



NEUROSURGERY AND SPINE

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ARTHROPLASTY (ARTIFICIAL DISC/DISC REPLACEMENT)

Arthroplasty, or artificial disc surgery, is a type of intervertebral joint replacement procedure which involves inserting an artificial disc into the intervertebral space to replace a vertebral disc has been removed.

Dr. DenHaese performs arthroplasty in the cervical (neck) and also in the lumbar (lower back) area of the spine.

SPINAL ANATOMY



The spine is made up of bones called vertebrae. The bones (vertebrae) are cushioned by small discs which are located in between each of the vertebrae (called intervertebral discs).

The discs are round and flat, with a tough, outer layer that surrounds a jellylike material which acts as a shock absorber for the spinal bones. The discs are held in place by thick ligaments.

The discs function as joints, allowing your spine a range of motion.

DISC HERNIATION

Disc herniation can occur simply because of age, causing the interior substance of our inter-vertebral discs to degenerate and dehydrate, decreasing the shock absorber quality of the disc. Age can also cause the thicker outer shell of the inter-vertebral disc to weaken and tear, allowing the disc to "bulge" out and push on the spine or nerves feeding the spine.

Occasionally injury or accident may be the cause of significant changes to the inter-vertebral disc and it's ability to function normally even in a very young person.

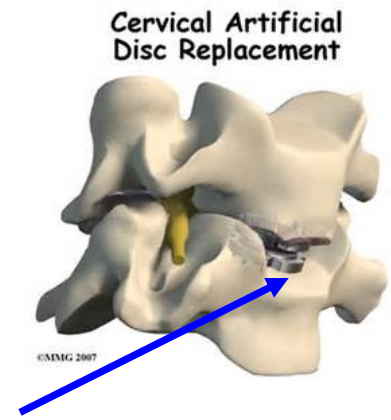
The arrow shows where the disc pushes on the nerves of the spine



WHAT IS AN ARTIFICIAL DISC?

An artificial disc is a prosthetic device designed to maintain motion in the treated vertebral segment.

When a patient's spinal condition requires a discectomy (removing all or part of a damaged disc) to relieve pressure on the nerves and spinal cord, an artificial disc is used to restore stability and alignment to the area of the spine where the disc was removed.



The blue arrow shows an inserted artificial disc in the neck, which replaces the jelly-like natural disc to allow movement approaching that of a natural disc, to retain height and insure that area of the spine is not weaker than desired.

MINIMALLY INVASIVE ARTHROPLASTY SURGERY

Arthroplasty of the spine is performed through a minimally invasive approach, using a small incision and approaching from the best angle of the body for your specific condition. This approach can be through the back, the front or even the side depending upon the spinal area (cervical or lumbar) in which the arthroplasty will be performed.



Regardless of approach, Dr. DenHaese uses the smallest incision possible, moving aside tissues such as the vasculature, fat, muscle and other body structures under the skin, instead of cutting through or around them, to access the spine.

Once the surgical approach provides access to the area where disc fragments and bone are pressing against the spinal cord and nerve roots, the disc and bone material will be removed from around the nerves and spine to give them more space. This part of the surgery is called discectomy and decompression.

When the area is ready, the surgical team will use specialized instruments to insert and secure the artificial disc into the intervertebral space, (where the natural disc used to be).

Finally, the surgical team will ease all of the soft tissues and other structures of the body back into place, and will close the incision.

RECOVERY TIME

Every patient recovers differently, but in general patients will be up and walking the same day as the surgery.

NOTE: Surgeries requiring access to the spine from the front of the neck (the cervical anterior approach) often result in some hoarseness and difficulty swallowing immediately after surgery so you should be prepared for a soft diet immediately post-op. This is not usually applicable to the lumbar approaches to surgery.

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