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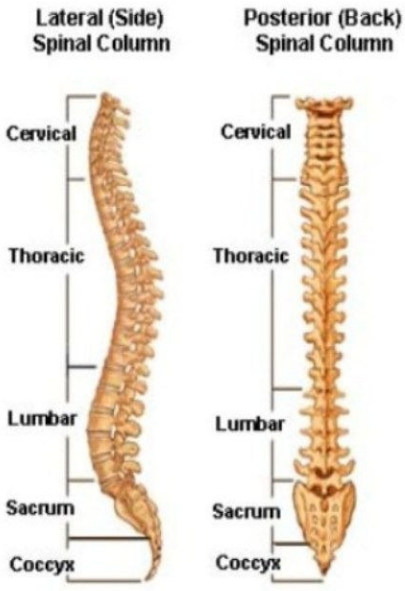
**June 2009**

## Do you suffer from Back Pain?

If you have lower back pain, you are not alone. Nearly everyone at some point has back pain that interferes with work, routine daily activities, or recreation. Most population-based surveys of back pain report a point prevalence of 15%-30%, a one-year prevalence of 50%, and a lifetime prevalence of 60%-80%.Although episodes of acute low back pain are mostly short-lived, back complaints still constitute the second most common symptom (after upper respiratory complaints) prompting general practice encounters.

## What structures make up the back?

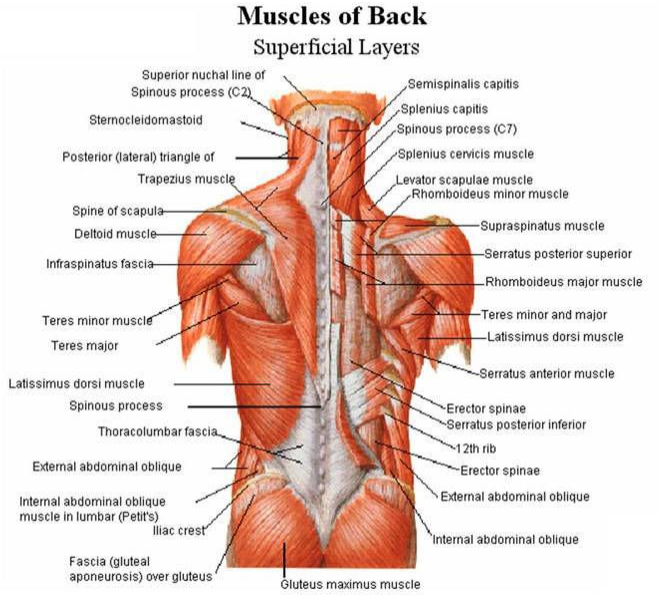
The back is an intricate structure of bones, muscles, nerves and other tissues that form part of the body's trunk, from the neck to the pelvis.




- The centerpiece is the spinal column, which not only supports the upper body's weight but houses and protects the spinal cord.
- Stacked on top of one another are 33 bones — the vertebrae — that form the spinal column, also known as the spine.
- The spaces between the vertebrae are maintained by round, spongy pads of cartilage called intervertebral discs that allow for flexibility in the lower back and act much like shock absorbers throughout the spinal column to cushion the bones as the body moves.
- Bands of tissue known as ligaments and tendons hold the vertebrae in place and attach the muscles to the spinal column.

In addition to the vertebral bodies and ligaments making up the supporting structure of the spine, the back is made up of:

- 62 nerve roots exiting the spine to supply the muscles and skin of the arms and legs
- Over 30 muscles in the front and back of the abdomen which have either direct or indirect attachments to the spine. It is for this reason that when these muscles contract or tighten, they provide support for the spine through their tendon attachments into the spine itself.




The lumbar region of the back, where most back pain is felt, supports the weight of the upper body.

*Acute* or short-term low back pain generally lasts from a few days to a few weeks. Most acute back pain is mechanical in nature — the result of trauma, overload to the lower back or a disorder such as arthritis. Pain from trauma may be caused by a sports injury, work around the house or in the garden, or a sudden jolt such as a car accident or other stress on spinal bones and tissues. Symptoms may range from joint pain, muscle ache to shooting or stabbing pain, limited flexibility and/or range of motion, or an inability to stand straight. Occasionally, pain felt in one part of the body may "radiate" from a disorder or injury elsewhere in the body. Some acute pain syndromes can become more serious if left untreated.

