controlled way.



## STRENGTH EXERCISES

# SPINAL STRENGTHENING

■ **Benefit of exercise:** To help maintain or increase strength in muscles in the back and maintain upright posture

■ **Equipment required:** Gym mat, gym ball

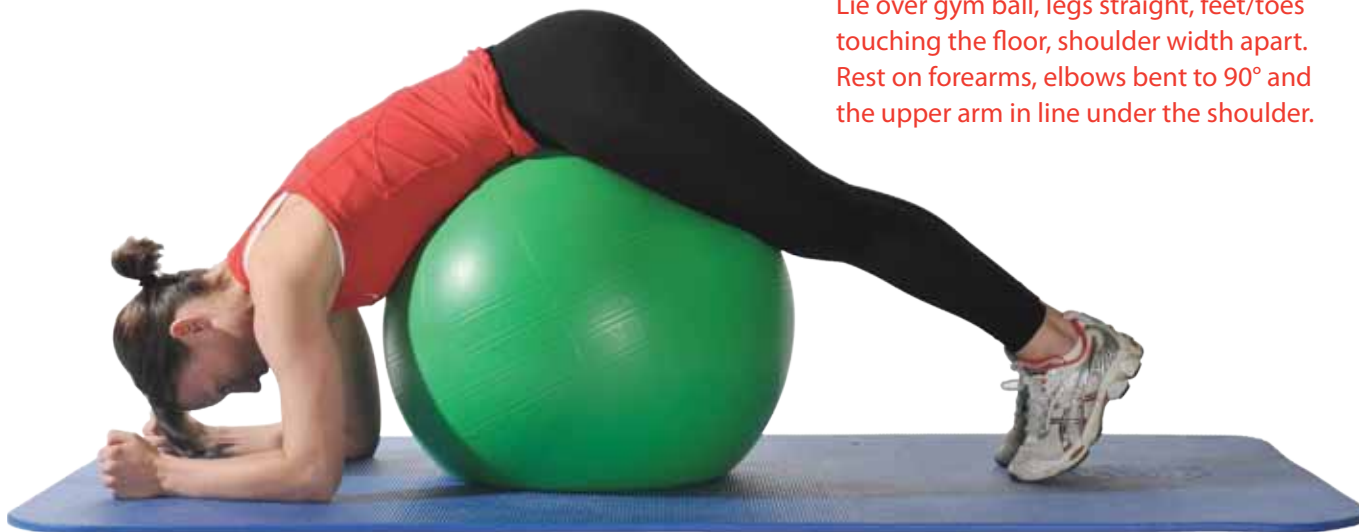
■ **Repetition:** 10 times to the left then 10 times to the right

### HINTS AND TIPS:

- Ensure hips, stomach and chest rest on the ball at the start
- Be aware of your own safety when lying on the ball - maintain good stability on the ball throughout the exercise
- Do not lift the leg too high/allow the back to overarch
- Keep head in line with spine, do not bend chin forward or tip head back
- Each action and return should be done slowly and in a controlled way

### 1 STARTING POSITION:

Lie over gym ball, legs straight, feet/toes touching the floor, shoulder width apart. Rest on forearms, elbows bent to 90° and the upper arm in line under the shoulder.



### 2 MOVEMENT / ACTION:

Leading with heel, keeping the knee straight, raise one leg towards the ceiling until the leg comes into line with the spine. Hold for 5 seconds and then lower slowly.



## STRENGTH EXERCISES

# BRIDGING

■ **Benefit of exercise:** To help maintain or increase strength in the buttock and lower spine

■ **Equipment required:** Gym mat, gym towel

■ **For all exercises** when you are lying on your back on the floor, if the back of your head does not easily rest on the floor, then we would advise you to place a folded towel under your head to help you achieve a neutral spine. By this we mean that you should fold the towel just enough times so that your head is supported with your chin level and not pointing up to the ceiling, or resting on your chest.

■ **Repetition: 10**

### HINTS AND TIPS:

- Maintain neutral spine throughout movement
- Use buttock and spinal muscles to complete movement – do not push through arms and feet to achieve movements
- Each action and return should be done slowly and in a controlled way

## 1 STARTING POSITION:

Lie on your back, knees bent up and feet flat on the floor at hip distance apart. Arms resting by side, palms down.



## 2 MOVEMENT / ACTION:

Lift buttocks and lower back off the floor into a bridging position. Hold this position for 5 seconds. Return back to start position through the same movement line.



## STRENGTH EXERCISES

# LATERAL PULL DOWN

- **Select a weight setting** that allows you to do 12 repetitions before you tire and have to stop
- **Remember** to breathe naturally throughout the exercise and **DO NOT** hold your breath
- **Concentrate** on keeping your spine in the neutral position
- **Repetition: 12**
- **Sets: 2**

### HINTS AND TIPS:

- Maintain neutral spine throughout exercise
- Each action and return should be done slowly and in a controlled way



### 1 STARTING POSITION:

Take a seated position with knees fixed under the rollers and feet flat on the floor. Take an overhand grip (see photograph), hands shoulder width apart on the bar.



### 2 MOVEMENT / ACTION:

Draw the bar straight down to the top of the chest. The elbows are drawn into the side of the body.



### 3 RETURN BACK TO THE START POSITION



## STRENGTH EXERCISES

# SEATED ROW

■ **Select a weight setting** that allows you to do 12 repetitions before tiring and having to stop

■ **Remember** to breathe naturally throughout the exercise and **DO NOT** hold your breath

■ **Concentrate** on keeping your spine in the neutral position

■ **Repetition: 12**

■ **Sets: 2**

### HINTS AND TIPS:

■ Maintain spine in a neutral position throughout the exercise

■ Do not lean forwards or backwards throughout this exercise

■ Each action and return should be done slowly and in a controlled way

## 1 STARTING POSITION:

Seated position in neutral spine. Take hold of the bar and brace the feet on the foot rests.



## 2 MOVEMENT / ACTION:

Keeping the elbows close to the side of the body, draw in the bar to the stomach. Return to the start position in a controlled way.



## STRENGTH EXERCISES

# BICEP CURL

- **Select a weight setting** that allows you to do 12 repetitions before tiring and having to stop
- **Remember** to breathe naturally throughout the exercise and **DO NOT** hold your breath
- **Concentrate** on keeping your spine in the neutral position

■ **Repetition: 12**

■ **Sets: 2**

### HINTS AND TIPS:

- Maintain spine in a neutral position throughout the exercise
- Keep your back in contact with the back rest
- Each action and return should be done slowly and in a controlled way

### 1 STARTING POSITION:

Sit on the machine and take hold of the handle bar(s) with an underhand grip. The feet should be flat on the floor more than shoulder width apart.



### 2 MOVEMENT / ACTION:

Keeping the feet flat on the floor and elbows braced against the pads, draw the bar(s) up to the body.



**3 PERFORM A FULL RANGE OF MOVEMENT** so the hands finish at the shoulders. Return to the start position in a controlled way.



