

# BACK

## REHABILITATION

### PROGRAMME





## *Introduction*

**Medical Research has shown that 60% to 80% of the population will suffer** from chronic low back pain at some stage in their lives. In the majority of cases it is a self- limiting condition. Up to 5% of sufferers, however, develop a chronic condition. Low back pain has a peak incidence around the age of 40 years; however, many patients have their first episode early in life. The essence of treating low back pain is to identify the cause and the factors that predispose a patient to it.

WEAK TRUNK MUSCLES ARE A FREQUENT CONTRIBUTORY FACTOR/CAUSE OF LOW BACK PAIN.

### *Trunk Muscles*

- For normal back function it is essential to have adequately functioning back extensor muscles and abdominal muscles (trunk muscles).
- The back extensor muscles provide posterior stability for the spine and are essential for maintaining an erect posture.

The abdominal muscles must also be strong as they are connected to the back extensor muscles and will therefore reinforce these muscles when standing. It is also suggested that strong abdominal muscles will increase intra-abdominal pressure. This elevation in pressure decreases the compressive force on the spine.

Therefore both back and abdominal muscles need to be strong when treating low back pain.

### *Hamstring*

Hamstring flexibility has also been shown to decrease the risk of chronic low back pain syndromes. Therefore hamstring stretching exercises should also be part of a low back rehabilitation program.

### *Isokinetic Testing*

The actual power and function of the muscles can be calculated by an Isokinetic Dynamometer. The normal value of these muscle strengths relate to body weight.

# Protecting Your Back

## ELEVATED BOY WEIGHT WILL PUT EXCESS STRESS ON YOUR BACK

Abnormal body weight and composition is associated with chronic back pain. Normal body fat percentage for males is below 18% and below 25% for females. Careful attention to diet to maintain these levels is also important in preventing back pain.

<b>BENDING AND WALKING</b>	<i>Bend at your knees and carry object close to your body no higher than chest level. Do not twist while lifting and push rather than pull heavy objects such as furniture.</i>	
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	<i>Walk with good posture to help maintain a normal lordosis.</i>	<b>WALKING</b>
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<b>STANDING</b>	<i>When standing in the office etc. elevate one foot by using a low stool or other prop. Change your position frequently</i>	
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	<i>White seated firmly against the back of the chair your knees should be higher than your hips by using a stool to prop up your feet or adjusting your chair. At a desk or table, pull your chair in as close as possible to avoid bending forward.</i>	<b>SITTING</b>
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# *Exercises to Prevent and Treat Low Back Pain*

## **For 10 Minutes 3 Times A Day**

1. Lie on your back with knees bent, feet flat on the floor and arms at your sides. Tighten your stomach muscles and flatten the small of your back against the floor without pushing down with your legs. Hold for 5 seconds then slowly relax.



2. Starting in the same position as for the pelvic tilt, grasp your right leg and pull it close to your chest then pull the left leg even with the right. Pull both knees towards your shoulders. Let your knees return to arm's length and repeat.



3. Starting in the same position as for the pelvic tilt, grasp your right knee and gently pull it towards your right shoulder. Return to the starting position and repeat with the left leg.



4. Do the pelvic tilt and while holding this position curl your head and shoulders up and forward, hold briefly. Return slowly to the starting position.



5. On your hands and knees relax your abdomen and let your back sag. Then tighten your stomach muscles and arch your back.



6. Lie on your back with knees bent and arms across chest. Curl trunk upwards and towards knees, continuing until shoulders are off surface. Hold and lower slowly.



7. Lie on the floor face down with arms at sides. Lift your chest and shoulders off floor, arching the low back. Hold and lower slowly.



8. **Hamstring Stretches**

<b>STANDING</b>	Prop leg onto a chair or bench. Bend the standing leg slightly. Place two hands on to the knee and stretch down with the hands towards the ankle. As you feel a stretch, hold and count for five.	
<b>SUPINE</b>	Lie on your back, lift the leg over head (at 90 degrees to the ground). Place two hands behind the knee joint and gently pull the knee towards your head. As you feel a stretch, hold and count for 5.	

## *Aqua Exercises*

Acquatic exercises are a viable alternative for the athlete who finds floor exercises excessively painful in the early stages of rehabilitation. Exercising in the weightless watery environment is an easy method of building up trunk musculature when normal exercise is not possible.

Acquatic exercises should be avoided if the patient has:-

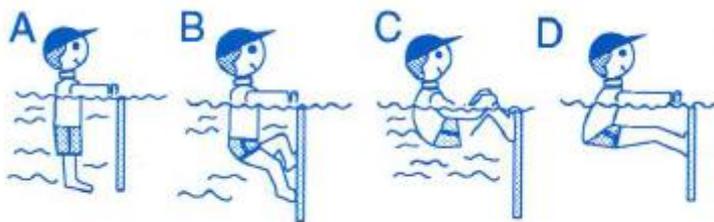
1. Hydrophobia
2. Ear Infections
3. Open Wounds

**Always ensure that a second person is in the pool area.**

10.

- A. Face the side of the pool with hand on the pool gutter and feet together.
- B. Slowly climb the pool wall keeping knees flexed.
- C. Keep toes near the surface of the water and knees between the hands.
- D. Slowly push away from the wall extending the knees as far as possible, hold for 10 seconds, return to position (C) and hold for 10 seconds.

**This is one repetition.**



## *Back Stretch*

11.

- A. Begin with back against the pool side, legs at an angle of 45 degrees with hands and arms .
- B. Flex right knee and draw as close as possible to the chest.
- C. Lower knee to starting position. Repeat for left knee.

D. Bring both knees together. Lower lets to starting position.

**This is one repetition.**