*Chronic* back pain is measured by duration — pain that persists for more than 3 months is considered chronic. It is often progressive and the cause can be difficult to determine.The 5 stages of spinal breakdown help us to understand some of the underlying causes of chronic lower back pain and its progression with regard to symptoms and structural changes.

## The 5 Stages of Spinal Breakdown

### *The first stage- Stiff Spinal Segment (SSS)*

A stiff spinal segment is a sluggish vertebra which participates less willingly than the others in the overall spinal movement. More often than not, the SSS causes no trouble but it's usually compensated for by its neighboring segments. In the low back, the stiffest segment is

considered to be the L5 vertebra. Immediately, above that, you get the most mobile segment in the low back otherwise known as the L4 vertebra. Thus, L5 is the most likely segment to become stiff leading the L4 vertebra to suffer from over-mobility problems.

## Symptoms

**The acute phase- inflammation of a spinal segment**

- Intense aching soreness right across the centre of the back which is often too tender to touch. Difficulty in bending forward.

**The sub-acute phase- The lumbar spine is permanently clenched**

- Discomfort with prolonged positions relieved by moving about

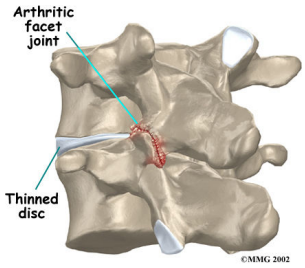
**The chronic phase- Pain is provoked by the stiff disc wall and shortened supporting spinal ligaments being stretched**

- Deep, aching stiffness across your low back

For more information on Stiff Spinal Segment, click here

## *Stage 2: Facet Joint Arthropathy (FJA)*

## What is Facet Joint Arthropathy (FJA)?




The term "arthropathy" covers the wide range of this disorder, from fleeting joint sprain of the capsular ligaments right through to true arthritis from breakdown of the facet joints.

## Causes of FJA

1. Disc degeneration
   - Disc Stiffening⇒ facet capsules tighten
   - Disc Narrowing⇒ facet joint surfaces override

2. Abnormal posture
   - Weak tummy muscles jam the facets
   - A shorter leg can cause arthritis of the facets
   - Scoliosis

## Symptoms

**Acute phase**

- Stabbing pain to one side of the spine
- Your back feels hard and sore with muscle spasm on one side
- Very difficult to lean backwards or straighten-up
- Sometimes associated with referred pain into the buttocks or lower limb

**Chronic phase**

- Low grade tenderness and chronically stiffened muscles in your back
- Referred pain in the buttock and thigh comes and goes with activities which increase the pressure on the facets (e.g. slumped sitting or prolonged

bending activities like gardening)

For more information of Facet Joint Arthropathy, click here.

## *Stage 3 - Acute Locked Back (ALB)*

### What is an Acute Locked Back?

An acute locked back happens when an unguarded movement causes an agonizing jolt of pain to shoot through your back. You can suffer an attack like this in many ways, such as turning over in bed, getting out of a car, pulling your chair out or even bending forward to pick up a toothbrush. In fact, the absence of effort and preparedness for what you were about to do seem to play a key part.

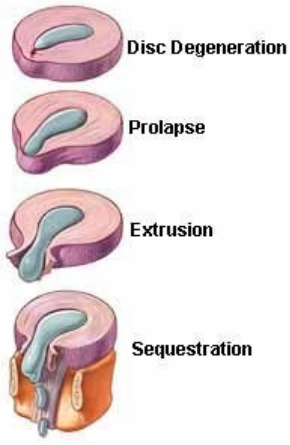
The main cause of such an episode is a momentary lapse of spinal coordination causing a facet at the back of the spine to slip slightly out of alignment. The degree of movement is very minor so X-rays or other forms of scanning are usually clear. Its not the actual slip that is the problem, it's the reactive and instantaneous protective muscle spasm that locks the spine and makes you rigid with pain.

- The Acute phase-the muscles lock up to protect the individual joint
- The Sub-Acute phase- within a few days the crisis of the acute condition should pass
- The Chronic phase- the protective muscle spasm is greatly reduced, the joint underneath often emerges dysfunctional.

