

## Glossary of Spinal Terms

### -A-

**activities of daily living (ADL):** Activities of daily living are those activities that people may engage in during the course of their daily lives, including lifting, bending, walking, sitting, standing, reaching, climbing, running, etc.

**acute:** Suddenly occurring.

**allograft:** Tissue transplant between non-identical individuals, in the case of spine surgery, usually bone. Allografts are from cadaver donors.

**annulus fibrosus:** The outer portion of the intervertebral disc, made of layers of collagen fibers that lie in circumferential layers around the nucleus pulposus.

**anterior:** Front. Being in front, frontal. Anterior approach in spine surgery refers to an approach through the front of the neck or the through the abdomen.

**anterior interbody fusion (AIF):** A surgical procedure which involves the replacement of some or all of the disc with a bony graft through an anterior approach. This technique is used commonly in the cervical spine to treat degenerative disc disease and HNP (herniated nucleus pulposus). This technique is also used in the lumbar spine to accomplish a fusion in many situations.

**anterior lumbar interbody fusion (ALIF):** See anterior interbody fusion.

**arachnoiditis:** Inflammation of the arachnoid membrane (one of the coverings of the spinal cord/brain) that can lead to scarring. This condition may be identified after surgery in some patients who have persistent pain.

**arthritis:** Commonly used term that describes a disorder that causes inflammation and pain of the joints. Inflammation of a joint.

**arthroscopic microdiscectomy (AMD):** Minimally invasive method of discectomy.

**artificial disc replacement (ADR):** A new surgical procedure that will replace diseased or dysfunctional discs with artificial discs. There are multiple designs of artificial discs under development at this time.

**autograft:** A bone graft taken from the patient and used for fusion in that patient. Tissue taken from the site of the same patient to repair or replace another site

(e.g., bone graft used for fusion). Typically, in spine surgery, the bone is taken from the patient's iliac crest (part of the pelvis).

**automated percutaneous lumbar discectomy (APLD):** The removal of bulging disc material percutaneously (passage through skin, tissue, membrane) through a large-bore needle inserted into the disc space.

## **-B-**

**back school:** A class or course in body mechanics, proper lifting techniques and back care aimed at prevention of back pain.

**BMP:** Bone morphogenetic protein. Biologic material that enhances bone growth.

**bone graft:** Bone used in fusion surgery (either autograft or allograft) to promote spinal fusion.

**bone growth stimulator:** An electromagnetic device worn or implanted to promote bone growth in the case of fracture or surgery. It may be used to enhance the fusion in patients at higher risk for difficulty healing fusion, such as smokers.

## **-C-**

**C#:** The letter C followed by a number identifies a specific vertebra in the cervical spine. For example, C3 is the 3rd vertebra in the cervical spine. The intervertebral disc is referred to as the disc at C3-4.

**C-collar:** Neck brace.

**C-spine:** Cervical spine (neck).

**cauda equina:** Composed of the nerve roots in the lumbar spine that come off the end of the spinal cord and travel to the lower extremities, bowel and bladder.

**cauda equina syndrome (CES):** Loss of bowel and bladder control (incontinence) and numbness in the groin and saddle area of the pelvis, associated with weakness of the lower extremities. This condition can be caused by abnormal pressure on the bottom-most portion of the spinal canal and spinal nerve roots, related to either bony stenosis or a large herniated disc.

**cervical:** Neck. Related to the neck.

**chemonucleolysis:** Injection of chymopapain (papaya-based or other enzyme) into a herniated disc to reduce pressure.

**chronic:** Persistent or lasting a long time, and in the case of back pain, referring to conditions lasting longer than three months.

**claudication:** Intermittent limping due to pinching on the nerves in the lumbar spine and not enough blood supply to nerves or muscles.

**CNS:** Central nervous system.

**coccyx:** Bottom most bone of the spine. Tip of the tailbone.

**corticosteroids:** Medications administered either orally or by injection for severe pain in the low back, neck, or radiating pain. Useful for their powerful antiinflammatory effect. Corticosteroids of different types are used frequently in medicine to treat a variety of conditions thought to be caused by inflammation.

**COX-2 inhibitor:** Cyclooxygenase-2 inhibitor. A class of nonsteroidal anti-inflammatory medication that works by blocking the enzyme COX-2, preventing pain and swelling associated with arthritis.

