Researchers at the University of South Florida have developed a new device and method for replacement of the damaged soft disc in the spine to restore normal biomechanical behavior eliminating pain and restoring full function.

Degenerative disc disease results in significant pain for a large population of patients. The current standard of care is an instrumental fusion using a variety of surgical approaches. In the procedure, the intervertebral disc is removed (discectomy) and replaced with a stiff strut or cage. Additional plates, rods, and screws are often used to stabilize the assembly as it heals. The healing process has the goal of fusing adjacent vertebral bodies across the disc space. In as many as 20% of cases, fusion does not occur.

Our investigators have developed a device that replaces an entire spinal disc. The device is composed of an outer woven fabric that encloses a hydraulic element made up of elastic polymeric beads or liquid. The technology also provides a means where by the device can be converted to a fusion element after it has already been implanted.

**ADVANTAGES:**
- The new device replaces the damaged spinal disc
- The implanted device can be converted to a fusion element
- Device is composed of an outer woven fabric that encloses a hydraulic element, both of which are soft & compliant
- The hydraulic element can be implanted pre-operatively, inter-operatively, or post-operatively

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