



MSK self-management Spinal workbook

August 2020

Disclaimer

This workbook provides general advice which may not be specific to you. It is important that if you are in pain you see a health care professional for an assessment to rule out serious, but rare, pathology. Please talk to a health care provider if you have not seen one before. This workbook can be used on your own, however we recommend that you use this book alongside a health professional.

Health and safety

This workbook is designed to help you manage your condition. It is recommended that the workbook is used alongside advice from a health professional. Together you can work to help with your recovery.

You may progress quickly or slowly through this workbook depending on your symptoms and other factors related to your condition.

It is important that if you are experiencing a lot of pain during the activities in this workbook then you should discuss your symptoms with a health professional.

Purpose of this workbook

This workbook has been designed to give you a general overview on how to manage your condition. The workbook is split into different sections with the main focus being education, self-management advice and exercise. We recommend reading all the sections over time. You may find not all this information is relevant to you.

The exercise section has been designed to give you the choice of what feels best to you based on your pain and confidence levels. You then have the option over time to make these exercises more challenging or reduce to a more basic level that meets your needs.

The self-management section has been developed to provide education on other management options. This can be used together with exercise to improve your condition.

Finally the workbook provides a range of other resources that are available to you. For example, leaflets, videos and contact details for other services.

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Introduction

Spinal pain is an issue affecting a large proportion of Scottish society in some form or another. There are many types of spinal pain but it is known that most people during their lifetime will experience what is termed mechanical spinal pain.

Most often spinal pain is a short lived inconvenience and most spinal pain resolves naturally over a short period of time.

In other instances people can develop more chronic or persistent symptoms that can have a long lasting and large impact on their lives.

In Ayrshire and Arran we have developed this workbook to try to help people better understand their spinal pain. Common spinal complaints are highlighted and it is hoped the information provided will enable us to educate, reassure and help people resolve spinal problems they may encounter.

For ease of use we have split the spine into neck, thoracic and lumbar sections. They have their own individual features but much of the advice and exercise is applicable for the whole spine.

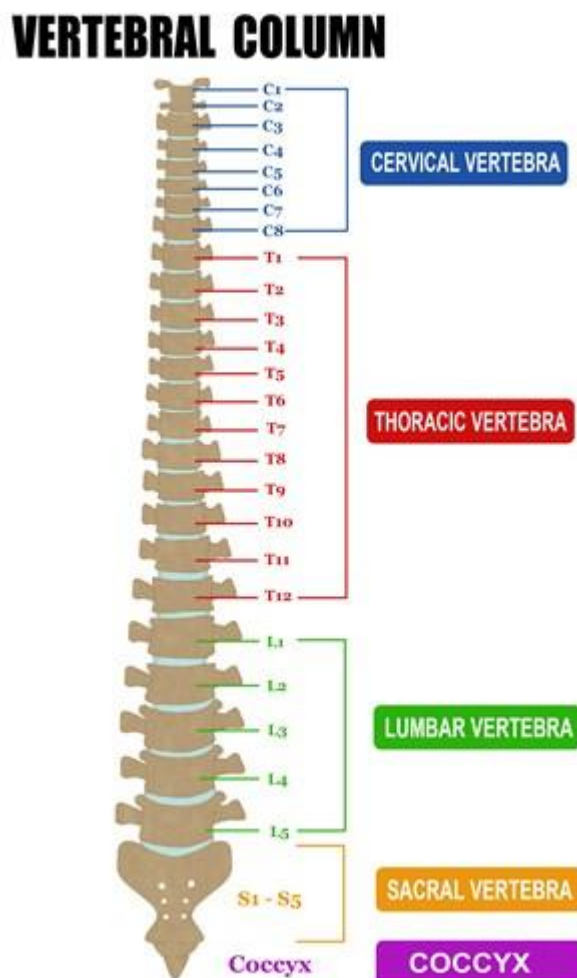
The workbook will address commonly held myths and beliefs and will give suggestions on how to deal with spinal pain. An important feature of this workbook is to encourage normal movement and function. The exercise information is therefore particularly important.

As mentioned this work book can be used alone or with your health professional.

Hopefully you will find this workbook informative and useful but if you are in any doubt over the information provided please contact an appropriately qualified health professional such as your family doctor (GP) or Chartered Physiotherapist for further advice.

Anatomy of the spine

The spine is one of the strongest parts of your body and it has been designed to encourage movement. It is made up of 33 bones (known as vertebrae), one sitting on top of the other with discs in between. At each spinal level there are facet joints linking one spinal level to the next. These joints are synovial joints and have similar features to a knee, finger or hip joint. There are seven cervical (neck), 12 thoracic (mid-back) and five lumbar (low back) vertebrae. There are also five fused sacral and four fused coccyx vertebrae which tend to cause less trouble than the cervical, thoracic or lumbar areas.



The spine is surrounded by strong muscles and ligaments which support and protect the back giving it strength.

General pain considerations

It is important to gain an understanding of how pain works in general as this has been shown to improve people's ability to manage their condition more effectively.

How is this relevant to you?

The most important thing you should know is that pain does not always mean harm. It is possible to feel no pain with damage to our body. It's also possible to experience a lot of pain even when no damage to our bodies has been shown.

We know now that pain is far more complex than only what is going on in our bodies and can be influenced by other areas of your life. These include:

- Mood and emotions
- Beliefs about pain
- Avoiding meaningful activities/social contact.
- Lifestyle choices

This is often referred to as "*The Bio - Psycho - Social model of pain*". This means all areas of your life can influence pain. It is important to look at your life as a whole when dealing with spinal pain to see if there are any other contributing factors.

Further information can be found by clicking the link below:

<https://www.nhsaaa.net/pain-management-service/>

Low back pain (LBP)



LBP is very common and can affect four out of five people at some point in their life. In most cases the pain isn't caused by anything serious and will usually get better within a few weeks or months. LBP seems to peak in people aged between 41 to 50 years but any age group can develop LBP.

What you do in the early stages of your symptoms is very important. It is recommended to keep moving if possible. You should try and continue your normal daily activities as soon as you can. This may require you to use painkillers. This doesn't hide your pain but allows it to be better controlled to allow you to keep moving. There is good evidence to suggest returning to work in some sort of capacity as soon as possible is beneficial.

What causes LBP?

