

## **Percutaneous Disc Decompression using Coblation** (Also known as **Nucleoplasty**)

- Is a minimally invasive procedure usually performed on out-patient basis under local anaesthesia and sedation
- Current evidence suggests that there are no major safety concerns although there are some risks which should be explained by the doctor
- There is some evidence of short-term efficacy but further research is needed

### **Indications**

May be used in people with low back pain and leg pain which does not respond to conservative treatment, has no obvious cause and is attributed to degeneration/herniation of the intervertebral disc (referred to as discogenic back pain). It is an alternative to spinal surgery (fusion).

### **Discogenic Pain / Disc Herniation**

Discogenic pain is caused when one or more of the tough discs that sit between the bones of the spine (vertebrae) become damaged. Disc herniation or rupture is when part of the nucleus of the disc has become detached from the main nucleus. It can cause pain by irritating the ligaments of the spine or by pressing on a nerve. Partial removal of the nucleus of a disc has been shown to decompress herniated discs relieving pressure on nerve roots and, in some cases, offering relief from disc pain. The key is selection of patients for whom disc decompression is appropriate: patients who have a "contained" herniation, i.e., a disc herniation or rupture in which the annulus or ring of the disc is still intact but is bulging and causing pressure on a spinal nerve.

### **The procedure**

Percutaneous disc decompression using coblation is usually performed on an outpatient basis under local anaesthesia and sedation. Using X-rays to help find the correct position, a needle is inserted into the affected disc. A probe-like device is then introduced into the disc. The device generates a molecular plasma field that dissolves tissue in the centre part of the disc creating a channel. After stopping at a pre-determined depth, the probe is then withdrawn. Around six channels are created during the procedure, the number of channels depending on the desired amount of tissue reduction. The procedure usually takes no more than 30 minutes.

### **Clinical Evidence**

NICE (in guidance published in May 2006) comments that the lack of data makes it difficult to draw definitive conclusions regarding the efficacy of the procedure. The lack of long-term and comparative data also makes it difficult to distinguish between the treatment effect and the natural history of this disease, as well as determine whether the benefits of this procedure are sustained beyond 12 months. There have been 4 case studies with follow up over 12 months on 1472 patients in total. In the largest study, more than half the patients no longer had symptoms and had returned to full daily activity by one year after the procedure.

Disc decompressions utilizing laser and suction techniques have been available for over twenty years. In long-term follow-ups of these laser and suction techniques, they have not lived up to their early reported early success rates.

[The evidence considered by NICE is described in "Interventional procedure overview of Percutaneous disc decompression using coblation for lower back pain" Jan04 available from [www.nice.org.uk/ip235overview](http://www.nice.org.uk/ip235overview) ]

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