



YOUR GUIDE TO

# CHRONIC LOWER BACK PAIN

MUSCULOSKELETAL

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## Introduction

**Please take note of the following before starting any of the exercises in this guide:**

- The information contained in this guide is intended to assist in managing your recovery.
- This guide is based on the latest medical research in the field and contains the best advice available to the best of our knowledge.
- This guide is complementary to other medical services and is not intended as a substitute for a health care provider's consultation.
- Never disregard medical advice or delay in seeking advice because of

something that you have read in this guide.

- Many people have found quick and lasting relief from their chronic lower back pain by acting upon the information provided, but everyone decides for themselves what to do with this information. Should you doubt a particular exercise in your situation, please consult your health professional.

**When consulting your health professional, it is wise to take this guide with you to show them.**

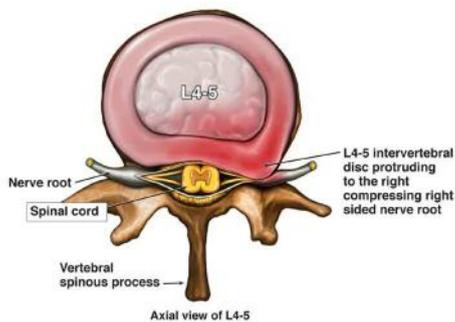
# What is chronic lower back pain?

**Chronic lower back pain (LBP)** is defined as pain that persists longer than 12 weeks and is often attributed to degenerative or traumatic conditions of the spine. The evolution of chronic LBP is complex, with physiologic, psychological, and psychosocial influences.

## Conditions that may be causing your back pain

### BULGING (HERNIATED) DISC

Most bulging discs are known to occur in the lower back, known as the lumbar spine. This condition occurs when the discs, between the vertebrae, weaken or start to slowly degenerate. This can cause the cartilage to bulge, or be pushed into an area containing the spinal chord or another nerve. This can lead to the pain that you may be experiencing.

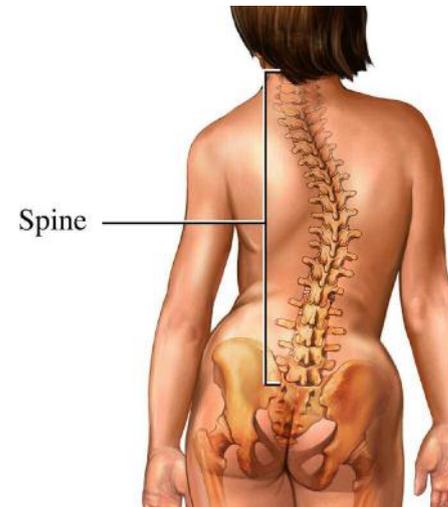
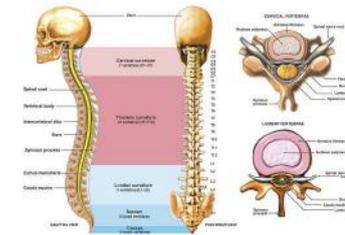


### SCIATICA

This condition results from the irritation of the sciatic nerve, which is the large nerve that carries nerve fibres down to the right and left leg, and runs from the lumbar spine to the lower leg. There are a number of factors that can irritate the nerve, but the most common cause occurs when a bulging, or herniated, disc starts to push against the sciatic nerve. The symptoms that you are likely to feel are a burning type pain in the lower back that may then extend into the buttocks and either leg. In some severe cases the symptoms may differ and you will experience numbness and a feeling as if you have lost some control over your legs. This is due to the pressure being placed on the nerve.

### OSTEOPOROSIS

Osteoporosis is a condition that arises from a decrease in your bone density (your body is failing to produce new bone and is absorbing too much of the existing bone). This will lead to your bones becoming thinner and weaker, and therefore prone to fracturing (breaking).



### KYPHOSIS AND LORDOSIS

Kyphosis is an increased curvature of the normal upper back curve, also known as the thoracic spine. Lordosis is an increased curvature of the normal lower back curve, also known as the lumbar spine. Changes away from the normal curvature of the spine can result in pain as there is a greater pressure exerted on the vertebrae, discs, and musculature that supports these areas.