In most cases there is not one simple cause for LBP and it may be due to a range of factors, including:

- Muscle strains or sprains after or during activity
- A lack of exercise resulting in stiffening of the spine and muscles
- Staying in one position too long, either in sitting, standing or lying
- A flare-up of an existing problem
- General health and lifestyle, for example being overweight, smoking or having a poor diet

Remember that severe pain doesn't necessarily mean there is a serious problem

Most LBP can be described as “non-specific” (no obvious single cause) and “mechanical” (pain which originates from joints, bone or soft tissues in and around the spine). This type of LBP:

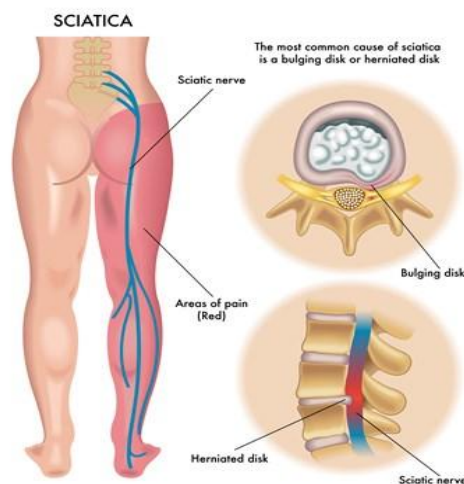
- Tends to get better or worse depending on your position
- Often feels worse when moving, however it is very important to keep moving
- Can develop suddenly or gradually
- Sometimes has a cause like lifting a heavy weight or staying in the one position for too long but sometimes it occurs for no obvious reason
- Can be associated with stress, worry, poor general health or feeling run down
- Will usually start to get better within a few weeks

Signs and symptoms of LBP

LBP can present in a number of different ways. It can be very localised or widespread. It can be there all the time or can come and go. The intensity and type of pain can also vary. Common pain descriptors of back pain include “toothache”, “sharp”, “shooting” or “dull” as some examples. Pain originating from the low back area can also “spread”. Sometimes pain is felt towards the pelvis or groin areas and occasionally it can spread down the legs.

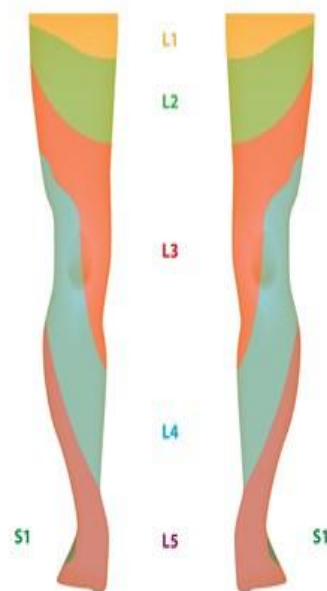
Nerve pain (sciatica)

People with LBP can sometimes develop associated leg symptoms. This is due to an irritation or pinching of nerves that combine to form the sciatic or femoral nerves. If there is irritation or pinching of the individual nerves then the nerve may send pain or altered sensation to the area it supplies. For example if it was L5 nerve being affected the person would feel numbness or pins and needles on the outer aspect of calf muscle (gastrocnemius) and over the foot.



For most people who develop “sciatica”, the leg pain tends to be the most troublesome symptom. They may not have back pain at all. Once the leg symptom starts to improve their back pain may re-appear. Nerve pain can be very painful. It is important to be reassured that your GP or health professional understands this and takes your pain seriously.

A common reason for the nerve to become irritated or pinched is a bulging disc. This can cause temporary increased pressure on or near the nerve. Most people recover fairly quickly (four to six weeks), although in some cases it can take over four to six months to settle. It is estimated that between 60 to 70% of people will improve over this time frame but some may persist longer.



Other causes of back pain include spinal stenosis which tends to occur in the older age groups. It causes difficulty with standing and walking and is eased by sitting. Patients often complain their mobility has reduced.

Neck pain



What causes neck pain?

Neck pain is a very common problem that can affect two out of three people at some point in their lives. It can have a variety of different causes:

- Muscle strain or sprain
- Staying too long in one position
- Stress
- Worry
- An accident
- Altered sleeping position, for example, using different pillows on holiday
- Flare up of underlying condition such as cervical spondylosis

Remember that severe pain doesn't necessarily mean there is a serious problem.

What is the neck made up from?

Your neck is made up of a column of bones (vertebrae) stacked one on top of the other. These bones are very strong and help to support your head and protect your spinal cord.

The neck consists of the top seven bones (vertebrae) of the spine known as the cervical vertebrae or cervical spine. The bones are linked together by small joints known as facet joints. Together with the neck muscle they allow you to move your head in different directions.



The bones (vertebrae) have a disc between one another and this is known as the intervertebral disc. At each level, nerve roots branch out from your spinal cord, passing through an opening in your spine that run the full way down your arms to your fingers.

Finally, four arteries carry blood from your heart to your brain. Two of these run inside the bones of your spine and supply the part of your brain that controls your balance.

What are the sign and symptoms of mechanical neck pain?

The most common symptoms are:

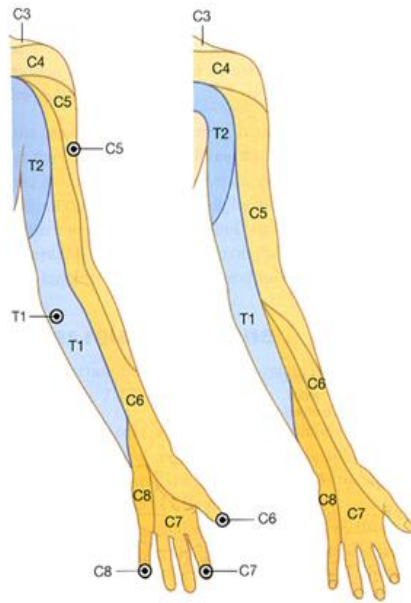
Pain and stiffness

As well as the neck area, pain can extend to the shoulder, shoulder blade (scapula), or to the upper chest. The pain may also travel to the back of your head, and sometimes behind your eye, ear or forehead.

It may be painful to move your neck and the muscles may feel tight, especially if you have been resting or sitting in a position for a long period of time.

Numbness or tingling

If a nerve in the neck has pressure near it, or is irritated or compressed you may feel numbness, pins and needles or tingling down one or both arms. Occasionally you may also experience a feeling of weakness in your arm or hand. The level where the nerve is pinched will usually correspond to where you get your symptoms in your arm. For example, if the C8 nerve root is affected, symptoms may be felt in the 5th finger area.



Clicking

You may hear or feel a clicking noise as you move your neck. This is called crepitus. Although it can sound or feel alarming, this is nothing to worry about.

Muscle spasms

Sometimes if you have neck pain you may also have muscle spasms that prevent you from turning your head in one direction. This is known as torticollis or wry neck. It can be unpleasant but generally it will settle within a few hours or days. Occasionally, it can take several weeks to settle.

Thoracic pain



Thoracic pain is back pain that occurs in the “thoracic spine”, which is located at the back of the chest (the thorax), mostly between the shoulder blades.

The thoracic area is designed for stability, to anchor the rib cage and to provide protection for vital organs within the chest.

The thoracic spine tends to be very resistant to pain and injury. When pain in this area does occur it is often due to prolonged posture or injury causing the muscles or joints around this area to overwork and become painful.

Causes of thoracic pain

Studies into how many people get thoracic pain have produced very different results, with one stating four out of 100 people, whilst another said 72 out of 100.

Pain in the thoracic area may well have an obvious cause, for example, cutting a hedge or doing some lifting or gardening. You may have “strained” a muscle playing sport, although sometimes the pain may come on for no apparent reason.