## STRENGTH EXERCISES

# TRICEP PRESS

■ **Select a weight setting** that allows you to do 12 repetitions before tiring and having to stop

■ **Remember** to breathe naturally throughout the exercise and **DO NOT** hold your breath

■ **Concentrate** on keeping your spine in the neutral position

■ **Repetition: 12**

■ **Sets: 2**

### HINTS AND TIPS:

■ Maintain spine in a neutral position throughout the exercise

■ Keep your head back on the seat

■ Each action and return should be done slowly and in a controlled way

### 1 STARTING POSITION:

Sit on the machine with feet flat on the floor and more than shoulder width apart. Take hold of the handle bars with a hammer grip.



### 2 MOVEMENT / ACTION:

Keeping the feet flat on the floor and elbows back on the pads, draw the bar(s) down.



**3 PERFORM A FULL RANGE OF MOVEMENT** until the elbows lock out 'softly'. Return to the start position in a controlled way.





## STRENGTH EXERCISES

# LEG PRESS

■ **Select a weight setting** that allows you to do 12 repetitions before tiring and having to stop

■ **Remember** to breathe naturally throughout the exercise and **DO NOT** hold your breath

■ **Concentrate** on keeping your spine in the neutral position

■ **Repetition: 12**

■ **Sets: 2**

### HINTS AND TIPS:

■ Maintain spine in a neutral position throughout the exercise

■ Keep the feet flat on the foot plate throughout so the “push” action is felt in both the front and heel of the foot

■ Each action and return should be done slowly and in a controlled way

## 1 STARTING POSITION:

Sit on the leg press machine, back against the seat. Place the feet on the foot plate shoulder width apart, with knees bent to no more than 90°. Line the feet up with the knees and front of the hip imagining a look of “train tracks” with the legs.



## 2 MOVEMENT / ACTION:

Push through the feet maintaining flat foot position throughout. Straighten the legs slowly and stop just before they are completely straight so the knees remain soft. Return to the start position in a slow controlled way.



## STRENGTH EXERCISES

# PEC DEC

■ **Select a weight setting** that allows you to do 12 repetitions before tiring and having to stop

■ **Remember** to breathe naturally throughout the exercise and **DO NOT** hold your breath

■ **Concentrate** on keeping your spine in the neutral position

■ **Repetition: 12**

■ **Sets: 2**

### HINTS AND TIPS:

■ Maintain spine in a neutral position throughout the exercise

■ Keep your head back on the rest

■ **After this exercise, we recommend the stretch on page 49**

■ Each action and return should be done slowly and in a controlled way

### 1 STARTING POSITION:

Sit on the machine with the back and head against the back rest. Feet are flat on the floor more than shoulder width apart. Hold the grips as shown.



### 2 MOVEMENT / ACTION:

Push through the handles and elbows drawing the bars towards each other. Work through full range until the bars touch under control.



### 3 RETURN TO START POSITION IN A CONTROLLED WAY



# FLEXIBILITY EXERCISES

Flexibility exercises are exercises that stretch or aim to lengthen a particular muscle group. Stretching helps to prevent injury and increase range of movement. We would recommend that stretches are best done after a warm up. The stretch should be held for 30 seconds and you should feel a slight resistance in the muscle being stretched, not pain or shaking. Hold at this point of slight resistance and don't bounce at the end of the movement. If you find yourself holding your breath, then you are trying too hard and need to ease off the stretch a little. In this section we have concentrated on the muscle groups that get particularly tight in people with AS.



## FLEXIBILITY EXERCISES

# PIRIFORMIS / GLUTES STRETCH

■ **Benefit of exercise:** To help maintain or increase length in your buttock muscles

■ **Equipment required:** Gym mat

■ **Repetition:** 4 times to the left then 4 times to the right

### HINTS AND TIPS:

■ Maintain neutral spine throughout movement – if your trunk “sags” during the exercise, slightly bend the knee of the leg that remains extended out on the floor

■ Do not “bounce” stretch position – hold static position

## 1 STARTING POSITION:

Sit with your legs straight out in front of you.



## 2 MOVEMENT / ACTION:

Slide one heel up alongside the straight, extended leg and cross the bent leg foot over the straight knee. Using your hands pull your bent knee in towards your chest. Hold this position for 30 seconds. Return the leg back to start position through the same movement line.



## FLEXIBILITY EXERCISES

# GLUTES STRETCH

■ **Benefit of exercise:** To help maintain or increase length in your buttock muscles

■ **Equipment required:** Gym mat

■ **Repetition:** 4 times to the left then 4 times to the right

### HINTS AND TIPS:

■ For all exercises when you are lying on your back on the floor, if the back of your head does not easily rest on the floor, then we would advise you to place a folded towel under your head to help you achieve a neutral spine. By this we mean that you should fold the towel just enough times so that your head is supported with your chin level and not pointing up to the ceiling, or resting on your chest.

■ Keep both shoulders and head resting in contact with floor

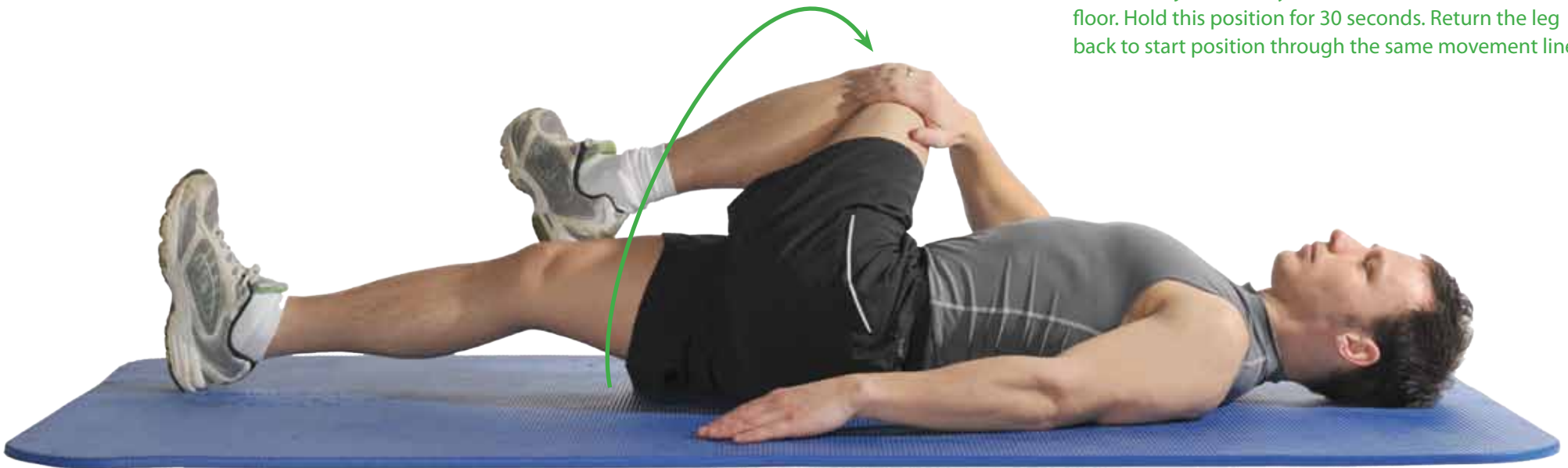
■ Do not “bounce” stretch position – hold static position

### 1 STARTING POSITION:

Lie on your back, legs extended out flat on floor. Arms lying at your side, palms facing down.