### SCOLIOSIS

This involves a curvature of the spine and can come in the form of a 'C' curve (one curve) or an 'S' curve (two curves). This picture is an example of what scoliosis may look like. Bear in mind that some cases will not be as severe as shown here. Exercises are available to the people, who are diagnosed with the condition of scoliosis.

# What treatment can I receive?

If you are suffering from **chronic lower back pain** it is important to visit your GP, registered chiropractor or physiotherapist, so that a full examination can be performed and a diagnosis reached as to the cause of your lower back pain. If necessary your GP may arrange for X-rays to get a better view of the bones, or an MRI scan to get a clearer view of the soft tissue, discs etc in your spine.

## CHOICE OF TREATMENT

This will depend entirely on the diagnosis/cause of the lower back pain. Some types may benefit from physical therapy, massage, and/or medications (e.g. non-steroidal anti-inflammatory drugs), whilst others may require injections, bracing or surgery.

## DRUG TREATMENT

- **Paracetamol** based pain killers are usually prescribed by doctors to help with pain management.
- **Anti-inflammatory drugs** are usually prescribed by doctors to control the inflammatory process.
- **Steroids** such as cortisone (injections and tablets) are also used to manage pain and inflammation.

## DIET

It is important that you maintain a healthy, balanced diet in order to avoid excessive weight gain. Added weight will put increased strain on your lower back and may greatly aggravate your condition.

## MANUAL THERAPY

Physical therapy is often required to decrease muscle spasm, reduce inflammation, provide mobilisation techniques, massage and other modalities which will all help to decrease the pain and get you back to full function as soon as possible. The extent to which these techniques will help is very dependant on your diagnosis.

● **Ice/heat therapy** is often used by therapists, and can be used as a home therapy to relieve pain, reduce inflammation and reduce muscle spasms.

## EXERCISE

Exercise can play a significant role in easing the pain of chronic lower back pain and preventing its reoccurrence. The main goals of rehabilitation for individuals with chronic lower back pain are to prevent further weakness and pain, and to maximise strength, stability, flexibility, endurance and mobility. The maintenance of a regular exercise routine is essential to preventing future episodes of lower back pain.

## LIFESTYLE

There are ways in which you can look after your back and work more at **prevention of your injury rather than cure:**

1. Be aware of your everyday posture i.e. try not to slouch when sitting or standing. Periodically stand up and walk around the house/office. When standing, try to balance your weight evenly between the right and left leg.
2. Be aware of your lifting technique. Keep objects close to your body, and use your knees, keeping your back straight when lifting an object. Use your feet to turn, try not to twist your back.

3. When carrying parcels in both hands, try and carry similar loads on both sides.

4. Try and use satchels that can strap on both shoulders, to share the weight and prevent leaning to one side.

5. Watch your weight, extra weight can increase the chances of you developing a back injury, as it encourages abnormal postures. It can also prolong the recovery process.

6. Understand your diagnosis and make sure that you look after your back in the future, by through including good habits into your every day life.

# What exercises should I do?

- Range of movement (ROM)/stretching exercises
- Strengthening exercises
- Aerobic exercises: cycling, swimming, water-aerobics, walking. It is suggested you do aerobic exercise for 20-30 minutes, three times a week.

## SPECIAL CONSIDERATIONS

1. Stretching and stability exercises should be performed daily, even on the days when there is no pain.

2. Avoid over stretching, therefore only take the stretch to a comfortable pain/stretch level.

3. If necessary, accumulate exercise dose throughout the day. For example three sets of 10 minute exercises may be preferred to 30 minutes of continuous exercise.

4. Some post-exercise soft tissue discomfort may be expected.

# Exercises phase 1

When first starting an exercise programme, **start slowly** and only do as much as you are comfortable with. If you have pain, other than slight muscle stiffness after exercise, then you have done too much or are doing the exercises incorrectly, and need to adjust your programme or consult your therapist.

