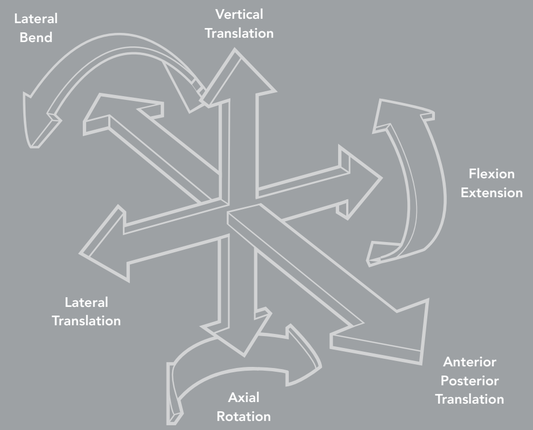


6 degrees of natural freedom™

Motion in all Directions

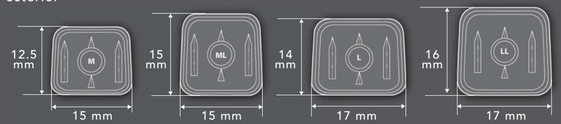
Kinematics is the study of motion and is a vital consideration in the design and development of any artificial disc prosthesis. An object that is completely free to move in a three dimensional space is said to have six degrees of freedom.

M6-C™

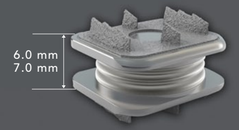
artificial cervical disc

To accommodate the various anatomical ranges, the M6 artificial cervical disc is available in a variety of heights and endplate footprints.

Posterior



Anterior



Endplate Footprint [mm]	Height [mm]	
Medium 15 width x 12.5 depth	6	7
Medium Long 15 width x 15 depth	6	7
Large 17 width x 14 depth	6	7
Large Long 17 width x 16 depth	6	7

SpinalKinetics™
Motion for Life™

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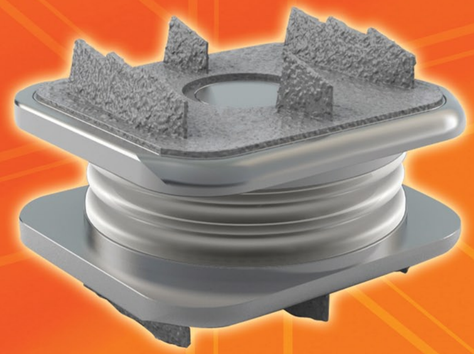
M6-C™

artificial cervical disc



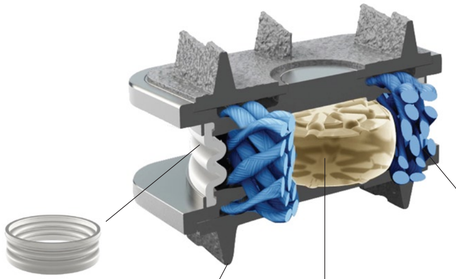
6 degrees of natural freedom™

SpinalKinetics™
Motion for Life™

M6-C™

artificial cervical disc

The M6 artificial cervical disc is designed to replicate the anatomic structure and biomechanical performance of a natural disc. Its innovative design incorporates an artificial nucleus to allow axial compression and a woven fiber annulus for controlled range of motion in all six degrees of freedom. This physiologic motion is intended to preserve segmental motion and possibly prevent or delay additional adjacent level degeneration.



ADVANCED GENERATION

TECHNOLOGY NATURALLY

Sheath

- Viscoelastic polymer designed to minimize tissue in-growth and debris migration
- Flexible design allows for full range of motion

Fixation

- Titanium endplates with low-profile tri-keel design provides for optimal acute and long-term fixation
- Titanium Plasma Spray (TPS) coated endplates provide for osseointegration

Artificial Nucleus

- Viscoelastic polymer designed to simulate native nucleus
- Allows physiologic axial compression
- Retained between endplates by fiber annulus matrix
- Designed to facilitate physiologic Center of Rotation (COR)

Artificial Annulus

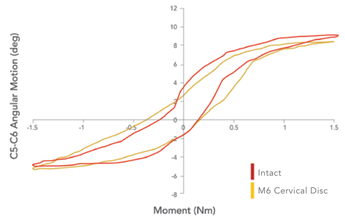
- Ultra High Molecular Weight Polyethylene (UHMWPE) fiber material
- Intended to simulate native annulus and its performance characteristics
- Designed to provide controlled motion in all planes & axes of rotation
- Robust fiber matrix with multiple fiber layers similar to native annulus

M6-C Quality of Motion

Quality of Motion assesses how well the motion of an implanted functional spine unit approximates the motion of a healthy one over the entire range of motion, not just its endpoints. Through biomechanical testing, a load vs. angular displacement curve ("kinematic signature") is generated that allows assessment of the Quality of Motion parameters.

