

## Spondylolisthesis

'Spondylo' is the medical name for spine and 'listhesis' means slip. Spondylolisthesis is therefore the forward slip of one vertebra on another. There are a number of causes and it is wrong to group them all in one category as they can all cause very different problems. The 'slip' can be measured in terms of how far the vertebra has slipped (Grade 1 to 4), how angulated it is or what has caused it. When it has completely fallen off the front it is called a spondyloptosis.

By slipping forward a nerve can be trapped causing lower limb pain. The slip is between 2 vertebrae and it is usually the first (more proximal) vertebra's nerve root that is compressed. e.g. L5/S1 slip compresses the L5 root, an L4/5 slip the L4 root etc.. Back pain is often a feature and in the 'lytic' type instability is a feature with dynamic symptoms i.e. ones that are worse with movement or time.

The most common type is a degenerative spondylolisthesis which is usually seen in patients over the age of 50. The joints at the back of the spine and the disc at the front wear out, collapse and the vertebra slips forward. The second most common type is a lytic spondylolisthesis due to a spondylolysis (see separate sheet). Here, the problem is often dynamic and is caused by the defect in the back of the spine which means the back of the spine is not attached to the front and so it slips forward. This usually presents in the third and fourth decade of life, having originally started in the second decade but being asymptomatic. Lytic slips tend to progress and require stabilisation at some stage, whereas degenerative ones tend not to be progressive.

Rarer causes include congenital (born with it), high energy trauma and following decompressive surgery where too much of the spine is taken away resulting in a forward slip.

### **Assessment**

A full history and examination is taken concentrating on back pain, leg pain and its impact on day to day life. Often there is little to be found although sometimes there may be an increased curve in the lower spine, tight hamstrings or neurological deficit.

### **Investigation**

Standing xrays are mandatory to evaluate the deformity. An MRI scan will also show the soft tissues. Sometimes a nerve root block will be arranged for diagnostic and therapeutic purposes.

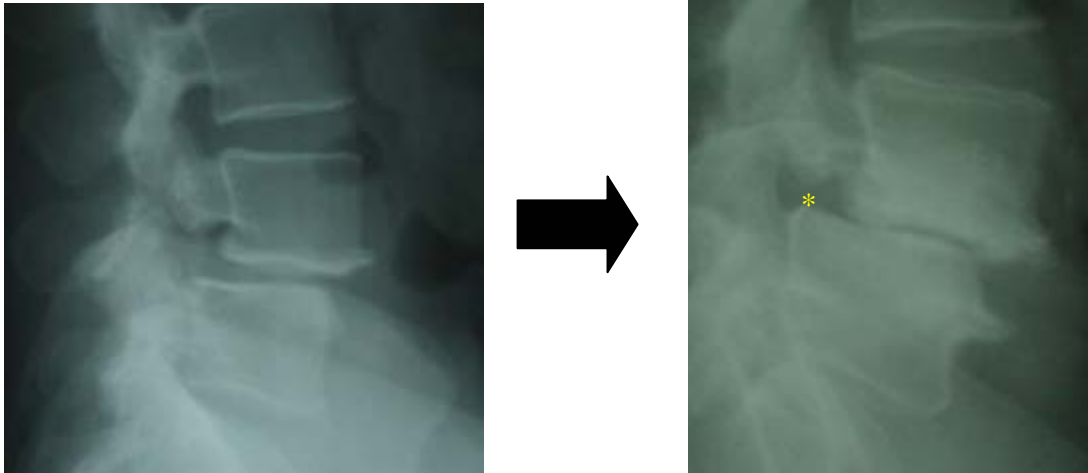


Figure 1 – progression of lytic spondylolisthesis. The nerve is squashed here\*.

## Treatment

In degenerative slips, simple decompression may be all that is required although bone graft may also be placed laterally – this is usually recycled from the spine itself.

In slips due to a spondylolysis then simple decompression is inadequate and stabilisation is required. This usually involves screws into the pedicles and often a cage into the disc space (see 'Links' page), the latter being used especially if the spine is to be reduced back into its original position – which is done in some cases.

For the other rarer causes of slips then it is necessary to use metalwork to stabilise the spine.

Further information on surgery will be available on the treatment page of the website.



Figure 2. Post-operative reduction of spondylolisthesis above.

© [www.ianjharding.com](http://www.ianjharding.com)