It used to be thought that poor posture or carrying backpacks led to thoracic pain, though the research doesn’t really back this up. It is now thought that prolonged postures of any type may lead to pain, and that generally the best advice is to not be in any one position too long as the spine likes to be regularly moved.

Thoracic pain also be associated with stress, worry or feeling low. Adults with thoracic pain commonly have aches and pains elsewhere in their body.

People who sit for long periods (more than seven hours per day) or those who are less active (less than 150 minutes per week) tend to have more stiffness and pain in the thoracic spine.

Trauma to the thoracic spine can cause pain which can commonly take some weeks or months to resolve. Movement and normal activity is very important to enable the body to heal.

Less common causes of thoracic pain include the following:

- Osteoporotic fracture
- Infection of the spine
- Osteoarthritis
- Disc prolapse or herniation
- Shingles
- Scheurmanns Disease, causes an increased spinal curvature but not always pain
- Ankylosing spondylitis, inflammation within the spine
- Problems from the stomach, pancreas, oesophagus and gallbladder can also cause pain in this spinal area. Problems in these areas usually present differently and health professionals are trained to spot the differences.

Signs and symptoms of thoracic pain

Pain in the thoracic spine can vary from person to person. For some the pain may be mild and disappear after a few days. For others pain can persist and interfere with daily tasks.

Thoracic back pain can feel like:

- Sharp pain localised to one spot either on the spine or to one side
- General ache or throbbing pain affecting a wider area
- A stiffness causing a loss of normal movement

Should I speak to a health professional about my spinal pain?

Most of the time spinal pain will be self-limiting and short lived. Many of our patients have a combination of spinal pain and symptoms affecting the arms or legs such as pain, tingling, or numbness. These symptoms can be very distressing but don't necessarily need emergency medical attention.

There are some signs and symptoms that you should look out for that would indicate you do need further assessment. If these symptoms develop you should seek urgent assessment. These are:

- Pins and needles or numbness increasing in both arms or legs at the same time
- Dizziness (vertigo, light-headedness or giddiness)
- Double vision
- Trouble swallowing food
- Slurred or slow speech
- Fainting or blackouts
- Facial numbness
- Nausea (feeling sick) with spinal movements
- Uncontrolled movement of your eyes (nystagmus)
- Significant change in your walking or balance
- Increased clumsiness or weakness with arms and legs
- A feeling of slapping your foot/feet when you are walking
- Severe night pain or night sweats
- Rapid unexplained weight loss
- If you develop severe pain and you have osteoporosis (thinning of the bones)
- If you are less than 20 or over 50 years old and the pain develops for no reason
- If you have a history of cancer, drug misuse, HIV infection, if you have a poor immune system or have been on steroids for six months or more
- If you are feeling generally unwell, for example, have a high temperature or have unexplained weight loss
- If you have had a recent infection
- If your pain does not change with movement or a change of position
- If your pain fails to improve over a reasonable period of time (two to four weeks of treatment)
- If your pain is associated with severe stiffness in the morning lasting for one to two hours or more
- If your spine changes shape or you develop lumps or bumps

In rare occasions low back pain and leg symptoms can progress into a very rare but serious condition known as Cauda Equina Syndrome. This can lead to permanent damage or disability if not dealt with promptly. Someone developing this

condition would need to be seen by an Emergency Specialist Spinal Team. Please see below for some warning signs of Cauda Equina Syndrome:

- Loss of feeling/pins and needles between your inner thighs or genitals (private parts)
- Numbness in or around your back passage or buttocks
- A different feeling when using toilet paper to wipe yourself
- Increasing difficulty when you try to urinate (pee)
- Increased difficulty when you try to stop or control your flow or urine
- Loss of sensation when you pass urine
- Leaking urine or if you have recently started to need to use pads
- Not knowing when your bladder is either full or empty
- Unable to stop a bowel movement or leaking stools (poo)
- Loss of sensation when you pass a bowel motion
- Change in your ability to achieve an erection or ejaculate
- Loss of sensation in genitals during sexual intercourse

Any number or combination of these warning signs could be symptoms of Cauda Equina Syndrome. If you develop these, you should seek emergency medical advice or assessment within 12 to 24 hours.

You could do this by contacting NHS24 on 111, your GP or the Emergency Department (A&E) if necessary.

Common spinal myths and beliefs

Myth: spinal pain is caused by injury

Fact: In many cases, it is not possible to identify the exact cause of spinal pain. Many physical and psychological factors (and often a combination of these) can be involved in back pain. They could be:

- **physical factors** such as a simple strain
- **psychological factors** such as being stressed, feeling down, or worried about not getting better
- **social factors** such as difficult relationships at work or home, or stressful life events like family illness
- **general health or lifestyle factors** such as being overweight, smoking or not getting quality sleep or physical activity

Each of these factors can influence how we experience pain, and gaining a greater understanding of them can help you manage your condition better.

Myth: bed rest is the best cure

Fact: In the first few days after a new episode of spinal pain, avoiding some activities may help. Scientific studies now advise that prolonged rest and protection of the spine actually leads to higher levels of pain and poorer recovery. Staying as active as possible and gradually returning to normal activities helps recovery. This includes staying in work where possible.

Myth: exercise will make my spinal pain worse

Fact: Exercise is shown to be very helpful for tackling spinal pain and is also the most effective way to prevent future episodes. Start slowly and build up gradually. No one type of exercise is proven to be more effective than others, so choose an activity that you enjoy and that fits in with your schedule.

Myth: always sit up straight

Fact: Slouching is not good for you if you do it a lot or for extended periods. Sitting up too straight or sitting in any static position for long periods can also put a strain on your spine. There is no single 'correct' posture. Take breaks from static positions. Lean back in your chair with your feet on the floor and let your back curve slightly. Try standing for part of the day, perhaps while you're on the phone or reading. Try to keep moving regularly through the day. The spine likes movement.

Myth: bending will make my spinal pain worse

Fact: Your back is a resilient structure, and is designed to be flexible and allow us to move. Bending forward is a normal function of the spine and doesn't need to be feared or avoided. It may be possible that an individual will develop pain when bending activities are performed repeatedly if they are not used to doing this. One example is shifting boxes when moving house. This may expose the individual's spine to repeated loads which is over and above their normal. This is more to do with the build-up of stress over time which their spine is not accustomed to, rather than the act of bending. Bending is safe!

Myth: I need investigations for my spinal pain

Fact: You rarely need a scan and it can actually do more harm than good. Even though it is perfectly normal for a scan to show changes in the spine, such as 'degeneration' or 'wear and tear' this can cause people to avoid or be fearful of activities they should be doing to get better. It is important to know that there is not a strong link between X-ray and MRI scan findings of 'spondylosis' or 'degeneration' and a person's pain. Although investigations are rarely required, your GP or physiotherapist can decide if this is required if your spinal pain does not settle as expected.