### 2 MOVEMENT / ACTION:

Bend one knee up half way towards your chest, with the opposite hand placed on the outside of the bent knee, gently pull the knee across your chest aiming your knee towards the floor. Your other arm and shoulder should remain in contact with the floor or mat at all times. Hold the stretch just before your shoulder wants to lift off the floor. Hold this position for 30 seconds. Return the leg back to start position through the same movement line.



## FLEXIBILITY EXERCISES

# HAMSTRING STRETCH

■ **Benefit of exercise:** To help maintain or increase length in the muscles at the back of the thigh

■ **Equipment required:** Gym mat, gym towel – rolled along its length

■ **Repetition:** 4 times to the left then 4 times to the right

### HINTS AND TIPS:

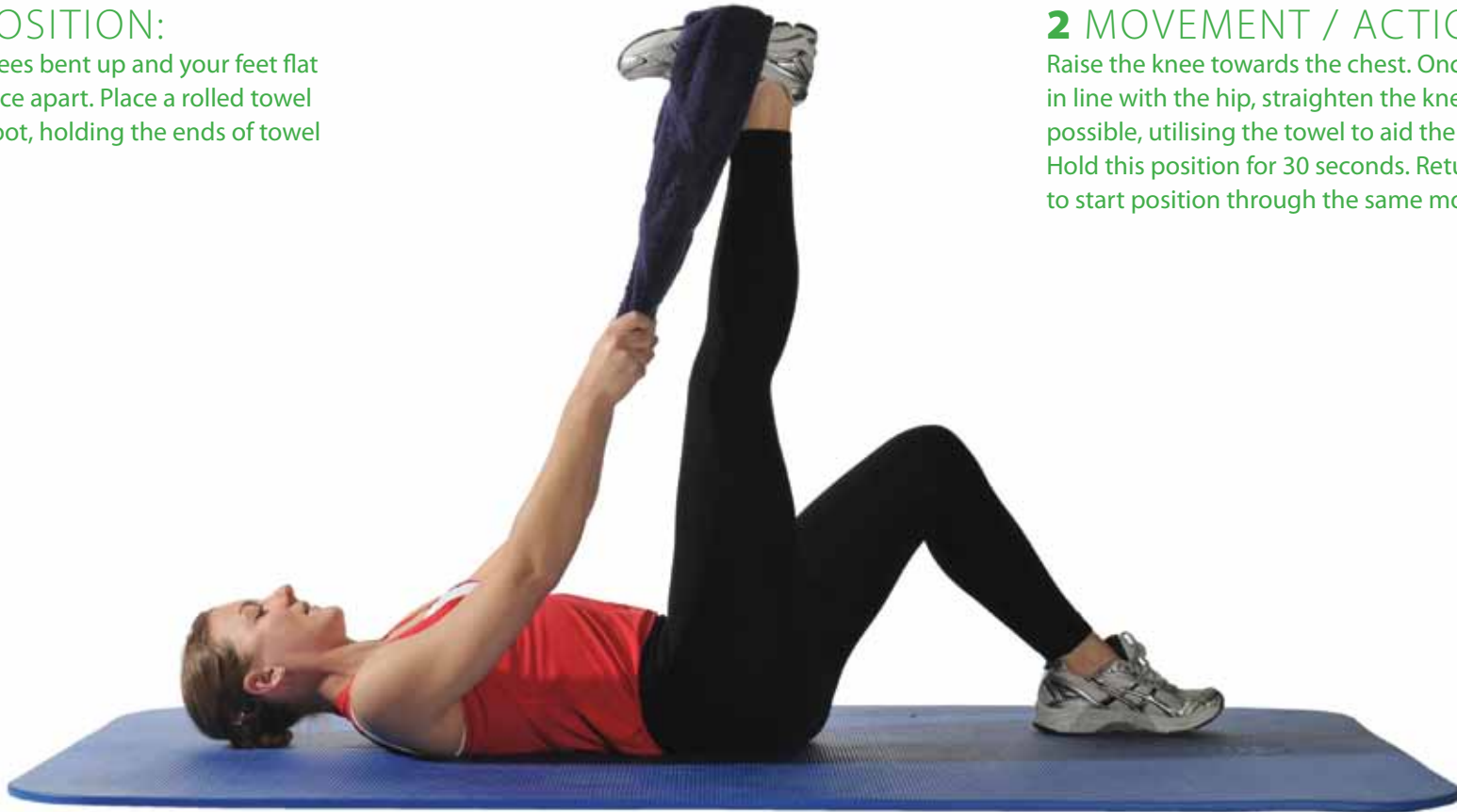
- Keep head resting in contact with floor
- Maintain neutral spine throughout movement – do not allow the lower back to over arch
- If unable to get the knee in line with the hip, take the knee as far as possible and then straighten the knee
- Do not “bounce” stretch position – hold static position

### 1 STARTING POSITION:

Lie on your back with knees bent up and your feet flat on the floor at hip distance apart. Place a rolled towel around the sole of one foot, holding the ends of towel in each hand.

### 2 MOVEMENT / ACTION:

Raise the knee towards the chest. Once the knee is in line with the hip, straighten the knee as much as possible, utilising the towel to aid the movement. Hold this position for 30 seconds. Return the leg back to start position through the same movement line.





## FLEXIBILITY EXERCISES

# FRONT HIP STRETCH

■ **Benefit of exercise:** To help maintain or increase length in the muscles at the front of the hip

■ **Equipment required:** Gym mat

■ **Repetition:** 4 times to the left then 4 times to the right

### HINTS AND TIPS:

- Maintain neutral spine throughout movement – do not allow trunk to bend forward at hips
- Do not “bounce” stretch position – hold static position
- As you lean into your front leg, don’t let your knee move past your ankle. If it does, to correct this, move your front leg forward a little.

### 1 STARTING POSITION:

Kneel on one leg, knee directly under the hip, with the back knee resting on the floor and the top of your shoe also resting on the floor. Hands on hips.



### 2 MOVEMENT / ACTION:

Keeping your trunk upright, lean into your front leg until you feel a stretch along the front of your back leg. Hold this position for 30 seconds. Return back to start position through the same movement line.



## FLEXIBILITY EXERCISES

# SINGLE ARM PEC STRETCH

■ **Benefit of exercise:** To help maintain or increase length in the muscles at the front of the shoulder and chest. To help prevent forward rounding position of the shoulders.