**CSF:** Cerebrospinal fluid. Fluid filling the dural sac and providing nourishment to the neural elements in the spinal canal and brain cavities.

**CT:** Computerized tomography. A diagnostic imaging test. In CT scanning, X-rays are employed to generate cross sectional images. The high resolution CT scan provides excellent viewing of bones and bone spaces. CT scanning does not image soft tissues as well. Also known as a CAT scan.

**-D-**

**DBM:** Demineralized bone matrix. Material that enhances bone growth.

**DC:** Doctor of Chiropractic.

**decompression:** Surgical removal of pressure from nerve roots or spinal cord to relieve.

**degenerative disc disease (DDD):** A catch-all term to describe degenerative changes in the disc(s) caused by aging or wear and tear.

**disc:** The intervertebral disc is a combination of strong connective tissues which hold one vertebra to the next, and acts as a cushion between the vertebrae. It is made of a tough outer layer called the “annulus fibrosus” and a gel-like center called the “nucleus pulposus.”

**discectomy:** Surgical procedure in which part of a herniated disc is removed. The goal of the surgery is to make the herniated disc stop pressing on and

irritating the nerves which cause pain and weakness. These procedures may be done as an open procedure, with a microscope or via a minimally invasive method.

**discitis:** Inflammation of the disc.

**discography:** Discography involves the injection of dye into the nucleus of an intervertebral disc. During the injection, the physician performing the procedure asks the patient if the injection generates pain similar to his/her "usual pain." Discographic images are generated from plain radiographs and computed tomography (CT) scanning.

**DJD:** Degenerative joint disease.

**DO:** Doctor of Osteopathy.

**DRG:** Dorsal root ganglion. Clump of nerve cells in spinal canal outlet of a root.

**Dx:** Diagnosis.

## **-E-**

**electromyography (EMG):** A test used to determine the function of the peripheral nerves and nerve roots, involving placement of tiny needles in muscles and an electrical stimulus that can be monitored for changes that reflect the function of the connection between the nerve and muscle. This test is usually performed in conjunction with a nerve conduction velocity study (NCV) .

**endoscopic discectomy:** A minimally invasive method of discectomy done with an endoscope, which is a special device that allows visualization of the disc from the inside. See discectomy.

**Epidural steroid injection (ESI):** Injection of corticosteroid medications into the epidural space (the area around the spinal nerves) to reduce inflammation of the nerve and disc.

## **-F-**

**facet joints:** The bones of the spine are connected in the front of the spine by intervertebral discs and in the back by paired joints. These paired joints are commonly called "facet joints," "zygapophysial joints," or "z-joints." See also Z-joints.

**facet injection:** Injections of steroids and local anesthetic into the facet joints to determine if it is a source of pain or to reduce pain and inflammation. See also zygapophysial joint injections.

**FDA:** Food and Drug Administration. U.S. government consumer protection agency that promotes and protects public health by helping safe and effective products reach the market in a timely way and monitoring products for continued safety after they are in use.

**fluoroscopic guidance:** Use of radiologic imaging to assist in the placement of instrumentation for invasive diagnostic and surgical procedures.

**fusion:** A surgical procedure performed to eliminate movement over painful or unstable spinal segments. Spinal fusion is often used to treat degenerative disc disease but is also used to treat scoliosis, kyphosis, fractures and tumors. Bone is grafted across a section of the spine where it grows together fusing the area.

## **-G-**

**GI:** Gastrointestinal.

**GU:** Genito-urinary.

**GYN:** Gynecological.

## **-H-**

**herniated disc:** With age, the center of vertebral discs may start to lose water content, making the disc less effective as a cushion, causing displacement of the disc's center (herniated or ruptured disc) through a crack in the outer layer. Most disc herniations occur in the bottom two discs of the lumbar spine, at and just below the waist. A herniated disc can press on a nerve root in the spine and may cause back pain or pain, numbness, tingling or weakness of the leg called "sciatica." Also known as a slipped or ruptured disc, or herniated nucleus pulposus (HNP). Can also occur in the neck and rarely in the thoracic portion of the spine.

**HHS:** U.S. Department of Health and Human Services. United States government's principal agency for protecting the health of all Americans and providing essential human services, especially for those who are least able to help themselves.

**HMO:** Health maintenance organization.

**herniated nucleus pulposus (HNP):** See Herniated Disc.

**Hx:** History.

## **-I-**

**IDET:** Intradiscal electrothermal therapy. A percutaneous procedure done on damaged discs to relieve pain by inserting a heated catheter into the damaged area.