Myth: my spinal pain is due to "something being out of place"

Fact: Although this a feeling that people often experience, there is no evidence that spinal pain is caused by a bone or joint being out of place. For most people with spinal pain, X-rays and scans do not show bones or joints being out of place.

Myth: wearing a collar or corset will help my pain

Fact: Collars and corsets were commonly used in the past to treat spinal pain. Current evidence shows that there is no benefit in the short, medium or long-term. Over-use of a collar or corset may weaken the spinal muscles causing increased pain and more long-term issues.

Do I need investigations for my spinal pain?

Investigations for spinal pain are generally not required. This is true especially if there has been an obvious cause of pain, for example, doing a spot of gardening if you are not used to it.

X-rays often show “wear and tear” which is part of a normal aging process. It is known that there is no strong link between these findings and a patient’s pain. X-rays often do not tell us any more than we would expect from the patient’s age.

MRI scans can be useful in certain conditions. For example, if your pain does not settle as expected or if you develop any worrying features (as mentioned previously in the individual spinal sections).

Sometimes having investigations can do more harm than good. Each X-ray for example carries a small dose of radiation which in a small number of cases can cause problems.

MRI’s often highlight false positives. These are findings that are not responsible for the patient’s symptoms and can lead to confusion and unnecessary worry for the patient. In some cases this can be a barrier to them getting better.

As a general rule your healthcare professional knows when tests should be required. Please discuss with them any questions you may have on this topic.

Do I need surgery for my spinal pain?

It is uncommon to require spinal surgery. Decompression surgery is a type of operation used to treat compressed nerves in the spine. It aims to improve symptoms such as pain and numbness in the arms or legs. Surgery is only considered in a very small number of cases if arm or leg symptoms have not improved with appropriate medication and exercise, adequate time, changes in lifestyle, including weight loss if required.

In people with severe arm or leg symptoms due to compressed nerves, decompression surgery can be an effective treatment, however it would rarely be considered for neck pain or back pain only. It should also be remembered that spinal surgery carries a risk of complications. It is important to persevere with non-surgical strategies to manage your symptoms.

What can I do to help myself if I have spinal pain?

There are lots of things you can do to help manage your symptoms. The best person to help is **you!** Changes in lifestyle and modifying your activities can reduce your symptoms and stop things getting worse.

Try not to worry

It is only natural to feel worried. Feelings such as worry, anxiety and fear, or negative expectations about treatment are barriers in preventing people recover.

Painkillers

A range of different medications may be available to help reduce your pain to allow you to move more comfortably. Do not exceed the daily allowance of these medicines even if your pain is high. Always consult a health professional prior to taking any new medication. If you are unsure of what medication you can take, speak with your local pharmacist, practice nurse or GP for guidance.

If you are prescribed medication it is important that you take them regularly and at the recommended dose (see medication packet for details). All medicines can cause side-effects, particularly if they are not used as prescribed. Side-effects range from “common” to “uncommon” and vary from person to person. Information on possible side-effects is available on the leaflet inside the packaging of your medication. It is important to speak to your local pharmacist, practice nurse or GP who may be able to change the dose or the medication itself to something that is more suitable.

You should try to use any prescribed medication at the recommend dose. Some medicines can take a number of weeks to have an effect, this depends on the person. It is best to speak again with your GP or pharmacist about what other options are available if you don't feel your medicines are helping.

Heat/ice

A hot water bottle or ice pack (such as a bag of ice cubes) can be used regularly to help control pain in the early stages of new onset of spinal pain or a flare up of existing pain.

If using ice, wrap the ice pack in a towel and apply to the painful area for 10 minutes every two hours.

If you are using heat, wrap the warm compress in a towel and place it on the painful area for 20 minutes every two hours.

If you have any concerns about the feeling on the skin where you are placing any of the mentioned compresses, ask a health professional to assess this before following this advice.

Lifestyle adaptations

Plan your activities in advance. Some simple changes in how you perform your daily tasks may help. For example:

- try to spread activities out over the course of the day or week. Take short breaks regularly and plan for these breaks before the point of pain.
- change your position regularly and take breaks from static positions. If you drive long distances, consider a rest point and get out the car before the pain makes you stop
- consider options which may make activities easier, for example, allow others to help, use step ladder / trolley.

General health

It is important to look after you, and not just your spine. There are many factors which affect spinal pain. For example, smoking or carrying extra weight can increase your chances of developing back pain. Reducing smoking, losing weight, increasing your fitness and reducing stress can all have a positive impact on your pain.

See the links in the website section for more information and support.

Relaxation/mindfulness

Stress, anxiety and muscle tension can make spinal pain worse. One way of reducing the effects of stress is to learn how to relax your spinal muscles. The best way is to aim for a balance between exercise and relaxation.

Local NHS Ayrshire and Arran physiotherapists have created mindfulness tracks to assist with relaxation. These can be found on the NHS Ayrshire and Arran Pain Management website (<http://www.nhsaaa.net/pain-management-service/>).

Manual therapy

There is some evidence to suggest that spinal manipulation may be useful in helping your symptoms in the short term. This should only form part of your management plan. Manual therapy or manipulation may give a “window of opportunity” to help you move and exercise normally. It is this normal movement and exercise which will provide benefits in the long term.

Sleeping

Sleep is very important. Our bodies repair while we sleep so it's useful to practise healthy sleep habits.

People with persistent pain often find that they have difficulty getting to sleep or waken frequently throughout the night.

In the dark, our whole attention is free to focus on the pain. This makes it much louder. Like the ticking of a clock that we don't notice till the lights are out. If we are not getting enough sleep and repair, this may contribute to the ill health and sensitivity of our tissues.

Many things may prevent good sleep, including:

- Napping during the day or sleeping late to catch up
- Not doing enough during the day to get tired
- Worry, adrenaline and stress
- Alcohol, caffeine and smoking
- Staying up most of the night, in bed a lot of the day

Identifying and addressing some of these factors can be very useful if your sleep is disturbed.

A common question is "Should I change my pillow or mattress?" The answer to this is not as simple as a "yes" or "no" because everyone's needs are different.

Expensive pillows and mattresses do not mean that they are the best solution to your spinal pain so it is worth trying a few simple changes first.

If your pillow is too soft, too firm or too thick this could be contributing to your neck discomfort. Simply changing the number of pillows you use may be helpful.

The general suggestion for pillow use is that your head should be supported and isn't pushed too far forward or to the side. The pillow should fill in the natural hollow between the neck and shoulders.

If your mattress is old, sagging or simply too hard consider a change. Remember we are all made slightly differently so each of us will have our own "comfortable" type of mattress.

Please follow this link for further information on sleeping: [Sleep leaflet](#)

Persistent spinal pain

If you have been living with back pain for a long period of time then persistent pain self-management strategies maybe useful for you.

Please see the useful links section towards the end of this booklet for advice on pain management.

Exercise

Physical activity is good for everybody and too much rest can lead to stiffness and weakness. Our bodies are built for movement and research has shown that bed rest for more than a couple of days doesn't help spinal pain and in the long-term actually makes your symptoms worse.