■ **Equipment required:** Any piece of fixed upright gym equipment that is as tall as you

■ **Repetition:** 4 times to the left then 4 times to the right

### HINTS AND TIPS:

- Maintain neutral spine throughout movement
- Do not “bounce” stretch position – hold static position

### 1 STARTING POSITION:

Stand close to and facing the side of any tall gym equipment. Raise arm closest to equipment out to the side to shoulder height. Bend elbow to 90°, placing forearm on to the gym equipment.



### 2 MOVEMENT / ACTION:

Walk both feet around, away from equipment leaving the forearm in position. Allow your trunk and head to follow the movement direction of your feet. Continue stepping feet around as far as able keeping the arm in the same position.



### 3 HOLD THIS POSITION FOR 30 SECONDS:

Return back to start position through the same movement line.



## FLEXIBILITY EXERCISES

# LATS STRETCH

■ **Benefit of exercise:** To help maintain or increase length in the muscles at the front of the shoulder and chest. To help prevent forward rounding position of the shoulders.

■ **Equipment required:** Weights bench  
Gym towel – folded to place under head

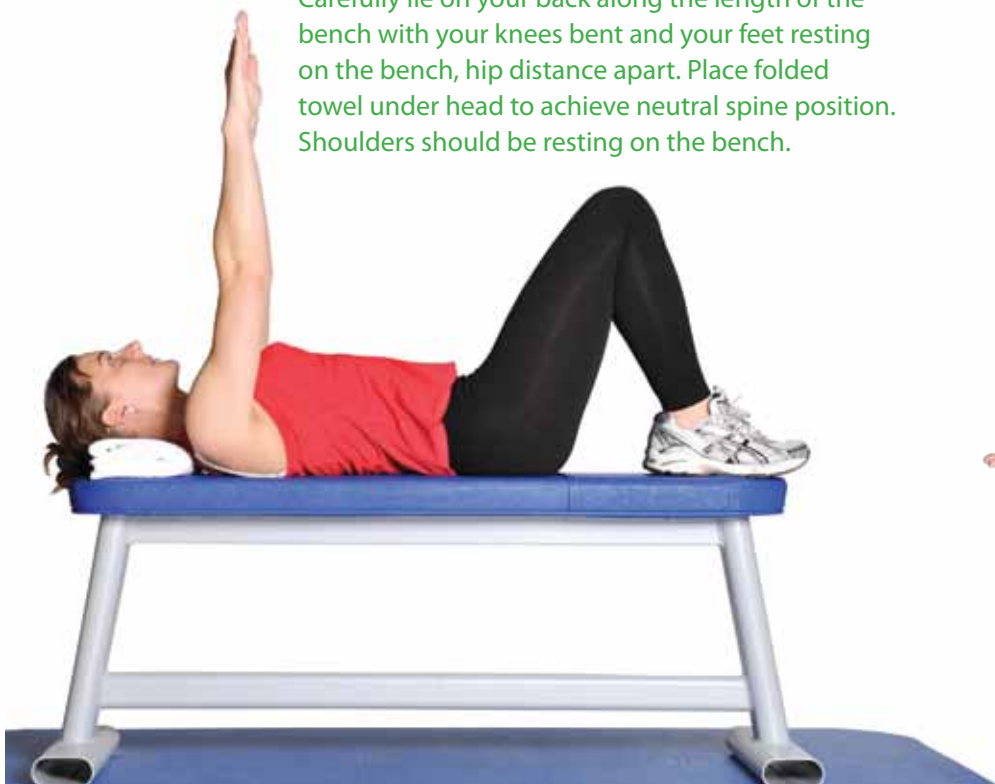
■ **Repetition:** 4

### HINTS AND TIPS:

- Maintain neutral spine throughout movement
- Do not “bounce” stretch position – hold static position

### 1 STARTING POSITION:

Carefully lie on your back along the length of the bench with your knees bent and your feet resting on the bench, hip distance apart. Place folded towel under head to achieve neutral spine position. Shoulders should be resting on the bench.



### 2 MOVEMENT / ACTION:

Raise both arms up towards the ceiling, and then continue taking arms back towards your ears as far as possible, finishing with your upper arms resting on the end of the bench and your hands hanging off the bench. Watch your head position towards the end of the movement as it will be an effort to maintain your neutral spine during the stretch. Keep your chin level and not pointing up towards the ceiling. Hold this position for 30 seconds. Return back to start position through the same movement line.



## FLEXIBILITY EXERCISES

# BACK EXTENSION

■ **Benefit of exercise:** To help maintain or increase movement of the lower spine (lumbar spine)

■ **Equipment required:** Gym mat

■ **Repetition:** 4

### HINTS AND TIPS:

- Keep hips in contact with floor throughout movement
- Allow feet to roll out in a relaxed position
- Keep buttocks and legs relaxed
- Do not "bounce" stretch position – hold static position

### 1 STARTING POSITION:

Lie on your stomach, legs straight. Place hands under shoulders, palms down, elbows bent and tucked into the body.



### 2 MOVEMENT / ACTION:

Push up into full elbow extension. Hold this position for 30 seconds. Return back to start position through the same movement line.





# BREATHING EXERCISES

「 We suggest you do these exercises daily  
to keep your rib cage flexible. 」





## BREATHING EXERCISES

### STANDING 1

■ **Benefit of exercise:** To keep your rib cage flexible

■ **Equipment required:** None

■ **Repetition:** 3

#### HINTS AND TIPS:

■ Stop if you feel light headed

#### 1 STARTING POSITION:

Stand with good posture, with feet hip distance apart, elbows bent, palms facing upwards, arms by side.



#### 2 MOVEMENT / ACTION:

As you breathe in, rotate the arms out to the side, keeping elbows tucked in and hands moving away from the body. Imagine shoulder blades drawing together as you do this. Breathe out, return arms to start position. Keeping elbows bent and tucked in, return forearm to centre position.



## BREATHING EXERCISES

### STANDING 2

■ **Benefit of exercise:** To keep your rib cage flexible

■ **Equipment required:** None

■ **Repetition:** 3

#### HINTS AND TIPS:

■ Stop if you feel light headed

#### 1 STARTING POSITION:

Stand in good posture with feet hip distance apart with your arms out straight in front of you at chest height, palms facing upwards.



#### 2 MOVEMENT / ACTION:

As you breathe in let arms float upwards making a 'v' shape - like tracing the shape of a large wine glass. Breathe out, lower arms back down to the start position with your arms out straight in front of the body.



# SPECIAL CLASSES AND OTHER SPORTS



# SPECIAL CLASSES AND OTHER SPORTS

## GYM CLASSES AND OTHER FORMS OF EXERCISES.

Exercising is an essential element in managing your AS. Traditional exercise using weights and machines in a gym does not suit everyone so to maintain your motivation you may wish to look at joining other exercise classes or sports. These activities can be done as your daily or weekly exercise but remember that you need to ensure your exercise will stretch, strengthen and keep you cardiovascularly fit. You therefore may consider doing these activities to complement a traditional gym programme of exercise. This section is designed to guide you in what is considered to be suitable forms of exercise/sport when you have AS.