**instability:** When vertebrae move beyond their normal range of motion.

**interbody fusion:** Grafting bone in the space between discs for the purpose of fusing two vertebral segments.

**intervertebral cage:** A type of instrumentation used to promote fusion during surgery.

**IV:** Intravenous.

**-J-**

**-K-**

**kyphoplasty:** Procedure to repair osteoporosis fractures, where glue-like material is injected into a balloon inserted into a collapsed vertebra.

**kyphosis:** A curve in the spine that points to the back of the body. A hunchback is one example of kyphosis.

**-L-**

**L#:** The letter L followed by a number identifies a specific vertebra in the lumbar spine. For example, L3 is the 3rd vertebra in the lumbar spine. L3-4 would refer to the disc between the L3 and L4 vertebrae.

**laminectomy:** Surgical procedure removing the shingle-like portions of a vertebra to relieve pressure on the spinal cord and nerve roots (see anatomy section).

**laminotomy:** Surgical procedure removing a small bony portion of shingle-like elements (lamina) that protect the neural canal to relieve pressure on the nerve roots.

**LBP:** Low back pain.

**lordosis:** Curve in the spine that points to the front of the body.

**lumbar:** Lower back.

**-M-**

**MD:** Medical Doctor.

**methylprednisolone:** A drug (steroid) that lessens inflammation. Used to reduce inflammation of the joints or commonly used to lessen the damage of a spinal cord injury.

**microdiscectomy:** A surgical procedure performed with a microscope, used to remove herniated disc material.

**minimally invasive surgery (MIS):** Surgery done through multiple small incisions rather than a large, open procedure.

**M & M:** Morbidity and mortality.

**MRI:** Magnetic resonance imaging. A diagnostic imaging test. MRI clearly images soft tissues such as the intervertebral disc and neural structures as well as bones. A very sensitive and specific spinal imaging test.

**myelitis:** Spinal cord inflammation.

**myelopathy:** Spinal cord disorder which commonly causes weakness in the lower extremities and spasticity in the upper extremities which may be the consequence of spinal stenosis, particularly in the cervical spine, or an injury to the spinal cord.

**-N-**

**NASS:** North American Spine Society. A multidisciplinary organization for spine care professionals and researchers that advances quality spine care through education, research and advocacy.

**National Guideline Clearinghouse (NGC):** National database of treatment guidelines available to the public and health care providers.

**neoplasm:** Tumor.

**nerve root block:** Injection of corticosteroids (anti-inflammatories) and a local anesthetic onto the nerve root sleeve surrounding a nerve root.

**NIH:** National Institutes of Health. One of the U.S. Department of Health and Human Services Public Services Agencies. The NIH is the federal base for medical research in the U.S.

**NP:** Nurse practitioner. Registered nurse with additional education and training.

**NSAIDs:** Nonsteroidal antiinflammatory drugs. Medications also used to reduce swelling and inflammation. Examples of NSAIDs are aspirin, ibuprofen, naproxen and a variety of prescription drugs. There are different classes of NSAID medications, including COX-1 and COX-2 inhibitors.

**-O-**

**opioids:** Drugs that treat pain by affecting pain perception without treating the underlying cause. These medications affect pain perception only and do not treat the pathologic condition.

**osteophytes:** Bone spurs.

**osteoporosis:** A condition in which the bones become more porous and prone to fracture, usually age-related.

**orthosis:** Brace.

**-P-**

**PA:** Physician's assistant.

**PDR:** *Physicians' Desk Reference*. Guide to drugs available in U.S.

**pedicle:** Projection of bone from the back of the vertebra that helps form the ring around the spinal canal.

**percutaneous:** Passage through skin by needle or other object.

**percutaneous lumbar discectomy (PLD):** The removal of bulging disc material percutaneously through a large bore needle inserted into the disc space. The disc material is removed using laser, cutting, sucking or laser appliances. Also known as percutaneous microdiscectomy.

**percutaneous nucleotomy:** The removal of disc material through a large-bore needle.

**PMMA:** Polymethyl methacrylate. A material used in bone cement for orthopedic and spine surgery.

**posterior:** Rear. Being on back side. In rear position.

**posterior lumbar interbody fusion (PLIF):** Spinal fusion technique in which the disc is removed through the back of the spinal canal and a bone graft is inserted in the intervertebral space also through the back.