General exercise as well as targeted spinal exercises can help your fitness and improve your movement and pain. Exercising may make you feel a bit sore at first but it doesn't cause any harm, so don't be put off!

When you are in pain exercise should start slowly and you should try to gradually increase the amount that you do. It may be helpful to take your prescribed medication before you exercise but do not exceed the daily recommended amount.

As well as doing targeted exercises for the spine, it is important to remember that general exercise, such as walking, cycling and swimming, can also help to improve your movement and pain. The NHS Fitness Studio also provides good information on exercise. Please follow this link to access.

<https://www.nhs.uk/Conditions/nhs-fitness-studio/>

Goal setting

Before starting rehabilitation, it is important to consider setting some goals. Setting meaningful activity goals can help with motivation during rehabilitation as often the process of recovery can be slow.

By setting activity goals (alongside your exercise targets) and tracking progress, this allows individuals to see improvements with rehabilitation. If you are struggling to achieve these goals then you can make the necessary changes to your rehabilitation programme as required.

There are a few things worth considering when setting goals.

The key is to set goals that are:

- Realistic
- Enjoyable
- Specific
- Timed

An example of a goal for back pain is shown below:

'By the end of September, I would like to be able to walk far enough to be able to pick my grandchild up from school'

At set intervals you can review the activity to see if this is getting easier for you to perform.

If it is not, maybe consider if it is at too high a challenge for you at the moment? Remember back to it being a realistic target.

If you continue to see no progress, it might be time to discuss with a health care professional to see if they can help problem solve to allow you to get back on track with your goals.

Further information can be found on goal setting by clicking the link below:

<http://www.nhsaaa.net/pain-management-service/>

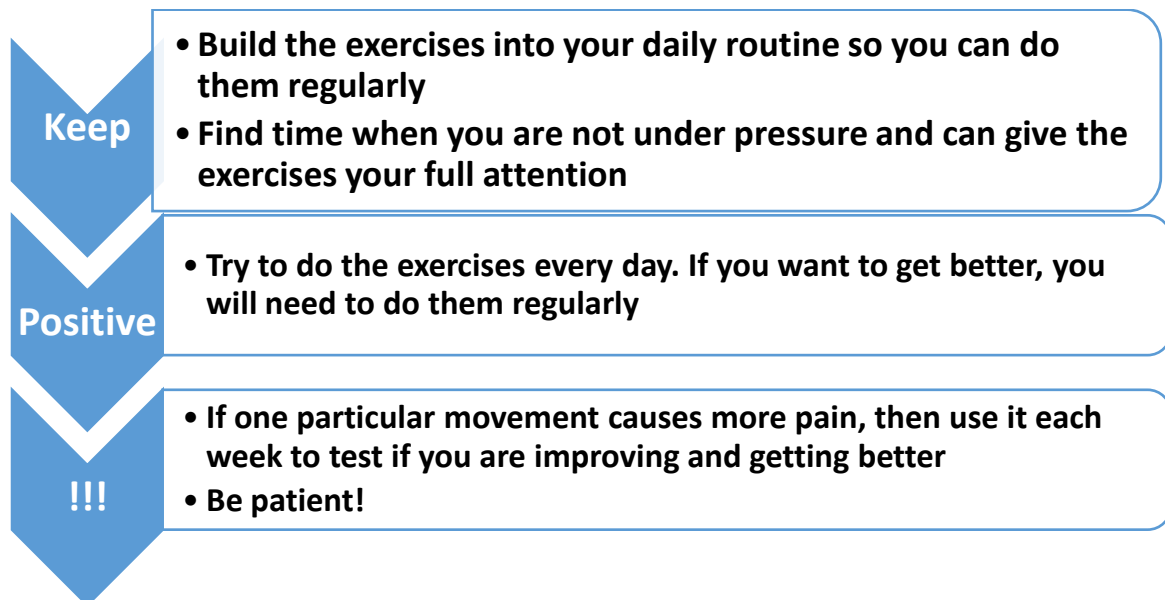
Exercising with spinal pain

Exercise has been shown to improve symptoms associated with spinal pain. It is important to remember that there is no magic recipe for what exercises you should perform.

Pain is much more complicated than we used to think. We know that pain can be affected by many different factors including fear, anxiety, social circumstances and mood amongst other things.

We know generally now that getting moving quickly after an injury is very important and lessens the possibility of someone developing chronic or persistent pain.

The key to success and getting the most out of your exercises is to:



You may find that these exercises slightly increase your symptoms initially. You should find that the exercises themselves become easier to do and that you begin to move more easily.

A rehabilitation programme starts with easier exercises and then needs to be progressed until you are able to do the activities you need to do with less pain, so don't give up too early!

These exercises can take up to 12 weeks for you to notice a great improvement, although you may notice a difference sooner than this. If you do not improve over 12

weeks, or get worse despite the exercises, then please contact your health professional.

How much should I push my exercises?

Pain during your exercise

Aim to keep your pain under five out of 10 during exercise (in green or amber zone). If your pain is over this, then you can modify the exercises by; reducing the amount of movement or number of repetitions during an exercise, reducing your speed, or increasing rest time between exercises.

0= no pain 10=worst pain imaginable

0 to 3 Minimal Pain	4 to 5 Acceptable	6 to 10 Excessive
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Pain after exercise

Your pain or other symptoms should return to ***your*** pre exercise baseline within 30 minutes of exercising. You should not feel an increase in your pain or stiffness the next morning.

It is normal to feel some muscle soreness from doing exercise that you have not been used to. You should not worry about this and it should improve with time.

General exercise

The recommended levels of physical activity for adults is 150 minutes of moderate intensity exercise every week (for example 30 minutes, five days each week). Research has shown that general aerobic exercise can be an effective way of keeping us healthy by reducing the risk of developing diabetes, heart disease, cancers and mental health problems.

We also know that aerobic exercise helps keep our joints healthy, and can help with your low back pain.

You might think there is no way you could exercise when you are sore however there are ways around this. For instance if your back is sore and you are limited in what back exercises you can do, then you should also try to exercise a different part of your body. For example go for a 30 minute walk or cycle or perform some arm exercises.

Tip Research has shown that exercise in any form can be an effective way of managing pain, therefore it's worth giving something a try! The NHS Ayrshire & Arran MSK website provides additional information on exercise for every part of the body.

Managing daily activity

The longer we have pain, the harder it can be to keep active. Our activity levels often change based on our pain and this often leads to a change in how we approach day to day activities.

You may find that on your good days, when pain is not too bad, you overdo it. This can then make you sorer, meaning you then need to rest for either the rest of the day or for days later. This is known as “over and under activity cycling” or “boom/bust cycling”.

Long term this pattern may cause you to rest for longer periods, which then reduces your motivation to be active, and then avoidance of overall activity. In most cases this will lead to reduced strength, stamina and flexibility of the tissues in your spine.

This can often lead to more pain from your tissues having to then work harder when trying to be active.