For more information on Acute Locked Back, click here.

## *Stage 4 - The Prolapsed/Slipped Disc (A very rare source of Back Pain)*

### What is a Prolapsed Disc?




A slipped disc is a bulge in the back wall of the disc which fails to disappear when the pressure comes off. Only **5%** of back problems are caused by this. When a disc prolapse does happen, it is due to the longstanding weakening of the disc wall. There must always be a history of pre-existing breakdown-even if it was silent and gave no symptoms along the way. **A disc never slips** to cripple you with one sudden movement.

### What happens with a disc prolapse?

The degenerated nucleus of the disc bulges off-center. If the bulge protrudes straight out the back of the disc it may push into the bundle of nerves hanging down from the cord and cause "cauda equina" symptoms which include deep central back pain, impotence, bowel and bladder disturbances and/or saddle anesthesia. THIS IS A MEDICAL EMERGENCY AND YOU NEED TO GET TO A HOSPITAL FOR

SURGICAL DECOMPRESSION. Most often, the disc wall bulges towards the diagonal back corner of the spine and may compress the spinal nerve causing sciatic pain down the leg together with numbness, pins and needles and weakness in the lower limb or foot.

For more information on the Prolapsed/Slipped Disc, click here. For more information on Acute Lumbar Disc Pain, click here.

### *Stage 5 - Segmental Instability*

Segmental instability is caused when one link in the spine is too loose instead of too stiff. It happens when the disc and the facet joints become stretched and weakened by a degenerative process. When the fibrous union of both disc and facets becomes stretched, the segment must rely on the primitive bony notching of the facets to keep itself in place.

The micro-trauma from the repetitive slippage and the giving-way incidents all add up to inflame the structures trying to hold everything in place.

### Sign and Symptoms

*Acute phase*

- The back becomes extra rigid
- Sharp pain in the spine coupled with a disturbed sensation down the leg

*Sub- acute phase*

- No pain down the leg
- Back slips/clicks when flexing as your spine tries to avoid skidding on the flaccid disc.

*Chronic phase*

- Muscle stiffness all over the back and local soreness at the problem level
- While the condition remains silent, your back rarely gives way when you go to bend forward and you hardly ever feel it clicking and grinding.

For more information on Segmental Instability, click here.

## What causes Lower Back Pain?

- Genetics
- Age
- Poor body condition
- Osteoporosis
- Arthritis
- Pregnancy
- Static prolonged sitting
- Manual labour
- Poor posture
- Incorrect work ergonomics
- Weak core muscles
- Poor flexibility

- Incorrect exercise and high impact sports
- Trauma

## Who is most likely to develop back pain?

Back pain has no friends! Nearly everyone has low back pain at some point in their lives. This is a result of a multitude of factors that may cause lower back injuries. Men and women are equally affected.

## Types of Treatment

At PHYSIO4ALL back pain is addressed in the following ways:

A comprehensive spinal assessment is carried out to diagnose the cause of your condition in order to develop a personalised management program for you.

Treatment options thereafter may include:

- Spinal mobilization
- Soft tissue release techniques including massage
- Acupuncture
- Ergonomic assessment
- Exercise!!
    - There is a vast majority of evidence based research that shows exercise programs aimed at stretching and strengthening the muscles of the spine and improving core stability greatly reduces the pain experienced by low back pan suffers in the short term. Furthermore, studies show regular exercise and maintained back programs can eradicate back pain in the long term.

At PHYSIO4ALL we are driven by the latest clinical research and all our programs and treatments are backed up by scientific evidence. Therefore, we have incorporated the following exercise programs in order to address low back pain effectively for our patients.

Our Exercise Programs include:

- Clinical Pilates
- Back2Bizz classes
- Outdoor exercises classes
- Self management programs

## Special Offer!!


To find out how to reduce your BACK PAIN and manage your Spinal Dysfunction, PHYSIO4ALL is offering a **FREE Spinal Assessment** to the value of $75.00!!!

This offer will apply to the first 11 callers from this months BACK pain E-Newsletter. Please quote this E-Newsletter as a reference to secure your assessment.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