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# Facet Joint Disorders and Back Pain

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Nearly every flexible or movable level of the spine (with the exception of the very top vertebra) is comprised of the same elements, including:

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- **Vertebral body,** the bony building blocks of the spine
- **Facet joint,** small stabilizing joints located between and behind adjacent vertebrae
- **Intervertebral disc,** which provides a cushion between each of the vertebral bodies and binds them together

Other than supporting the organs of the entire body, the axial (midline) skeleton's discs allow rhythmic motions required by humans to walk, run, swim, and perform other regular movements. Additionally, the spine (so named from the bony plates that extend backwards from the vertebrae) provides a bony protection for the spinal cord and emerging nerves.

To prevent excessive motion, over-twisting or toppling over, the segments of the spine are stabilized by a number of structures that nonetheless preserve the flexibility needed to turn, look around and get around. The **facet joints**, or joints with "small faces" are found at every spinal level (except at the top level) and provide about 20% of the torsional (twisting) stability in the neck and low back. The **vertebrae** of the chest area are normally far less mobile and permit a small amount of forward/backward and some side bending, and very little twisting.

In the low back, forward-backward bending is limited to about 12 degrees and lateral (to the side) bending to about 5 degrees. Lower back rotation is limited to only about 2 degrees per segment, since excessive rotation could lead to spinal cord or nerve damage.

At each given spinal level the angle of the facets - relative to a plane running through the body from front to back - varies from more parallel to more perpendicular. Each facet joint is positioned at each level to provide the needed limits to motion, especially to rotation and to prevent forward slipping (spondylolisthesis) of that vertebra over the one below.

Each upper half of the paired facet joints are attached on both sides on the backside of each vertebra, near its side limits, then extend downward. These faces project forward or towards the side. The other halves of the joints arise on the vertebra below then project upwards, facing backward or towards the midline to engage the downward faces of the upper facet halves.

The facet joints do slide on each other and both sliding surfaces are normally coated by a very low friction, moist cartilage. A small sack or capsule surrounds each facet joint and provides a sticky lubricant for the joint. Each sack has a rich supply of tiny nerve fibers that provide a warning when irritated.

The intervertebral discs are also a type of joint in the spine, and are bound together by flexible fibers in several circling bands, like a tough fire hose, that make up the outer portion of the disc. Disc joints can bend and rotate a bit but do not slide as do most body joints.

## Facet Joint Problems – Back Pain from Bone Spurs and Osteoarthritis

Facet joints are in almost constant motion with the spine and quite commonly simply wear out or become degenerated in many patients. When facet joints become worn or torn the cartilage may become thin or disappear and there may be a reaction of the bone of the joint underneath producing overgrowth of **bone spurs and an enlargement of the joints**. The joint is then said to have arthritic (literally, joint inflammation-degeneration) changes, or **osteoarthritis**, that can produce considerable back pain on motion. This condition may also be referred to as "facet joint disease" or "facet joint syndrome".

A protective reflex arrangement arises when the facets are inflamed which causes the nearby muscles that parallel the spine to go into spasm. We therefore see inflamed facet joints causing crooking and out-of posture of the back, along with powerful muscle spasm. Manually 'correcting' this spinal curvature actually depends on relaxing the spastic muscles and not a rearrangement of bony structures.

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