

LUMBAR DISC DISEASE - DISC PROLAPSE

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Back pain is a common occurrence in New Zealand with 63 per cent of adults having at least one episode. Approximately 37 per cent in this group have also experienced an episode of sciatica - this is defined as pain in the leg below the knee in a nerve root distribution. Conservative treatment will improve the majority of sciatica patients (around 75 per cent) from 10 to 30 days after the start of treatment. Thankfully only 20 per cent require surgery within six months.

MRI and CT scans allow us to classify the anatomy of the disc injury as follows

- 1) Disc Degeneration. The “Black Disc”
- 2) Prolapse
- 3) Extrusion The nucleus breaks through the annulus
- 4) Sequestration or Sequestered Disc The nuclear material floats free in the canal!

These ruptured discs are then free to cause direct compression of the nerve root, inflammation of the root and increased tension (tethered nerve root!) all of which may cause sciatica.

Fig 1 MRI showing an **Extruded disc** deforming the right L5 nerve root.

Indications for surgery

My indications for surgery include the following but these must be correlated to the patient and their co-morbidities always keeping in mind non organic causes of Back pain. Remember this operation is for **leg problems** not back pain.

Urgent indications

- Cauda Equina (i.e. bladder problems, perineal numbness etc)
- Progressive neurological deterioration despite conservative management
- muscle weakness

Relative Indications

- Incapacitating pain in the leg that markedly compromises the patient’s ability to work, perform daily tasks or enjoy recreational activities
- Nerve root tension signs
- Failure of conservative management 4-6 weeks

Clinical findings should always be correlated with radiology
i.e. MRI or CT = nerve root distribution.

It may be reasonable to monitor progress in the presence of ongoing radicular signs, but surgical intervention should be considered before three months of acute radicular symptoms occur to avoid chronic pathological nerve root changes.

Surgical treatment

Disc Fragment excision through a limited surgical exposure, without extensive disc excision, is the favoured current method. Successful relief of radicular symptoms in up to 90 per cent occurs if the surgical indications are appropriate.

With this technique a 5 – 10 per cent incidence of recurrent disc herniation and 10 – 15 per cent incidence of major post-operative back pain is quoted.

I use a microsurgical technique to remove the offending disc material, removing virtually none of the lamina and lifting a flap of ligament flavum to gain access to the prolapsed disc. This ligament folds back down at the end of the procedure creating an anatomical plane and hopefully little scarring. (fig 2,3)

Fig 2 here the ligament between two vertebra (X flavum) is identified and the red line is the flap that will be created to expose the nerve root and disc prolapse

Fig 3 Now the flap (A) is raised revealing the nerve root (B) and the disc prolapse is just behind this!