

Disc Herniation and Summary of Spinal Degeneration

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- Dr. Kirkaldy-Willis, orthopedic surgeon, medical school professor, researcher and author of “Managing Low Back Pain,” divided the degenerative arthritic process into 3 phases: **Dysfunction, Unstable, and Stabilization**.

The 3 Phases of Degenerative Arthritis:

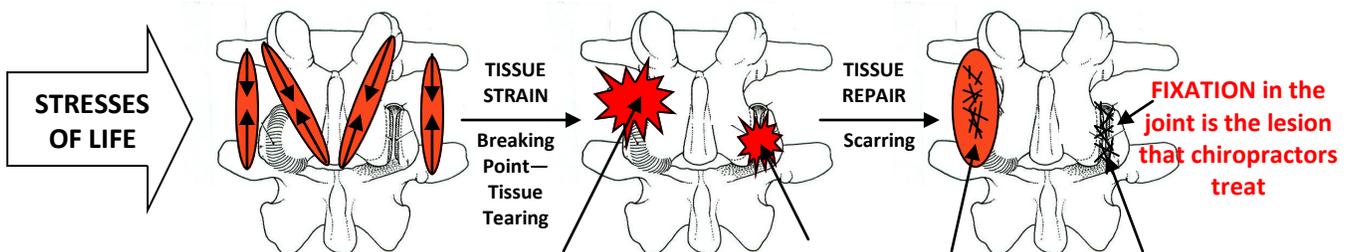


Minor and reversible pathologic changes

Permanent and irreversible pathologic changes

- In the **Dysfunction Phase**, the stresses and strains on the spine cause muscles to tighten. Over time, the **breaking point** is reached. Tears in the muscles and ligaments and the annular fibers of the disc cause swelling, pain, and more spasm.
- Scar tissue is deposited as the body heals. **Spasm, swelling and scar tissue (the 3 S's)** causes **mechanical dysfunction and fixation** within the joint and surrounding tissues. **90% OF ALL SPINAL PAIN COMES FROM THIS DYSFUNCTION/DEGENERATION PROCESS.**
- Even if there is tearing of disc fibers with mild disc herniation, conservative treatment measures are still recommended.

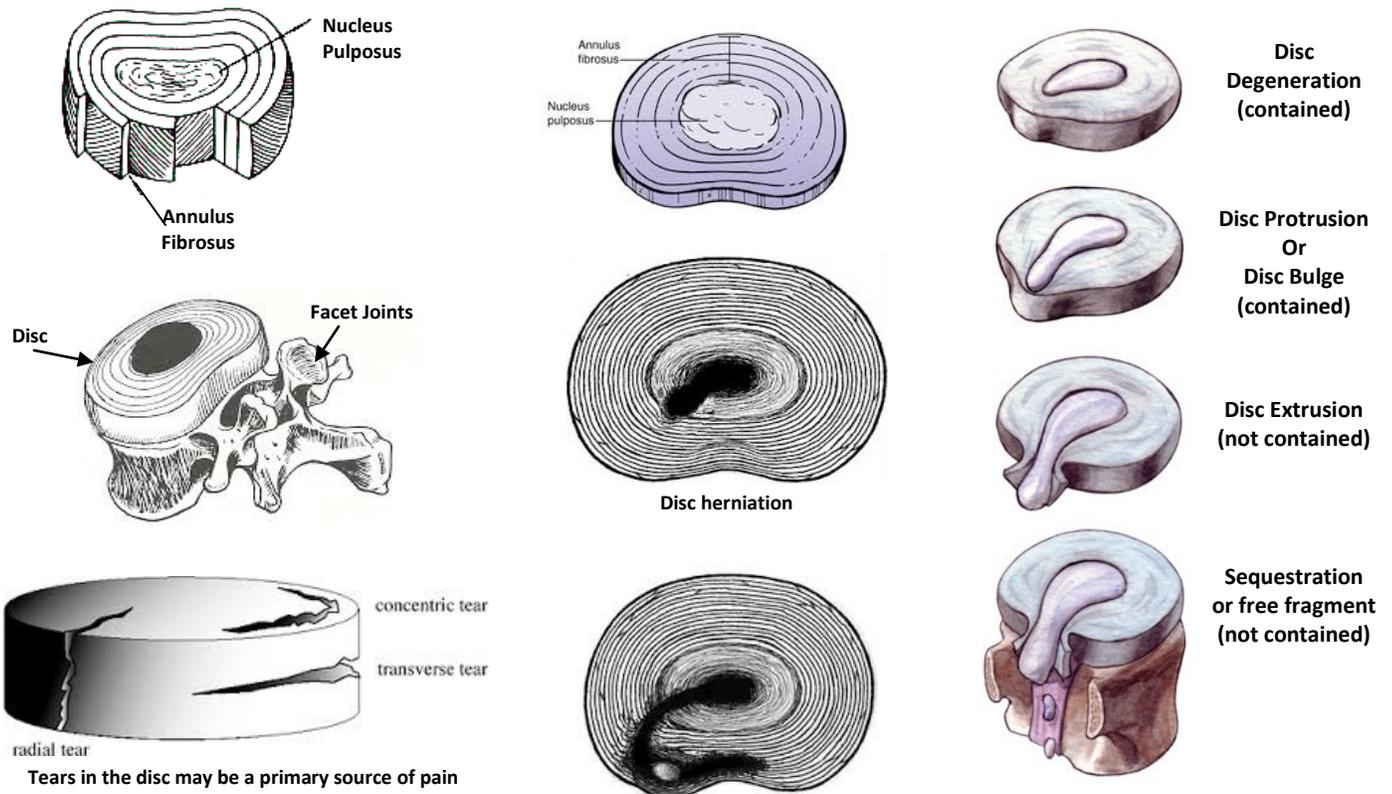
The Dysfunction Phase—Spasm, Swelling and Scar Tissue (the 3 S's) can cause **Fixation** in the Joint