## Adapt your exercise programme

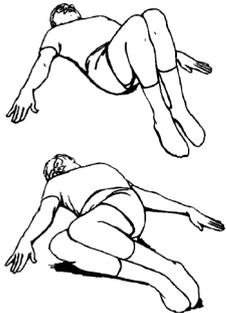
when you have 'bad' days or if you have done something to cause a flare up.

**For example:** only do the stretches and stability exercises, as in phase one. If this happens when you have progressed to phase 2, do not be scared to regress for a day or two until you feel better and are able to continue the strengthening exercises.

## STRETCHING EXERCISES

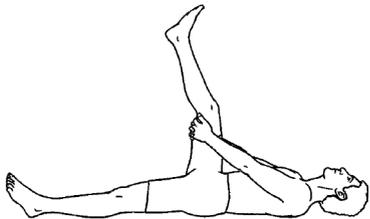
- Repeat each of these stretches 2-3 times, holding the stretch for at least 30 seconds.
- Hold a steady stretch and do not bounce.

- You can use a towel to aid you in the stretches if you are unable to reach your leg.
- You should only feel a stretch, not pain.



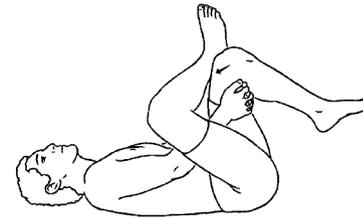
### SPINAL TWIST

Lying down on your back, your arms outstretched and your knees bent. Gently roll your legs over to one side. Hold for 20-30 seconds and then roll over to the other side. If you cannot feel the stretch along your spine, bring your legs up closer to your body.



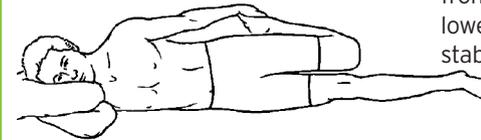
### ACTIVE HAMSTRING STRETCH

Lying on your back, lift your leg up straight. Hold behind your knee and starting with your knee bent, attempt to straighten your knee until a comfortable stretch is felt in the back of your thigh. A towel can be used to support your leg if you cannot.



### GLUTE STRETCH

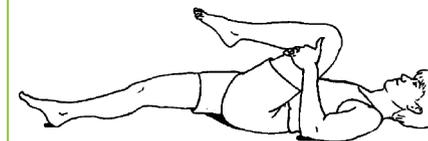
Lying on your back, rest your right ankle on your left knee. Using your hands lift your left leg into the air, bending your knee at 90°. Pull your left leg gently towards your body. You should feel the stretch in the upper part of your right leg (i.e. buttock region).



### QUADRICEPS STRETCH

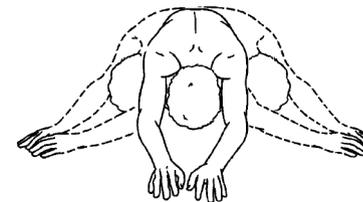
Lying on your side, pull your heel in towards your buttocks until a comfortable stretch is felt in the front of your thigh. Bend your lower knee to 90° in front of you to stabilise your position.

Use a towel if you are unable to reach your leg.



### SINGLE KNEE TO CHEST STRETCH

Pull one knee in towards your chest until a comfortable stretch is felt in your lower back and buttocks. Repeat with the opposite knee.



### MID BACK ROTATION

Sit back on your heels in a kneeling position. Stretch forwards with both hands as far as you can, keeping your chest as low to the floor as possible. Now repeat the same on either side.

# Exercises phase 1 (continued)

## STABILITY AND MOBILITY EXERCISES

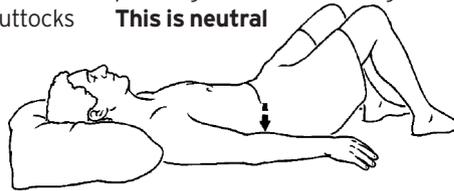
- Do three sets of ten (on both sides).
- Do each exercise within your painfree zone.