**Remember, everybody is different and can tolerate different activity and levels. It is best therefore to seek medical advice before starting / continuing any form of sport or activity.**

### Classes in the gym

It is important to remember that there are many different forms of traditional class that you could join at a gym such as yoga, circuits and step aerobics but there are always newly formed and named variations to many classes. So it is important that you gain as much information about a class before you take part.

#### Some questions that you need to ask as a person with AS may be:

- Is the class low or high impact? – low impact classes are better to ensure your joints are not irritated during and after exercise
- Does the class have an element of “body contact”? – body contact in exercise should always be avoided
- Are there different levels of class on different days? – always start with a beginners’ class if you are new to the form of exercise – learning good technique from the start is essential to gain the best benefit

- It is advisable to ensure that any class instructor is aware of your AS.
- This will ensure that your instructor is aware of any limitations that you may have but also enable them to provide alternative positions or instruction on any of the exercises if you are finding them difficult to do.
- Remember your ability may change week to week so an exercise that you found easy one week may be temporarily slightly more difficult to do the next week.
- Informing your instructor of your condition will ensure you get the most of every class that you do while also staying safe.

### Body balance

Body balance classes are low impact and combine movements from yoga, Pilates and tai chi. The aim of the class is to use breathing control, stretches, movements and positions to enhance your flexibility and strength. As movements are gentle, flowing and to light music many people find this form of exercise helps them gain a sense of calm and reduced stress. Although this is a slightly slower paced class, its continued movement routines means that you still burn calories and keep joints mobile. Working your core stability means this class is good for posture management – essential for those with AS.

### Body pump

This class is low impact and involves performing set movements while holding weights, either free weights in your hands at a beginner’s level or a weights bar as you advance in the class. You set the level that you want to work at, which is a great advantage for those with AS as you may feel able to do more one week than another. The class is set to music and involves performing movements often known as traditional weights exercises ie: squats and lunges.

### Circuits

This class involves working your way around a set of exercise stations each with a different exercise stated that you have to perform. The exercises throughout a class cover a combination of strengthening and



### GYM CLASSES AND OTHER FORMS OF EXERCISES.

cardiovascular movements with each station/exercise performed for a set period of time ie: 30 seconds to 2 minutes. A good circuit class will ensure that you have a full body workout. The benefit of a circuit class is that it allows you to work at your own pace on each exercise: there should be no set repetitions or weight levels that you have to use. It is up to you how hard you work. It is essential that you work to your own pace week to week, depending on how you feel. Be aware that it is very easy to become competitive with any fellow class mates who are exercising on the same station as you. You may feel good during the class but as seen with other forms of exercise those with AS can flare their condition after exercise if they have done too much.

#### **Core Stability Classes**

Many gyms will offer various forms of core stability classes. For example a class may be performed as a "gym ball" or "Swiss ball" stability class. Overall these classes tend to be low impact and focus on stability and strengthening of the muscles that support the spine. So these classes tend to be well tolerated by people with AS. Remember to join a class for beginners if you have not done this form of exercise before to enable you to learn the basic principles of the exercise. Performing some of the exercises is harder than it looks!

#### **Pilates**

Pilates classes focus on core stability and postural control through exercises aimed at strengthening the muscles that support the spine. Pilates classes are low impact

using positions of lying and sitting to teach awareness of breath control, spinal alignment and strengthening of the trunk. While there is no direct evidence showing any change in an individual's AS, these classes could help you to maintain a good posture – a key aspect of managing your condition. Be aware that many gyms offer varying levels of Pilates class and starting in a beginners' class to learn the concepts of this exercise is essential to gain most benefit.

#### **Tae-Bo**

Also known as Thai Boxing or Body Combat, Tae-Bo is a class offered by many gyms. It is a non contact martial arts based fitness session. It incorporates the techniques used in Thai boxing and Taekwondo with a simple aerobic routine. It develops coordination and balance as well as having flexibility exercises, formed together to provide a high calorie burning work out. It may be suitable for AS patients as it is non contact and the elements of co-ordination and balance can help with posture. There may be different experience and intensity levels so you should consult the class instructor first.

#### **Spinning**

Spinning is a low impact aerobic form of exercise that is performed on a specially designed static bike. This exercise class is normally set to music designed to motivate you and make you work hard. This exercise is not simply sitting on a bike and gently peddling - an instructor talks you through a series of different cycling techniques, speeds and gradients by getting you to set

different amounts of resistance on your bike. This class offers a very high level of aerobic workout and is said to burn up to 800 calories in a 45 minute class. This class does allow you to set your own level with you controlling how much resistance you use on your bike. Be aware that spinning involves a lot of leg movements that could irritate any knee and hip pain. The class also does not work all leg muscles equally. It is important that you include other forms of strengthening exercise into your weekly exercise programme rather than doing multiple spinning classes each week. After spending some time with a hunched posture while spinning, we recommend you stretch yourself out either by doing the lat stretch or the back extension stretch (see pages 50 and 51).

#### **Yoga**

Yoga classes incorporate exercises and postures that aim at maintaining balance in the body through strength and flexibility. There are many different forms of yoga so a range of exercises can be performed. Hatha yoga is perhaps the most relevant to people with AS in that it uses a combination of stretches, postures and poses that would be beneficial. There tends to be a spiritual element to all forms of yoga to varying degrees depending on the yoga being taught. If this spiritual element is not of interest do not let this put you off as many people do yoga simply to gain the benefits of a low impact exercise.

## THE NASS GUIDE TO EXERCISE

# SWIMMING

The simple rule is, muscle ache is good, joint soreness getting worse through the swim is bad, as is excessive stiffness the following day. Soon you will find that every swimming day will be a positive day in your week as you produce your own “happy pills” and feel positive about yourself.

### Swimming

Swimming as a leisure activity or sport has much to offer people with AS and has the ability to help people with widely differing symptoms. Swimming is a great way to improve general fitness, flexibility and strength in a safe, low impact environment. However it is important to swim the right strokes, in the right way. You should consider the following points.

■ **Lessons** – Leisure centres across the country now have adult lessons and improvement sessions to cater for all abilities. If you are a weak swimmer who lacks general water confidence it is really important that you learn to swim properly. Once you get the technique right, you can then build up your stamina and strength. This will minimise the chances of inflaming your joints and maximise your enjoyment and performance in the water. If you are just a bit out of practice, it will help to ensure that you have not picked up any bad habits.

■ **What stroke** – Front crawl is considered the best stroke for people with AS to use. Your body position remains extended throughout, including your neck, and the stroke ensures that your spine rotates gently throughout this continuous action. It is also worth being able to swim some back crawl, which has many of the same benefits already mentioned but also aids the opening of the chest cavity and ensures that your shoulders rotate anti-clockwise. This helps stop your shoulders being brought forward in your post session posture. Strokes to be avoided include butterfly, due to the excessive arching (hyperextension) of the lower back and breast stroke, which puts excessive strain on the neck and lower back. In addition, the leg kick can inflame the hips and pelvis.