**PRN:** As necessary.

**pseudarthrosis:** (variation: pseudoarthrosis) When a solid fusion is not obtained after fusion surgery.

**PT:** Physical therapist.

**PVA:** Percutaneous vertebral augmentation. A procedure that helps restabilize collapsed vertebral bodies by injection of material into the collapsed area. Includes vertebroplasty and kyphoplasty.

**-Q-**

**-R-**

**radiculopathy:** Impairment of a nerve root, usually causing radiating pain, numbness, tingling or muscle weakness that corresponds to a specific nerve root.

**RCT:** Randomized clinical trial.

**RN:** Registered Nurse.

**ROM:** Range of motion.

**Rx:** Treatment.

**-S-**

**sacrum:** Part of the tailbone just above the coccyx and below the lumbar spine.

**sciatica:** Pain, numbness, tingling in the distribution of the sciatic nerve, which travels from deep in the buttock down to the foot.

**scoliosis:** Abnormal curve of the spine.

**SI:** Sacroiliac. The joints (one on each side) between the sacrum at the midline and the iliac wings, which form part of the pelvic ring. Often a site of referred pain, and may be a source of pain.

**SPECT scan:** Single photon emission computed tomography. A diagnostic imaging test.

**spina bifida:** Congenital defect of the spinal column, where a hole in the vertebra leaves the spinal cord and nerves exposed. This condition is usually identified at birth and may be treated early in life.

**spina bifida occulta:** a congenital defect of the spinal column where the lamina fail to come together completely at the midline. In this form, there are no exposed neural elements, therefore, this is usually an incidental findings without any clinical findings associated.

**spinal cord stimulation (SCS):** Electrical device implanted in the spine to control chronic pain.

**spinal stenosis (SS):** Local, segmental or generalized narrowing of the central spinal canal by bone or soft tissue elements.

**spondylolisthesis, degenerative:** When a vertebra slips forward over the vertebra below it as a result of arthritis of the small joints of the spine and degeneration of the discs.

**spondylolisthesis, isthmic:** When a vertebra with a crack in the “pars interarticularis” where the vertebral body and the posterior elements protecting the nerves are joined, slips forward over the vertebra below it. Spondylolisthesis can be graded as I, II, III or IV based on how far forward the vertebra has slipped.

**spondylolysis:** A fracture (crack) in the “pars interarticularis” where the vertebral body and the posterior elements, protecting the nerves are joined. In about 5% of the adult population, there is a developmental crack in one of the vertebrae, usually at the point at which the lower (lumbar) part of the spine (L5) joins the tailbone (sacrum). See section on spondylolysis and spondylolisthesis

**Sx:** Symptoms.

**-T-**

**T#:** The letter T followed by a number identifies a specific vertebra in the thoracic spine. For example, T3 is the 3rd vertebra in the thoracic spine.

**TENS:** Transcutaneous electrical nerve stimulation. A form of electrical anesthesia used to block pain perception.

**thoracic:** Mid-upper back, area between the cervical (neck region) and lumbar (low back) spine

**traction:** Traction applies intermittent or continuous force by mechanical or manual methods to elongate the spine.

**trigger point injections:** Injection of local anesthetic with or without corticosteroid into painful soft tissues (i.e., muscles or ligaments) along the spine or over the back of the pelvis. Generally used for pain control.

**Tx:** Treatment.

**-U-**

**unremitting low back pain:** Another term for chronic low back pain. A condition in which the chief complaint is back pain of primarily a mechanical nature, associated with activities, but without associated spondylolysis or spondylolisthesis. To be classified as unremitting low back pain, symptoms must persist for more than three months and have been unresponsive to primary care treatment recommendations.

**-V-**

**vertebrae:** Bones that make up the spine. (vertebra: singular form of vertebrae)

**vertebroplasty:** Procedure to repair fractures related to osteoporosis, where glue-like cement material is injected into a collapsed vertebra.

**-W-**

**whiplash:** Commonly referred to as “neck sprain or strain” although symptoms may have other causes. Common in car accidents.

**-X-**

**-Y-**

**-Z-**

**Z-joint:** Zygapophysial joint. See also facet joints.

**zygapophysial joint injections:** Injections of steroids and local anesthetic into the facet joints to determine if it is a source of pain or to reduce pain and inflammation.