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**TOLEDO**  
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## Artificial Facet System for Lumbar Spine

The management of chronic low back pain is a prevalent problem to the clinician. It has been estimated that 70% of the population in the United States has experienced low back pain during their lives. The spine is made up of a series of bones called vertebrae. When the vertebrae are articulated with each other, the bodies form a strong pillar for the support of the head and trunk. Superior and inferior articular facets on each vertebra act to restrict the range of movement possible. Through disease or injury, the laminae, spinous process, articular processes, or facets of one or more vertebral bodies can become damaged, such that the vertebrae no longer articulate or properly align with each other. This can result in an undesired anatomy, loss of mobility, and pain or discomfort. One type of conventional treatment of facet joint pathology is spinal stabilization which prevents relative motion between the vertebrae. Stabilization can be accomplished by spinal fusion or fixation of any number of vertebrae to stabilize and prevent movement of the vertebrae. However, problems with fusion have increased interest in motion preservation technologies. Traditional treatments are subject to a variety of limitations, varying success rates, and none of the described treatments puts the spine in proper alignment. In addition, stabilization techniques permanently limit a person's mobility. Therefore an artificial facet system has been developed an implant that replicates the natural facet kinetics and can restore the normal function of the segment after artificial facet replacement.

The University of Toledo is seeking a company interested in utilizing this compressible self-distracting joint replacement assembly with support members configured to receive a pivot mechanism.

### **Applications:**

Patients with facet joint pathology

### **Advantages:**

1. Replicates natural facet kinematics
2. Restores the mechanics
3. Restores the normal function
4. Restores motion in all planes
5. Could prevent adjacent-level degeneration

**This invention is patent pending**

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