1. **SPASM** of muscle—a response to the micro-traumatic, repetitive stresses of life (postures, bending and lifting, etc).

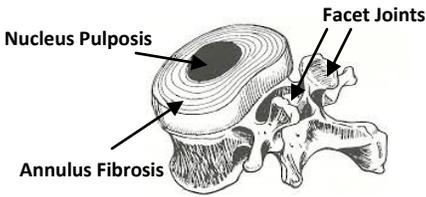
2. **SWELLING and Pain:** when the breaking point is reached—tearing of the muscles, ligaments and annular fibers of the disc. “The straw that broke the camel’s back.”

3. **SCAR TISSUE** in muscle is like gristle in a tough piece of meat. In the joint, it is like rust in a hinge.



Summary of Spinal Degeneration

THE STRESSES OF LIFE



Kirkaldy-Willis'—3 Phases of Degenerative Arthritis
The First Phase of Arthritis—The Dysfunction Phase
 (The pathology of the 3 S's—Spasm, Swelling, and Scar Tissue)

Abnormal spinal mechanics

"JOINT FIXATION" Manipulation

Reduces spasm, swelling and scar tissue. Restores motion and function in the joint and decreases pain.

May or May Not have Symptoms

The Thorn in the Foot—Perpetuating swelling and pain until it is removed

No Manipulation

Continued abnormal spinal mechanics—
 increasing "wear and tear"

More spasm, swelling, scar tissue—more fixation

Fixation results in a loss of the pumping action in the joint.
 The result is loss of nutrients and a build up of waste products. This leads to **cartilage cell death** which is a major component of arthritis.

Progression into the 2nd and 3rd Phases of Degeneration

Degenerative changes in and around the joint

Facet Changes:

- Facet synovitis (swelling)
- Facet Syndrome
- Facet bone spurs
- Sacroiliac Syndrome
- Foraminal stenosis (narrowing)
- Central and lateral canal stenosis (narrowing)

Disc Changes:

- Cracks and fissures in the disc (annular tears)
- Loss of fluid and decreased space in the disc (loss of the cushion)
- Bulges and protrusions in the disc (herniations)
- Arthritic bone spurs
- Central and lateral canal stenosis (narrowing)

Soft Tissue Changes (muscles, tendons, ligaments, and fascia):

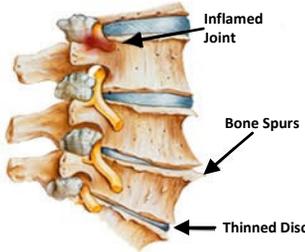
- Spasms/strains/sprains
- Tendonitis/fascitis
- Trigger Points (knots)
- Myofascial Pain Syndromes (Piriformis)
- Contractures/adhesions
- Fibromyalgia



Disc Degeneration



Disc Protrusion or Disc Bulge



- As you progress into the 2nd and 3rd phases of arthritis, you will still have the pathology of spasm, swelling, and scar tissue and fixation within the spinal joint complex. I treat patients who have extensive arthritic changes in their spines: x-rays and MRIs reveal moderate degenerative disc disease, arthritic spurring, lateral foraminal stenosis, central canal stenosis, mild to moderate disc bulging and herniation, etc. **These findings are not contraindications to doing gentle manipulation.** In fact, manipulation will free up adhesions and restore motion back into the joint. This will help improve nutrient flow into the disc and waste product removal. This is a very healthy thing to do for aging, degenerating discs.
- There are studies that show 30% of people over the age of 30 and 50% of people over the age of 50 have abnormal findings on x-rays and MRIs and they are completely asymptomatic.