### FINDING NEUTRAL

Lie on your back with your knees bent. Put your hands on your hip bones and flatten your back into the ground. You will feel your hip bones are pointing towards you. Now arch your back up keeping your buttocks

on the ground. You will now feel your hip bones are pointing towards your knees. Find the middle position between the two extremes and your hip bones should be pointing towards the ceiling.

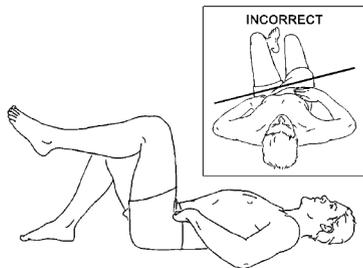
**This is neutral**



### CORE STRENGTHENING AND SINGLE LEG LIFT

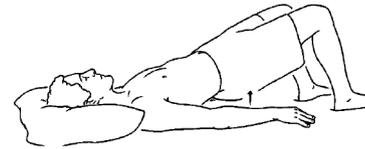
Find the above position. Pull your belly button towards your spine, without changing the position of your pelvis. This will contract your Transverse Abdominis (TA).

Make sure that you can still breathe normally. You should only feel a slight contraction in your lower abdominals. Hold for 10 seconds and repeat 10 times. Now try to raise one leg slowly up and down without moving your pelvis. Repeat on the opposite leg. You can alternate this by raising an arm and then try to raise the opposite arm and leg at the same time.



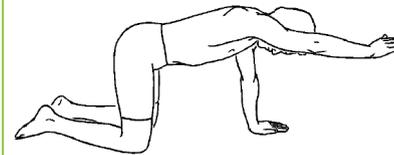
### PELVIC LIFTS ON FLOOR

Lying on your back, bend both knees to 90° with your feet flat on the floor. Tighten stomach muscles (TA) and lift pelvis and lower back off the floor. Hold this position for 10 seconds and then lower down slowly to the start position, maintaining the TA contraction throughout. Repeat 10 times.



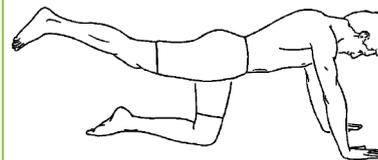
### SINGLE ARM LIFT ON ALL FOURS

On all fours, hands under shoulders and knees under hips, ensure that your pelvis is in neutral (i.e. hips facing the ground) and back is flat. Raise one arm out in front of you. Do not arch your neck, keep it in line with the rest of your body. Be sure to keep your back flat. Hold for 5-10 seconds for 10 times on each side.



### SINGLE LEG LIFT ON ALL FOURS

In the above position, raise one leg behind you until your leg is straight and in line with your body. Do not arch your neck or back. Try to hold for 5-10 seconds.



### GLUTEAL SETS

Lying on your stomach, find your neutral position and pull your belly button into your spine. At the same time squeeze your bottom ensuring not to alter your pelvic position. You can progress this by raising one leg in the air. Repeat 3 sets of 10 repetitions on each leg.



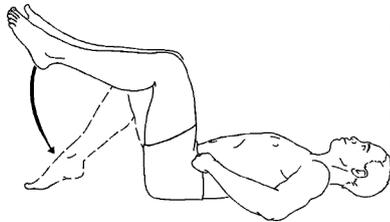
## Exercises phase 2

**Phase 2** should be started once you are able to perform the exercises in phase 1 **pain free** and with control (especially in the stability/mobility exercises). This will probably be after a week or two of starting with this programme. If you progress to phase 2 and find that you are unable to do

some of the exercises, do not be afraid to use some exercises from each phase at the same time and progress yourself **slowly as you feel comfortable**. Continue with the stretching programme from phase 1 at the beginning and end of each session.