■ **Sessions per week** – After a few weeks of going swimming a couple of times a week for 30 minute sessions, try and add an extra one per week. Once you know that you can do 3 x 30 minute sessions per week, start to increase your distances and speed but only do this once you know that you can swim strongly without inflaming your joints. For each session, swim at a reduced pace for 5 minutes to warm up, then do some stretching in the water for a couple of minutes, then work hard for 20 minutes or so and then finish with 5 minutes warm down, ideally adding a few lengths of back crawl which helps balance shoulder rotation but also helps open up your chest. Always wear goggles for comfort and take fluids throughout.

■ The kind of swimming session described can be the

equivalent of a cardio work out or a weights session in its own right.

■ **Goals** - Once you feel strong enough and are starting to gain the benefit from your sessions, there are lots of different opportunities to take your swimming further, if that is what you want to do. There are now plenty of Amateur Swimming Association (ASA) Masters events where you can compete against swimmers of your age and ability. These happen all over the country.

■ **Open-water swimming** has gained in popularity since the Olympics in Beijing. There are events in lakes or the sea, particularly through the summer from 500m to the English Channel (21 miles or 34 kilometres).

### Water aerobics/Aqua fit/Aqua aerobics

This form of exercise class involves a full aerobic workout in the shallow end of a swimming pool. The class allows a full body workout for cardiovascular fitness, joint movement and stretching but has the added advantage of placing minimal stress on the body's joints – an essential benefit to those with ankylosing spondylitis.

A standard class involves exercise movements similar to those performed in a normal land aerobics class but can often make you work hard as you have the resistance of the water to work against.

## OTHER FORMS OF EXERCISE

### Badminton

This form of aerobic workout is relatively low impact and is normally tolerated quite well by those with AS. The impact element of this sport does encourage strong bone growth which is also important for your condition. Additional benefits of this exercise specifically for those with ankylosing spondylitis is the encouragement of spinal movements, shoulder and arm movements over head and extension of the body. Those who play this sport should be cautious with any fast, repetitive spinal twisting and bending movements though as this places the bones of your spine at risk. Playing this sport for fun and health benefits rather than at a competitive level will mean that you can keep the exercise/movements within safe limits.

### Golf

Although not considered as true exercise by many people, golf does actually help to maintain your fitness simply through the amount of walking involved. Some golf courses can mean you walk up to 4 miles! Importantly for those with AS golf also helps to maintain both spinal and shoulder range of movement and it also works your core stability. Although it is low impact, it is important that you do a good warm up before you play any golf round, and perform stretches at the end of the round in the opposite direction to which you swing your golf club. Additional stretches during your weekly programme should include focus on shoulders, spine and arms if you play golf 2 to 3 times a week.

### Walking

This is a simple, free form of exercise that many people do not think of as a serious and good exercise. However walking is an excellent low impact way of toning your muscles as well as burning some calories. You can set your own pace with walking according to how you feel day to day and can build up to a full hike walk if you choose.

### Wii Fit

The Wii Fit is a game and balance board that is an accessory to the popular games console, the Wii. It allows a series of games and challenges to be played interactively focussing on 4 training categories.

#### They are:

- Yoga
- Strength
- Aerobics (step, hula hoop)
- Balance (ski and snowboarding/football heading skills)

It can also measure personal statistics to help keep track of your health and fitness, for example - body weight and body fat percentage. It will log improvements and performance. Exercise progressions are a reward to using the games and achieving certain goals set by the machine. It is an interactive and fun way of training that the whole family and friends can take part in. But it is not a replacement for traditional exercise. As with all exercise, care should be taken that you do not over do it and that you are exercising in a safe environment.

### Contact sports

Sports considered under this title include rugby, karate, hockey and wrestling to name but a few. As a

person with AS extreme caution should be taken when considering playing these sports or activities. Part of your condition means that you are more at risk of having thinner bones (osteoporosis). This combined with possible stiffening of the spine means that you may be at risk of sustaining a break of one of the bones in your spine, your vertebrae. All of the sports/activities listed above mean that you may experience hard knocks and blows during the activity that may cause a bone to break.

### High impact sports

Sports considered under this title include netball, step aerobics, basketball, football, boxercise and tennis. All of these sports involve "pounding" actions ie: running, which can cause extra stress on the joints of the legs and the spine. This in turn can lead people with AS to experience a flare up in their condition ie: more pain. Caution should be taken if you are considering doing these sports for the first time. Without doubt these activities should not be completed if you are experiencing a flare up in your condition – an alternative form of lower impact exercise should be considered for the period of time that you are experiencing a flare up (see the sections on swimming, water aerobics, yoga and Pilates).

If you are already competing in these sports you must monitor your symptoms and be open to seeking alternative forms of exercise if these activities do cause your AS to flare up. It is possible that your body's tolerance to the sport may change over time and you find that the sport causes you pain when this never used to be the case. Continuing to push yourself in an activity that causes your condition to worsen will not benefit you in the long term.

## EXERCISE RECOMMENDATION LEVELS

### RECOMMENDED CLASS / EXERCISE

BODY BALANCE

BODY PUMP

CORE STABILITY CLASSES

PILATES

SPINNING

SWIMMING

WALKING

WATER AEROBICS/AQUAFIT/AQUA AEROBICS

WII FIT

YOGA

### RECOMMENDED CLASS / EXERCISE BUT MAY REQUIRE MODIFICATION OR MAY NEED TO SEEK ALTERNATIVE EXERCISE IF ANKYLOSING SPONDYLITIS IS IN FLARE

BADMINTON

BASKETBALL

CIRCUITS

FOOTBALL

NETBALL

STEP AEROBICS

TAE-BO

TENNIS

### CLASS / EXERCISE SHOULD BE AVOIDED

BOXERCISE

HOCKEY

KARATE

RUGBY

SQUASH

WRESTLING



# INFORMATION FOR EXERCISE PERSONNEL

Remember, some trained staff may not have heard of AS and how it affects you. You may need to explain what the condition is and use the guidance points enclosed to help the trainer construct a suitable gym programme for you.





# INFORMATION FOR EXERCISE PERSONNEL

REMEMBER, SOME TRAINED STAFF MAY NOT HAVE HEARD OF AS AND HOW IT AFFECTS YOU. YOU MAY NEED TO EXPLAIN WHAT THE CONDITION IS AND USE THE GUIDANCE POINTS ENCLOSED TO HELP THE TRAINER CONSTRUCT A SUITABLE GYM PROGRAMME FOR YOU. **PLEASE SHOW THESE GUIDELINES TO YOUR INSTRUCTOR.**

THIS PROGRAMME IS DESIGNED TO ENCOURAGE PEOPLE WHO HAVE ANKYLOSING SPONDYLITIS TO DO REGULAR EXERCISE.

ANKYLOSING SPONDYLITIS (AS) IS A RHEUMATOLOGICAL CONDITION THAT CAUSES INFLAMMATION IN THE JOINTS AND LIGAMENTS OF THE SPINE AND CHEST WALL. THIS INFLAMMATION CAN CAUSE SYMPTOMS OF PAIN AND STIFFNESS.

