



Nucleoplasty

What is Nucleoplasty?

Nucleoplasty therapy is a technique for the treatment of pain coming from a spinal disc. A special probe is inserted into the spinal disc and is used to remove a small amount of disc tissue from the disc nucleus and then to apply controlled thermal energy, or heat, to the disc. This causes the pressure within the disc wall to decrease and allows the disc to bulge or herniation to protrude less.

Am I a candidate for Nucleoplasty?

If you have back or leg pain from a contained disc herniation or protrusion that does not respond to less invasive or more conservative therapies, you might benefit from a nucleoplasty procedure. Most back or leg pain from a contained disc herniation or protrusion gets better on its own in the first month or two, so typically physicians do not consider nucleoplasty until at least a month after the onset of back or leg pain. Also, if your back or leg pain is not severe enough to limit your activities, you probably should not have nucleoplasty.

Is there anything else I should try before having Nucleoplasty?

Before considering nucleoplasty, most patients should try less invasive treatment, such as anti-inflammatory medications, physical therapy and epidural or other spinal injections.

How do I know if my back or leg pain is from a damaged disc?

The wall of the spinal discs can get cracks or fissures as we age, and the discs can degenerate naturally. This is known as internal disc disruption or degenerative disc disease. Disc degeneration, bulging or protrusion can also come from an injury. If the wall is damaged or weakened, the disc might develop a very prominent bulge that we often call a herniated disc. When the disc causes back pain, the pain is usually felt as a deep, aching pain in the back and sometimes in the buttocks and into the thigh. When the disc causes leg pain, the pain is usually felt as a sharp, electric, stinging pain in the buttocks and into the thigh, calf or foot. This leg pain is called radicular or nerve root pain and is commonly referred to as sciatica by many patients. Not all back or leg pain comes from disc damage. MRIs and other studies of the discs can often help to predict if the pain is from a damaged disc.

Can all damaged discs be treated with Nucleoplasty?

No. Nucleoplasty might not be appropriate if the disc is very narrowed, or if the spine is misaligned or otherwise unstable. Discs that do not have an intact annulus or rim are difficult to decompress with nucleoplasty because, in theory, they have already decompressed themselves by extruding disc material through a tear in the annulus or rim. Damaged discs in the neck cannot be treated with nucleoplasty, only discs in the back.

How long does the Nucleoplasty take?

Nucleoplasty usually takes sixty minutes or less.

How is disc Nucleoplasty actually performed?

Nucleoplasty is usually performed as an outpatient procedure. It is performed under sterile conditions. The patient lies face down on an x-ray table. Local anesthesia and mild sedation will



be used to make the patient more comfortable during the procedure. Using x-ray guidance, an introducer needle is inserted into the sidewall of the disc. Then the nucleoplasty device is passed through the needle and positioned in the internal portion of the disc under x-ray guidance. Once in proper position, the device is used to cut a small portion of disc material out of the center of the disc and then heat the tissue immediately around the area where tissue has just been removed. When done, the device and needle are removed and an adhesive bandage is placed over the needle insertion site.

Will the disc Nucleoplasty hurt?

Local anesthesia and mild sedation will be used to make the patient more comfortable during the procedure. There is often mild pain and some pressure when the introducer needle is passed through the tissues and into the sidewall of the disc.

Will I be “put out” for the disc Nucleoplasty?

Local anesthesia and mild sedation will be used to make you more comfortable during the procedure. You will need to be awake enough to tell your physician what you are experiencing during the procedure. However, some patients receive enough sedation that they have amnesia and afterward cannot remember parts or all of the procedure.

What should I expect after the disc Nucleoplasty?

There might be a mild flare-up of your back pain for a few days after the procedure. You will be advised to use ice packs initially. Some patients might need extra medication during this time. Other patients feel better right away or within days and actually take less medication. Almost everyone is back to at least their usual level of pain within two weeks.

When can I go back to work?

If everything goes well, most patients can resume limited activity the next day. Return to work with full activity usually begins at about two weeks after the nucleoplasty. Patients with very active jobs might be advised to take it easy a bit longer.

When will my pain get better?

Many patients are substantially improved right away or within the first few days after the nucleoplasty. Your pain should gradually improve over the weeks and months following the nucleoplasty. Improvement can occur as long as 6 to 12 months after the procedure.

What should I do after the Nucleoplasty?

The nucleoplasty is normally an outpatient procedure. You will need to have someone drive you home. You will need to wear an abdominal binder that will support your back and somewhat limit your motion for the first two weeks and occasionally longer. It is very important to limit your activities after the nucleoplasty to allow the disc sidewall to heal and the center of the disc where the material was removed to scar closed.

What are the alternatives to disc Nucleoplasty?

If you have back or leg pain from a damaged disc, the alternatives are to treat the pain conservatively with medication, physical therapy, chiropractic and epidural or other spinal



injections. An open surgical spine procedure such as laminectomy, discectomy or spinal fusion is also an option.

If the Nucleoplasty does not work, will it cause a problem if I then need an open spine surgery?

No. If the nucleoplasty is not effective, there will be no problem if the patient decides or ultimately requires an open spine surgery. The nucleoplasty does not damage or alter the tissue around the spine, nor does it change the internal spine anatomy except for the expected and desired changes inside the disc itself.

If I have had previous spine surgery, can I still have a disc Nucleoplasty?

Maybe. If there has been previous spinal fusion at the level of concern, it will be difficult, if not impossible, to perform a nucleoplasty. If the disc in question is outside the area of previous spine surgery, it is quite possible that a nucleoplasty can be performed.