Biomechanical testing with the M6 artificial cervical disc has demonstrated equivalent Quality of Motion compared to the healthy disc. The innovative artificial fiber annulus and nucleus construct of the M6 is the critical component in replicating this physiologic motion, as it is designed to provide the necessary restraint and control needed throughout the spine's natural range of motion.

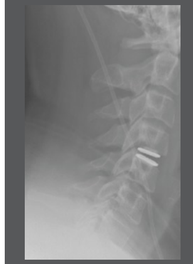
C5-C6 Flexion-Extension Load-Displacement Curves
150 N Follower Load

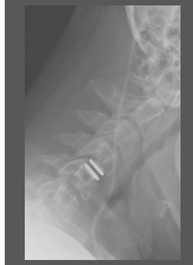


Biomechanical results showing the M6 cervical disc (orange) maintained total ROM (13.5) vs. the intact disc (13.3) with excellent Quality of Motion. The "kinematic signatures" of the intact disc (red) and M6 cervical disc are nearly identical.

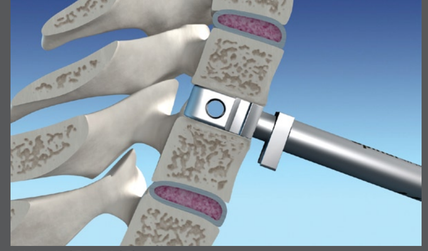
Patwardhan et al. Musculoskeletal Biomechanics Laboratory, Edward Hines Jr. VA Hospital, Hines, Illinois, USA

Single-Level M6 Case

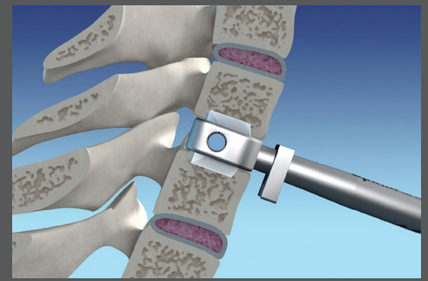




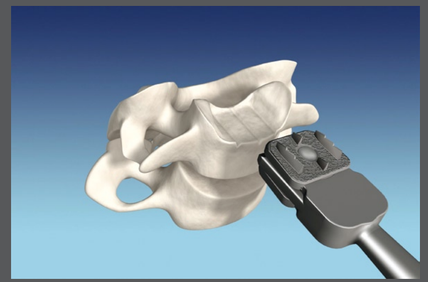
Multi-Level M6 Case



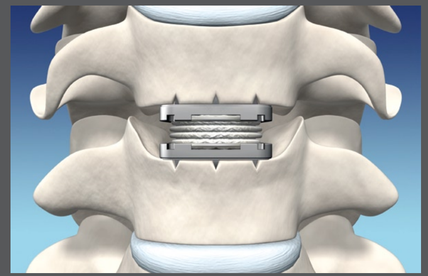
M6 Cervical Disc Trial Placement



M6 Cervical Disc Chisel Insertion



M6 Cervical Disc Insertion



Implanted M6 Cervical Disc

M6-C Surgical Instrumentation

The M6 surgical instrumentation system was designed with surgeon feedback for simple, safe, and reproducible implantation of the disc. Instrumentation includes Trials to assess optimal disc size and placement, corresponding Chisels to cut keel tracks for disc insertion, and Inserters to easily implant the M6 into the intervertebral space.

The M6 Trials and Chisels all incorporate the Spinal Kinetics CAP™ System (Center Alignment Port) that provides optimal alignment under fluoroscopy to the Trial and Chisel head in both A/P and lateral views to better assess midline placement.