This programme is designed to encourage people who have ankylosing spondylitis to do regular exercise. Ankylosing spondylitis (AS) is a rheumatological condition that causes inflammation in the joints and ligaments of the spine and chest wall. This inflammation can cause symptoms of pain and stiffness and over time can lead to a loss of movement of the spine and a stooped posture. It usually starts between the ages of 20 and 40.

There are now some very effective treatments for AS. These include medical treatments that can reduce the symptoms and the inflammation in the spine. Consequently, anyone who has AS should be under the care of a rheumatologist who can advise on these. However, regular exercise which includes spinal mobility is one of the mainstays of treatment. It can improve the symptoms, as well as the mobility of the spine and promote general wellbeing. For this reason, the combination of medical treatments and exercises are widely recommended and can have a dramatic effect.

Unfortunately, many people with AS do not exercise regularly. This programme has been designed to make it as easy as possible for someone with AS to start exercising, even if that person has not had much experience of regular exercise or gyms before.

The programme brings together the previous evidence on exercise in AS with the most up to date guidelines on exercise prescription from the American College of Sports Medicine (ACSM) and our own experience. It is focused on maintaining spinal range of movement, good posture, and good general health.

A limitation of a published programme like this is that it cannot be tailored to each individual. This is why we believe that advice from a properly qualified exercise therapist is so useful. The following paragraphs explain some of the important points to be aware of in the assessment of a person with AS and some of the principles that are important in the exercise prescription.

### INSTRUCTOR ASSESSMENT

#### ASSESSMENT

- AS can occasionally lead to medical conditions that can affect the heart or lungs: examples include fibrosis (scarring) of the lungs, or aortic valve regurgitation in the heart. These conditions are usually mild, but some may be worsened by exercise. We therefore recommend that everyone with AS should see a doctor before starting this exercise programme and then do so annually. Of course, most people will already be under the care of a rheumatologist who will have made this assessment.
- It is still always worth checking for any of these medical conditions, which should be considered in anyone who develops undue shortness of breath, dizziness, palpitations, chest pain or loss of consciousness.
- Ask about medication. The non steroidal anti-inflammatory drugs (NSAIDs) in particular are often used and can have an effect on blood pressure.
- Check for swelling of the peripheral joints, particularly the knees and ankle. In some people with AS, the swelling can affect these joints and this will require different treatments.
- Remember that some people with AS can develop inflammation in the eye called iritis. This causes pain in the eye, redness and blurring of vision. If this happens, that person should go directly to a hospital casualty department.
- Suggest that anyone with AS is under the care of a rheumatologist, who can advise on the most effective medical treatments for the pain, stiffness and inflammation.

- Assess the shape of the spine. In AS, there is a tendency for the lumbar spine to flatten and lose its lordosis. The thoracic curvature can increase into a kyphosis and the cervical spine may straighten up.
- Assess the range of movement of each part of the spine. There is a tendency for all parts of the spine to lose range of movement. If you wish to make a recording of range of movement, flexion of the lumbar spine can be measured with the modified Schober test and overall movement can be assessed using the Bath Ankylosing Spondylitis Metrology Index (BASMI). For details and a copy please visit [www.nass.co.uk](http://www.nass.co.uk)
- Assess flexibility, particularly of the anterior muscles, including hip flexors, abdominals and pectorals.
- Assess strength, particularly of the extensor muscle groups including lower back, gluteal muscles and shoulder external rotators and retractors.
- Assess the overall level of cardiovascular fitness and conditioning.

#### NOTES ON THE EXERCISE PRESCRIPTION

- Consider the best time of day to exercise because the symptoms can vary a great deal through the day and may be particularly bad in the morning.
- The warm up is particularly important before a strength or cardiovascular session, because stiffness is such a major symptom of AS. However, a warm bath is good preparation for a stand-alone flexibility or mobility session and is convenient for the end of the day or the evening.

- Mobility exercises should take each part of the spine through the full range of movement in a gentle controlled way with a hold at the end of range. Pay particular attention to movements that are reduced, but remember that it will not be beneficial or possible to force the spine into a range that is uncomfortable. The emphasis is on promoting extension of the spine.

- Include mobility exercises of the chest wall and breathing to promote full expansion of the chest.

- Ensure that there is an excellent understanding of good posture and give a practical demonstration during the session. Remember that if the spine has lost range of movement, it may not be possible to get back to a neutral position.

- When considering flexibility, promote flexibility of the large anterior muscles such as the abdominals, pectorals and hip flexors that might pull the spine into flexion if they remain tight. The flexibility programme should probably not be done just before the strength or cardiovascular exercises because the stretching may inhibit the activity of those muscles.

- When considering the strength programme, promote the strength of extensor muscles such as gluteus maximus, lower back and latissimus dorsi as these will tend to pull the spine into an extensor pattern.

### NOTES ON THE EXERCISE PRESCRIPTION

■ The strength component of this programme starts with two sets of low weight, high repetition movements. This can be progressed to three or four sets as the strength improves.

■ There are no sit-ups, abdominal strengthening or core stability exercises in this programme, although there is a section on posture. The reason for this omission is that the focus of the programme is to encourage an upright posture and strong extensor muscles. When reviewing an individual's programme, the inclusion of some exercises to improve abdominal tone and core stability should be considered.

■ When considering cardiovascular fitness, assess the current level of conditioning.

Some people with AS may not have been doing exercise recently and may be deconditioned. This programme recommends 30 minutes of cardiovascular exercise 5 times a week at a moderate intensity. This can be gradually progressed as appropriate.

■ Most people with AS will find impact activities such as running on roads too painful and should do non-impact activities such as cycling, swimming or using the crosstrainer. Those who are able to run without pain can be reassured that it is fine to continue while they remain pain free. They should be given advice on good running technique including correct running shoes and a training regime that avoids excessive road running.

■ Rowing is a very good aerobic exercise, but the stresses that this exercise puts through the thoracic spine makes it unlikely that many people with AS will be able to manage sustained exercise on a rowing machine. We have suggested that the time on a rowing machine is limited to 10 minutes. Demonstration of good technique is very important.

■ Avoid sports that lead to forceful direct impacts to the trunk such as rugby or ice hockey.

■ Gentle manual therapies such as massage can be helpful, but therapies that use manipulations or high velocity thrusts are unproven and cannot be recommended in AS.