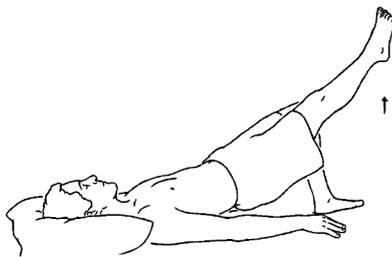
### STABILITY AND MOBILITY EXERCISES

● **Ensure that the movement is controlled and that a neutral position is maintained throughout**



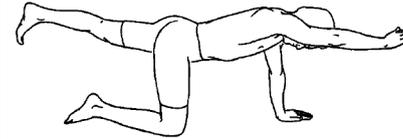
#### DOUBLE LEG LIFT

Keep your pelvis in neutral, your stomach contracted at all times and move your legs slowly. Repeat 5 sets of 10 repetitions.



#### PELVIC LIFT WITH LEG EXTENDED

Lying on your back, bend both knees to 90° with feet flat on the floor. With your pelvis in neutral and stomach contracted, lift pelvis and lower back off the floor. Now lift one foot off the floor and straighten your leg in the air, hold for 5 seconds, put back down, repeat with the other foot, and then relax completely. Keep your pelvis stable throughout, without dropping to one side. Repeat 5 times on each leg.

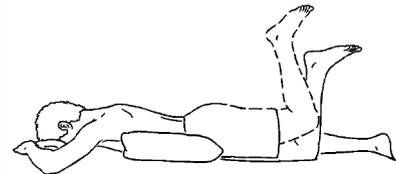


#### ALTERNATIVE ARM AND LEG EXTENSION ON ALL-FOURS

In the all four position, now raise your opposite arm and leg without moving your hips and keeping your spine in a neutral position. Do not arch your neck. Repeat 5 times on each side and hold each for 5-10 seconds. You can try this over an exercise ball as a progression.

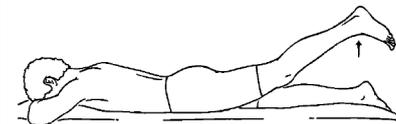
### STRENGTHENING EXERCISES

● **Perform 2-3 sets of 10 on each side**



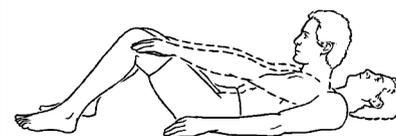
#### PRONE BENT KNEE LIFT

Lying on your stomach, bend your knee and slowly raise your heel towards the ceiling. Maintain a neutral position in your pelvis. Avoid arching your lower back. You should feel this in the buttock, not the back. Therefore if sore in the back contract your glutes and stomach muscles.



#### PRONE STRAIGHTEN LEG RAISE

In the above position, keep both knees straight, and raise your leg at your hips into the air. Be careful to avoid arching your lower back. Repeat 2 sets of 10 repetitions on each side.



#### CURL UP

With your arms at your sides, start in a neutral pelvic position (as in phase 1). Raise your shoulders and head from the floor, using your arms to support you if necessary. Keep your neck in a neutral position and if it is hurting, try to put your tongue to the roof of your mouth when sitting up (this will stabilise your neck).

## Exercises phase 2 (continued)

### STRENGTHENING EXERCISES

- Perform 2-3 sets of 10 on each side



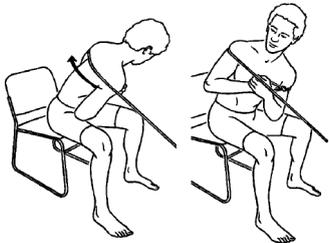
#### DIAGONAL CURL-UP

With your arms at your sides, tilt your pelvis to flatten your back. Raise your head and shoulders, rotating to one side as your shoulder blades clear the floor.



#### WALL SLIDES

Keep your head, shoulders, and back against a wall with your feet out in front of you and slightly wider than shoulder width apart. Slowly lower your buttocks while sliding down the wall, until your thighs are parallel to the floor. Keep your back flat.



#### RESISTED LUMBAR ROTATION IN SITTING

In a seated position with a resistance band attached to a door handle. Make sure that your pelvis is in a neutral position. Gently rotate away from the door in a pain free range of motion.

