Researchers at the University of South Florida have developed a novel knee orthosis with variable damping and stiffness at the knee joint. This newly designed and fabricated orthosis has a mounting that has slots and an adjustable connector piece which allows for the rotary damper mechanism to easily be swapped with a different sized rotary damper. In order to accommodate for variable stiffness, the orthosis was designed so that the connector piece was to be positioned in the center of the circular portion of a spring with a deflection angle of 90°, and both the upper and lower portions of the orthosis would have two protruding bolts to lock the spring legs into place.

This device was tested in real life with a sample of able bodied subjects which revealed that the device was able to increase the braking and push off forces while decreasing the knee angles which was originally hypothesized. Also, it helped to reduce the amount of displacement down the leg, due to the simple act of walking.

**ADVANTAGES:**
- Increase in velocity of walking
- More adjustable and precise
- Small and light weighted

**Adjustable Knee Orthosis for Increased Symmetry and Velocity While Walking**

**Depiction of Knee Orthosis Positioned on Knee of Subject During Testing**