### EXERCISES SHOULD AIM TO:

#### Strengthen extensor muscle groups

- Low back
- Trunk
- Shoulder blades
- Buttocks

#### Stretch anterior muscle groups

- Pectorals
- Biceps
- Quadriceps (especially over the front of the hip joint)

#### Also stretch/keep length in all major muscle groups

- Hamstrings
- Chest
- Triceps/biceps
- Calves
- Inner thigh

#### Use a regime that involves low weight but high repetition to extensor and anterior muscle groups

- Gradually increase the weight used during extensor exercises (see point 1 above), as tolerated
- Keep anterior muscle work low weight and high repetition at all times

# WHAT DO THESE WORDS MEAN?

- **BICEPS** – inner muscles of the upper arm
- **CERVICAL SPINE** – the upper part of the spine beginning at the base of the skull
- **EXTENSOR** – a group of muscles that open a joint
- **FLEXOR** – a group of muscles that close a joint
- **GLUTEUS MAXIMUS/GLUTES** – muscles in the bottom
- **HAMSTRINGS** – muscles at the back of the thigh
- **KYPHOSIS** – curvature of the upper spine
- **LATERAL** – in a sideways direction
- **LATISSIMUS DORSI/ LATS** – muscles in the middle of the back in line with the arms
- **LORDOSIS** – inward curvature of the spine
- **LUMBAR SPINE** – the lower part of the spine
- **NEUTRAL SPINE** – the natural position of the spine with all 3 curves of the spine in good alignment as shown on page 13
- **PECTORALS/PECS** – chest muscles
- **QUADRICEPS** – the muscles at the front of the thigh
- **THORACIC CURVATURE** – curvature of the middle of the spine
- **THORACIC SPINE** – the middle of the spine
- **TRICEPS** – outer muscles of the upper arm
- **TRUNK** – the upper part of the body excluding the arms, neck and head

# BACKGROUND TO THIS PROJECT

Background to this project between AStretch, and the National Ankylosing Spondylitis Society (NASS), with participation from staff at the Defence Medical Rehabilitation Centre (DMRC) Headley Court.





## BACKGROUND TO THIS PROJECT

**THIS COLLABORATION AROSE FROM THE GERM OF AN IDEA: HOW DO WE GET ADVICE ON EXERCISE TO PEOPLE WHEN THEY ARE DIAGNOSED WITH AS?**

As director of NASS, I take numerous phone calls from people in their twenties, usually but not always men, who have just been diagnosed. They read and are told that exercise is important in the management of AS (as indeed, it is) so they hot foot it down to the gym for a marathon exercise session on a rowing machine – no warm up, no warm down and the very real possibility that they injure themselves. I did a small survey of NASS members which confirmed my fears.

Physiotherapists are also seeing more and more younger, newly diagnosed patients who ask about continuing their exercise in a gym or starting at a gym. I discussed this problem with a member of AStretch through whom we were in

touch with the staff at Headley Court. This project is the result.

I would like to say how grateful I am to everyone involved who have all worked so hard and so enthusiastically: Claire Harris, Claire Jeffries, both physiotherapists working in the NHS who are from AStretch; the personnel from Headley Court, Dr Tim Jones, Consultant in Rheumatology and Rehabilitation Medicine, Paul McCormick and Lisa Goodenough, military exercise rehabilitation instructors and all those who allowed themselves to be used as models in the gym - Rebecca Bull, senior occupational therapist, and Kate Connelly, Colin Suffield and Edward Wolfe, all military exercise rehabilitation instructors. The swimming

section was written by Rob Healey, a level 2 Amateur Swimming Association (ASA) swimming teacher who has AS. He coaches regularly at a swimming club and is the army swimming team manager. He competes regularly in open water events and has completed 3 cross Channel relays in the last few years.

I would also like to thank the employer of Claire Jefferies, Solent Healthcare Trust and Colonel Jerry Tuck, Commanding Officer at the DMRC Headley Court for allowing staff to participate in this project.

Director of NASS



Claire Harris and Claire Jeffries, physiotherapists working in the NHS and members of AStretch



Dr Tim Jones, Consultant in Rheumatology and Rehabilitation Medicine, Defence Medical Rehabilitation Centre, Headley Court



Kate Connelly, Edward Wolfe, Colin Suffield, and Rebecca Bull (left to right)

## ABOUT THE COLLABORATORS



### DEFENCE MEDICAL REHABILITATION CENTRE (DMRC) HEADLEY COURT

Headley Court provides the rheumatology and rehabilitation care for ill or injured British service personnel to help them to return to health and fitness for their operational role. This includes the care of personnel who have suffered traumatic injuries in armed conflicts, including amputations, fractures, burns and spinal injuries. In addition, Headley Court provides care for those with neurological injuries, joint and spinal conditions, sports injuries and arthritis. It cares for approximately 150 military personnel with AS, providing the initial diagnosis, medical treatments including anti-TNF medications and rehabilitation through exercise prescriptions and residential courses.



### ASTRETCH

AStretch is the name given to a group of physiotherapists, from around the country, whose aim is to steer the management, and improve the understanding, of AS.

[www.astretch.co.uk](http://www.astretch.co.uk)



Supported by an educational grant from  
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### THE NATIONAL ANKYLOSING SPONDYLITIS SOCIETY (NASS)

NASS provides information and advice and campaigns to raise awareness of AS and the needs of people with AS. NASS has around 95 branches in the UK, providing regular exercise and hydrotherapy sessions supervised by NHS physiotherapists. We also actively encourage our members to take part in research into the causes, genetics and management of AS by recruiting volunteers for various research projects around the UK.

RCN: 272258 SC: 041347

[www.nass.co.uk](http://www.nass.co.uk)

## THE NASS GUIDE TO EXERCISE

# ABOUT NASS



### WHAT NASS IS DOING FOR YOU

NASS is a growing organisation and we need you on board to continue our progress. We are:

- Developing our range of information sources.
- Supporting people with AS through our website, on the telephone and email, and through regular patient conferences.
- Raising awareness among health professionals, the general population and decision makers.

*NASS has been the only helpful source of info - was a life saver!*  
**NASS member**

*NASS is doing a fantastic job and it is great to see how far the charity has come.*

**Ann, NASS member**

### WHAT YOU CAN DO FOR NASS

**Join:** the more members we get, the more influence we have as an organisation and the more effectively we can campaign on your behalf.

To join NASS please fill in the form overleaf or visit our website [www.nass.co.uk](http://www.nass.co.uk).

**Donate:** individuals and their families are the main source of income for NASS. NASS receives no government funding. All donations will make a difference to people with AS.

To make a donation please fill in the form overleaf or visit our website [www.nass.co.uk](http://www.nass.co.uk).

*The support available through NASS - both national and local group has been excellent.*  
**NASS member**

*I have received fantastic support from NASS over the years, both via the phone and through an informative and enjoyable magazine.*  
**Peter, NASS member**

**NASS****National Ankylosing Spondylitis Society**

RCN 272258 SC: 04134

**MEMBERSHIP AND DONATION FORM**

Please return this form to NASS, Unit 0.2, One Victoria Villas, Richmond, Surrey TW9 2GW

☐ **I WOULD LIKE TO JOIN NASS**☐ **I WOULD LIKE TO MAKE A DONATION TO NASS****SUBSCRIPTION RATES**

<input type="checkbox"/> UK Membership	£20	<input type="checkbox"/> Concession	£6
<input type="checkbox"/> Overseas Membership	£25	<input type="checkbox"/> Life Membership	£250

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Do you have ankylosing spondylitis? .....

Occupation .....

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