## Exercises phase 3

Progress to this phase when you feel that you have improved in both your **strength and control**. Again you can start with some of the phase 3

exercises while still doing phase 2 if you are unable to do all of the progressions. Continue with stretches as in phase 1.

### STABILITY EXERCISES

- Maintain neutral throughout and repeat 5-10 times

#### LOWER ABDOMINAL STABILITY

Start in the same position as phase 2. Now straighten both legs away from your body along the floor, maintaining neutral and ensuring movements are slow and controlled. Repeat 5-10 times (you may only be able to do one or two to start, but try and progress).



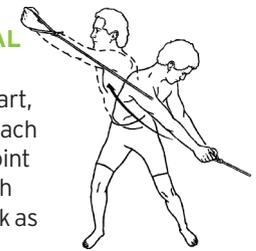
### STRENGTHENING EXERCISES

- Repeat two sets of 10-12 repetitions of each exercise on each side
- Ensure that the movements are controlled and that you are aware of your pelvic position at all times

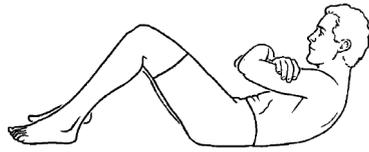


#### RESISTED LUMBAR DIAGONAL ROTATION IN STANDING

Stand with feet shoulder width apart, and pelvis in a neutral position. Attach one end of tubing to a low fixed point and hold the other end with both hands. Extend and rotate your back as demonstrated in the picture.



## Exercises phase 3 (continued)



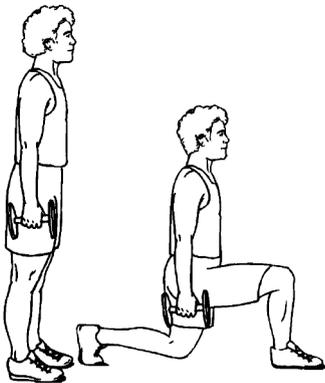
### CURL-UP

Keeping your arms folded across your chest, tilt your pelvis to flatten your back. Raise your head and shoulders from the floor. Use a ball to progress this.



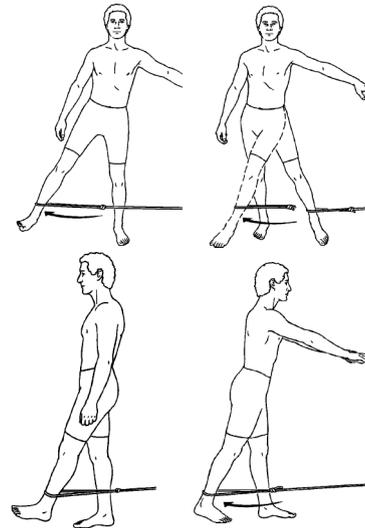
### DIAGONAL CURL-UP

Keeping your arms folded across your chest, tilt your pelvis to flatten your back. Lift your head and shoulders from the floor while rotating to one side. Use a ball to progress this.



### LUNGES

Start with your feet together and pelvis in a neutral position. Step forward into a lunge position but do not allow your back knee to touch the floor. When you lunge make sure that both knees are at a 90° angle and then return to the start position. Keep both feet facing forwards. Try to keep a flowing movement up and down, do not hold the lunge position. Repeat 10 times on each leg. Progress this to walking lunges.



### STANDING LEG EXERCISES

Tie a piece of theraband around the leg of a table or bed, and place your foot through the loop. Now perform various movements, ensuring that your pelvis is stable (neutral and TA contracted) and that you are not leaning.

**Abduction:** Take your leg away from you

**Adduction:** Turn around and bring your leg in towards you

**Hip flexion:** Facing away from the table, bring your leg straight out in front of you

**Hip Extension:** Face the table and kick your leg backwards keeping a straight knee

## Contact us

This guide is designed to assist you in the self-management of your injury/condition.

We are here to assist your recovery in the shortest but safest possible time. If you have any uncertainties or queries regarding the information, please do not hesitate to contact us on:

Phone 017890400999 / 07870166861

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