Successful management of activity

Remaining active with pain can be achieved by following some key themes from the example shown below of a patient with low back pain who wants to increase their walking distance.

Plan	Plan the distance you will walk in advance and consider what your capabilities are. Look at what options are available such a use of a stick that may reduce the amount of load through the spine. Alternatively you could walk with help from a family member or friend.
Prioritise	Consider what else you have to do in that day or week in order to reduce the overall load within your spine. Prioritise what’s most important at this time.
Pace	Try to spread the activity out over the course of the day or week even. Take small breaks on a regular basis and plan for these breaks before the point of pain. Plan to walk at a quiet time of the day.
Adjust and adapt	Mange your expectations of yourself from what you can do now over what you did in the past and make adjustments around this.

Further information can be found on managing activity by clicking the link below:

<https://www.nhsaaa.net/musculoskeletal-service-msk/>

Flare-up management

It is normal for your pain levels to go up and down, even as you are getting better. These are called flare ups". It can be helpful to have a "flare up" plan in place to help you stay in control of your pain and get you through these times.

By having a flare up plan in place, you are giving yourself the best chance of controlling your symptoms.

You may have noticed that certain situations or activities may result in a flare up of your pain. For example, it may be being over active, or it may be social activities or emotions such as stress or low mood. Sometimes these things cannot be avoided, however if we recognise the things that aggravate our symptoms, we can plan strategies to help manage this.

For example, if you have a large fence to paint and you would normally be able to do this in a day, you would plan the job ahead, splitting into manageable chunks.

Recognising changes in your pain, mood, and irritability may allow you to be aware of a flare up happening as well as situations which may cause this. Often patients tell us that they may notice other signs first before a rise in their pain intensity such feeling stressed and an awareness of tension in their spine.

Flare up plan

By recognising the factors which aggravate your pain, you can plan in advance the tools and strategies to help you manage these. You may find it helpful to write these down.

Examples of strategies to help may include:-

- Medication
- Managing activity (remember the fence example on the previous page)
- Short periods of rest
- Meditation/relaxation
- Ask for help (family, friends, work)

Further information can be found on self-management by clicking the link below:

<https://www.nhsaaa.net/musculoskeletal-service-msk/>

Spinal exercises

The following sections have been split into low back, neck and thoracic spinal exercises. Please note there is a great deal of overlap when exercising and moving one part of the body can affect another. Often doing a combination of these exercises might be useful and your health professional will be able to give you advice on this. For example, if you develop severe neck pain it might be appropriate to go for a walk or to do some low back exercise.

The key is to try and keep the spine and body moving and strong.

Low back mobility exercise

Despite being in pain it is important to maintain your range of movement in each direction. Moving into slight discomfort is encouraged.

Remember it is normal to have some pain and discomfort when exercising which should improve the more you practise, however if your pain worsens and does not ease by reducing your exercises or having more recovery time between sessions please contact your GP or physiotherapist.

Exercise one: lumbar knee rolling

Level one



To do this exercise, lie on your back with your arms resting on your chest or relaxed by the side of your body. Bend your knees and place your feet flat on the floor. Gently roll your knees from one side to the other. During this movement slowly and gently tighten your abdominal muscles to help control the movement.

Do this exercise for 60 seconds, four times per day.

Exercise two: Pelvic tilt in lying

Level one



This exercise is used for easing pain and stiffness in the lower back.

To do this exercise lie on your back, with your feet flat on the floor and your knees bent. Rest your hands on your chest or have them resting by your side. Exhale as you flatten your back against the surface you are lying on. Hold for a few seconds and then return to your starting position. Repeat five to 10 times, three times per day and increase as you feel you are able to do more.

Exercise three: Pelvic tilt in sitting

Level one



To do this exercise, sit in an upright chair with your feet flat on the floor. Sit up tall and take a deep breath in. Exhale as you gently slump down to the back of the chair. Then grow tall and return back to the starting position. Repeat five to 10 times, three times per day and increase as you feel you are able to do more.

Exercise four: childs pose

Level one



To do this exercise, kneel on a comfortable surface. Place hands forwards onto surface you are kneeling on. Then slowly lower your bottom backwards towards your heels until you feel a stretch in your back. Hold for 10 seconds. Repeat five times.

Aim to do this three to four times per day.

Exercise five: forward bend in sitting

Level one



To do this exercise, sit on a stable chair with your feet planted on the floor. Relax your spinal muscles and slowly bend forwards towards the floor as far as you feel able. Try to let go and relax your low back muscles as you do this. Hold for five seconds and then slowly return to starting position. Repeat 10 times.

Aim to do this three to four times per day.

Low back strengthening exercises

Once pain has slightly settled you can progress to work on strengthening your spine. It is important to remember there is no magic recipe for exercising. It is known that strengthening exercises are particularly important. People who have spinal pain often have weakness in the muscles which help to support your back, hips and pelvis and help you maintain good posture. Strengthening exercises can help increase spinal movement, reduce pain as well as build strength.

These exercises have been separated into three levels of difficulty. Start with the exercise you feel comfortable with, taking in account your pain levels. When these become too easy you can progress to the next level.

Stop any exercise that significantly worsens your symptoms.

Exercise one: bridging

Level one



This exercise is useful for increasing your strength in your back, stomach and buttock muscles.

To do this exercise lie on your back, with your knees bent and feet flat on the floor. Rest your arms at your side. Gently tilt you pelvis, like the pelvic tilt exercise, to flatten your back against the floor. Then push through your heels to raise your bottom up off the surface until your body is straight. Hold for a few seconds before returning slowly and controlled back to the starting position.

To start with aim for one set of 15 repetitions.

Level two

You can make the above bridging exercise harder by increasing either the length of hold or number of repetitions.

Exercise two: sit to stand

Level one



This exercise is useful to improve general strength and function.

To do this exercise sit at the edge of a chair with your feet flat on the floor. Knees should be hip distance apart. Rest your arms across your chest. Lean forward with your head and rise slowly to a full standing position squeezing your bottom muscles as you do it. Then gently sit back down slowly and controlled. Try to touch back onto the seat very slowly and gently.

To start with aim for one set of 15 repetitions.

Level two

You can make this exercise harder by increasing the number of repetitions.

Level three

You can make this exercise harder by holding a weight close to your stomach or chest as you perform the movement.

Exercise three: single leg stance

Level one



This exercise is very effective in improving your balance and strength.

To do this exercise stand up tall. Lift one knee up until your thigh is parallel to the ground. Try to keep your balance. You may need the support of a chair to start with. Hold for five seconds. Then place back down on the ground. Repeat with the opposite leg.

Slowly increase time of the hold and aim for 60 seconds.

Level two

This exercise can be made harder by throwing a soft ball against a wall then catching it whilst balancing on one leg.

Level three



This exercise can be made harder by balancing on one leg whilst closing your eyes. Alternatively you could balance on one leg whilst standing on a cushion or balance pad. This is a good way to make your muscles work harder.

