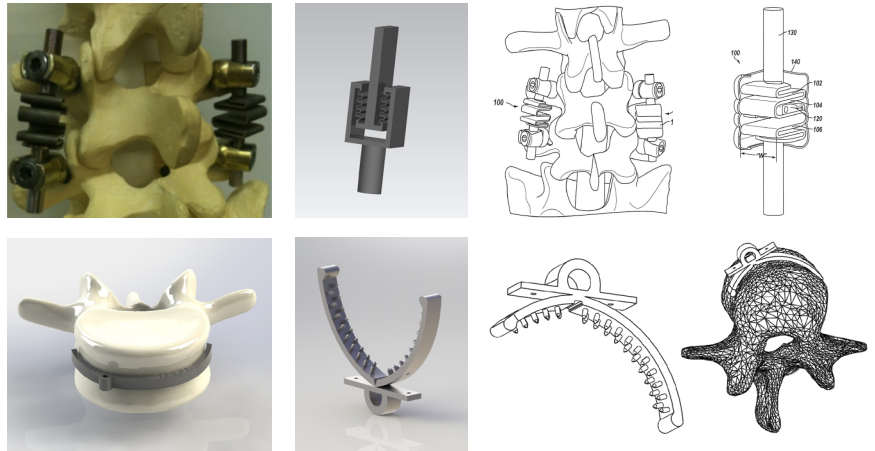




# Spinal Support and Spinal Clamp

## DESCRIPTION

Researchers at BYU developed novel compliant mechanisms that include a spinal support and a spinal clamp. The spinal implant is used to dynamically support the unstable spinal segment and restores the healthy motion to a degenerated spine. This device can be attached to the spine through a spinal clamp that has two arms that fasten around the vertebral body and uses multiple rows of spikes to mount securely into the spine.



## PROBLEM SOLVED

When a patient suffers from spinal problems, it is often necessary to attach an instrument to the patient's spine to counteract the issues, usually to control the spine motion. Current approaches stabilize the spine but eliminate the necessary motion. The spinal implant developed at BYU provides stability to the spine and restores the healthy motion which will likely relieve pain and aid in the recovery process. Traditional methods to attach the medical device to the spine involve bone screws which have many flaws including failure at high rates. This novel spinal clamp is designed to securely and mechanically attach to vertebrae of different size and shape. It is less destructive during insertion and it provides a much easier and significantly less destructive removal process in the case of revision or re-use of the device.

## KEY ADVANTAGES

- » Customization for individual patient needs
- » More evenly distribution of the force to the bone
- » Less destructive to existing hard and soft tissue

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## APPLICATIONS

These devices have applications for in vivo spinal instrumentation, as well as for ex vivo biomechanical testing of cadaveric spine specimens.

**IP STATUS:**  
US Patent Application  
PCT



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