Exercise four: wall press-ups

Level one



This exercise is useful for body strengthening.

Stand facing a wall or door. Place your palms on the wall at shoulder height. Keeping your stomach, pelvic floor and buttock muscles tight then gently lower yourself towards the wall like a press-up and then return back to the starting position. To make this harder you can step further away from the wall and raise onto your toes.

To start with aim for one set of 15 repetitions and slowly increase this to three sets of 15 repetitions as you become fitter and stronger.

Level two



You could make this exercise harder by doing a “half press-up”.

This is completed on the floor from a kneeling position. Make sure your hands are on floor beneath your shoulders. Tighten your stomach, pelvic floor and buttock muscles then perform a slow and controlled press-up.

To start with aim for one set of 15 repetitions and slowly increase this to three sets of 15 repetitions as you become fitter and stronger.

Level three



You can make this exercise harder by performing a full press-up, gradually increasing the number of repetitions.

Exercise four: half side bridge

Level two



Lie on your side on the floor or firm surface. Make sure your forearm is on the floor and elbow underneath your shoulder. Place your opposite hand across your chest or on your waist to help stabilise your trunk. Bend your knees so they are at 90 degrees.

Then lift your hips off the floor and hold for 10 seconds. Try to maintain a straight line from your head down to your knees and make sure your hips are in line with the rest of your body.

Aim to build up to 15 repetitions.

Repeat on the opposite side.

Level three



To make this exercise harder you can increase the time you hold the bridge position or increase the number of sets, from one to two to three. Another good way to make it harder is to have both legs straight rather than have knees bent. This is a full side bridge.

Exercise five: Bird dog

Level one



To do this exercise get onto the floor in the crawling position. Knees can be supported by a pillow. Hands should be under your shoulders on the floor, and knees on the floor directly under your hips. Slowly and controlled, take one leg out straight behind you. Point your toes. Then reach out forwards with the opposite arm above your head.

Aim to hold this position, without body “wobble” or overarching of your back, for 10 seconds, then slowly return to the start position. Now do on the other side.

Level two:

The above exercise can be made more difficult by holding for progressively longer periods of time and by doing more repetitions.

Exercise six: Trunk curl

Level one

Lie on your back on a firm surface, with your knees bent. Gently lift head, shoulders and chest off floor as one unit. Try not to tuck your chin too much in or let your head fall back. Aim to hold for five seconds then gently relax and repeat five times.



Level two

Repeat the above exercise with one leg bent so your foot is flat on the surface. Have your other leg out straight. Gently lift head, shoulders and chest off floor as in previous exercise. Then repeat with the other leg straight.

Increase difficulty by increasing repetitions and hold time.

Neck mobility exercises

Despite being in pain it is important to maintain your range of movement in each direction. Moving into slight discomfort is encouraged.

Remember it is normal to have some pain and discomfort when exercising which should improve the more you practise. If your pain worsens and does not ease by reducing your exercises or having more recovery time between sessions please contact your GP or health professional. **If you experience dizziness doing any of these exercises, you should stop and seek the advice of your health professional.**

Exercise one: Active flexions



In a sitting position with your head in a neutral position, bring your chin towards your chest as far as you feel comfortable. Hold for five seconds and return to starting position.

Repeat this 10 times, three times per day.

Exercise two: Active rotations



In a sitting position with your head in a neutral position, turn your head to look over your right shoulder. Hold for five seconds and return to starting position. Then repeat to the left side. Repeat 10 times, three times per day.

Exercise three: Active side flexions



In a sitting position with your head in a neutral position, tilt your head so your left ear is moving towards your left shoulder until you feel a gentle stretch. Hold for five seconds then return to starting position. Then repeat to the right side.

Repeat 10 times, three times per day.

Exercise four: Active retractions



In sitting with your head in a neutral position, pull your chin in (as though to make a double chin), without tipping your head forward. You may feel a gentle stretching sensation. Hold five seconds and return to starting position.

Repeat 10 times, three times per day.

Exercise five: Shoulder rolls



In sitting or standing. Roll your shoulders in both directions, gently squeezing your shoulder blades together as you take your shoulders back.

Repeat 10 times, three times per day.

Section two: Neck strengthening exercises

People who have neck pain often have weakness in the muscles which help to support your neck and help you maintain good posture. Strengthening exercises have been shown to increase neck movement, reduce pain and build strength.

Exercise one: Chin tuck in lying

Level one

The aim of this exercise is to activate the deep neck flexor muscles and improve their endurance through range in lying.

Lie on your back with the weight of your head and neck supported by a towel under your occiput (back of head) in a neutral position.

Place your tongue on the roof of your mouth, and keep your lips together and teeth slightly apart (to discourage activity of jaw muscles).

Slowly nod your head in an action indicating “Yes” to roughly two cm into a chin tuck position. Hold this position for 10 seconds. Repeat 10 times. Carry out once per day.



If this exercise is easy to do, you can try the following progressions.

Level two

Repeat the ‘chin tuck in lying’ exercise, holding for 60 seconds. Repeat three times.

Level three

Repeat the ‘chin tuck in lying’ exercise, moving your head a further two cm (four cm in total) further into range. Hold for 10 seconds. If this is pain free, then further increase the range to six cm then eight cm. Repeat 10 times.

Exercise two: Chin tuck in sitting

Level one

The aim of this exercise is to activate the deep neck flexor muscles and improve their endurance through range in sitting.

Sit with the back of your head supported on a wall with a rolled up towel in the natural hollow at the back of your neck.

Place your tongue on the roof of your mouth, keeping your lips together and teeth slightly apart (to discourage activity of jaw muscles).

Slowly nod two cm in an action indicating “Yes” into a chin tuck position. Hold this position for 10 seconds. Repeat 10 times.



If this exercise is easy to do, you can try these progressions.

Level two

Repeat the ‘chin tuck in sitting’ exercise holding for 60 seconds. Repeat three times.

Level three

Repeat the ‘chin tuck in sitting’ exercise moving your head a further two cm (four cm in total) further into range. Hold for 10 seconds. If this is pain free, then further increase the range to six cm then eight cm. Repeat 10 times.

Section three: Postural stability exercises

People with longstanding neck pain are prone to problems balance and postural stability. It is important to do exercises to help with this. **You should stop doing these exercises if they cause you to become dizzy or lose your balance.**

Exercise one: Narrow stance

Level one



Stand in bare feet. Fold your arms across your chest so your hands are touching each shoulder. Move your feet together so your ankle bones are touching. Hold for 30 seconds.

Level two

If you can do this easily, repeat this exercise with your eyes closed.

Repeat three times, once per day.

Reminder: you should stop immediately if you feel dizzy or lose your balance, and seek further advice from a health professional.

Exercise two: Tandem stance

Level one



Stand in bare feet. Position your feet in tandem stance (with the heel of one foot in front of the toes on your other foot). Fold your arms across your chest so that your hands are touching each shoulder. Hold for 30 seconds

Switch feet position and hold for another 30 seconds.

Level two

If you can do this easily, progress by repeating this exercise with your eyes closed. Repeat three times. Once per day.

Reminder: you should stop immediately if you feel dizzy or lose your balance, and seek further advice from a health professional.

Exercise three: Single leg stance



Level one

Stand in bare feet. Lift one leg so that you are standing on one leg. Fold arms across chest with hands touching each shoulder. Hold for 30 seconds.

Switch feet position and hold for 30 seconds

Level two

If you can do this easily, repeat this exercise with your eyes closed.

Repeat three times. Once per day.

Reminder: you should stop immediately if you feel dizzy or lose your balance, and seek further advice from a health professional.

Thoracic back mobility exercises

Despite being in pain it is important to maintain your range of movement in each direction. Moving into slight discomfort is encouraged.

Remember it is normal to have some pain and discomfort when exercising which should improve the more you practice. If your pain worsens and does not ease by reducing your exercises or having more recovery time between sessions please contact your GP or health professional.

Exercise one: Thoracic spine rotation

Level one



Start by sitting on a firm surface like a dining room chair. Sit up straight. Rotate your head and trunk slowly as far as you can first in one direction and then the other. You could also try this with your arms folded across your chest.

Do this 10 times slowly to each side five times per day.

Level two



Lie on your side on a bed or floor. Bend your knees to a comfortable bent position. Your upper arm should be straight then lifted out and behind your body with your head and shoulders following. You should feel a twist movement in the thoracic spine. Hold for a few seconds then return to the side lying position. Do five times, three times per day.

Level three



Sit on the floor. Bend one knee and put your opposite arm around the knee.

Pull your knee towards your opposite shoulder, rotating your upper body. Breathe normally. Hold for a few seconds then return to the starting position. Do five times, three times per day. Remember to repeat this to the other side.

Exercise two: Rolled towel thoracic extension

Roll up a bath towel to make a sturdy roll. If you have one, you could also use a foam roller.

Level one



Lie on the floor on your back with both knees bent and feet flat on floor. Position the rolled towel at your mid back. Cross one leg over the other if you are able to (in order to minimise low back movement.) If you can't do this don't worry. Place both hands loosely at the back of your head or cross them across the front of your chest. Then let your shoulders and head slowly bend backwards over the rolled towel. Hold for a few seconds. Then slowly return. You can adjust the position of the towel to different levels of the thoracic spine.

Do this five times, three times per day

Level two

A more advanced exercise is to repeat the same exercise but with your arms as straight as possible up in front of you with a weighted object in your hands. Then

bend backwards over the rolled towel as you lift your hands above your head slowly before then returning to the starting position.

Exercise three: Child's pose



In a kneeling position with your knees supported by a pillow, bring your bottom back towards your heels (to minimise the movement of the low back.) Lower your chest towards the floor, arching your thoracic spine. Hold for a few seconds.

Do this 10 times, three times per day

Exercise four: Thoracic flexion in sitting:



Sit on the floor with the soles of your feet together. Hold your feet with both hands. Push your feet against the floor and push your upper back backwards and upwards. Hold for a few seconds.

Do this 10 times, three times per day.

Exercise five: Thoracic lateral flexion:



From a standing position, bend sideways at the waist. Do this 10 times, three times per day.

Thoracic strengthening exercises

Strengthening exercises have been shown to increase thoracic movement, reduce pain and build strength.

Exercise one: Arms overhead squat

Level one



Go into a squat position leaning against a wall or closed door. Keep your arms straight and lift them up and over your head. Return the arms to chest level then repeat.

Do 10 repetitions, three times per day.

Level two

Do the exercise as above whilst holding onto a weight. You should move the arms in a slow and controlled fashion at all times during the exercise.

Exercise two: Bar squat



Level one

Rest a pole, walking stick or something similar on your shoulders behind your head. Then slowly bend both knees and lower your bottom down towards the floor. Try to

keep your head facing forwards. Then slowly straighten up and squeeze your bottom and pelvic floor muscles.

Do 15 repetitions, three times per day.

Level two

This exercise can be made more difficult by using a weighted object or bar.

Exercise three: Shoulder and thoracic spine strengthening

Level one



Lie on the floor on your back with your knees bent and feet flat on the floor. Lift arms straight out in front of you with palms facing up. Then lift arms up over your head slowly until you feel a stretch, or you can go no further, hold for a few seconds then return to the starting position.

Do 10 repetitions, three times per day.

Level two

Do the exercise as above whilst holding a weight in each hand or using a weighted bar. Move the weights slowly and in a controlled fashion at all times.

Exercise four: Arm lift exercise

Level one



Lie on your stomach on the floor or a bed. Arms should be raised above your shoulders out at an angle of approximately 45 degrees. Lift arms up towards the ceiling as comfortable. Hold for three seconds and slowly lower to starting position.

Do 10 repetitions.

Level two

This exercise can be made harder by doing the exercise with weights. Always be in control of the weights performing the exercise slowly and in control

Exercise five: Bird-dog exercise

Level one



Get onto the floor or a bed in the four point kneeling position. Knees can be supported by a pillow. Hands should be under your shoulders on the floor or bed, and knees on the floor directly under your hips. Take one leg out straight behind you. Point your toes. Then reach out forwards with the opposite arm above your head.

Aim to hold this position, without body “wobble” or overarching of your back, for 10 seconds, then slowly return to the start position.

Level two

The above exercise can be made more difficult by holding for progressively longer periods of time and by doing more repetitions.

Exercise six: Thoracic spine rotation in kneeling

Level one



Go into the kneeling position. It is important there is no slouching of the mid back so try to maintain a mid-position of the low back. Lift one arm straight up and behind you towards the ceiling. Hold few seconds then in a controlled manner return to start position. Do for 10 repetitions, three times a day with each arm.

Level two

Once you have mastered the movement of the exercise above you can make this harder by holding a weight in the moving arm. Always maintain a slow and controlled movement whilst holding a weight.

Useful links

The websites below may be useful for further information:

NHS Ayrshire & Arran MSK

<https://www.nhsaaa.net/musculoskeletal-service-msk/>

NHS Ayrshire & Arran Pain management

<https://www.nhsaaa.net/pain-management-service/>

MSK Reform

mskr.info (Type directly into browser with no “www.”

If requested Code is MSKR19

Versus Arthritis

www.versusarthritis.org

The Sleep Council

www.sleepcouncil.org.uk

Quit your Way (Smoking advice and support) Tel: 0800 783 9132

<https://www.nhsaaa.net/better-health/topics/smoking/>

NHS Ayrshire & Arran Mental Health and Well being

<https://www.nhsaaa.net/better-health/topics/mental-health-and-wellbeing/>

Weigh to Go NHS Ayrshire & Arran

https://www.nhsaaa.net/media/4758/healthyweight_north_ayrshire.pdf

NHS Fitness Studio

<https://www.nhs.uk/Conditions/nhs-fitness-studio/>

Multi language

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