



Java[®] Cushion MRI Research Summary

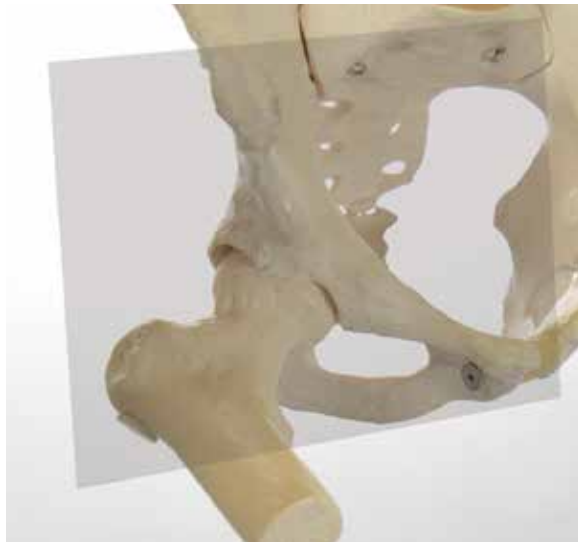
The Java[®] Cushion: Better by every measure

Ride Designs' patented Java[®] Cushion contour works by redistributing the forces of pressure and shear from high risk areas while selectively applying the forces to areas more tolerant. The result is the potential for:

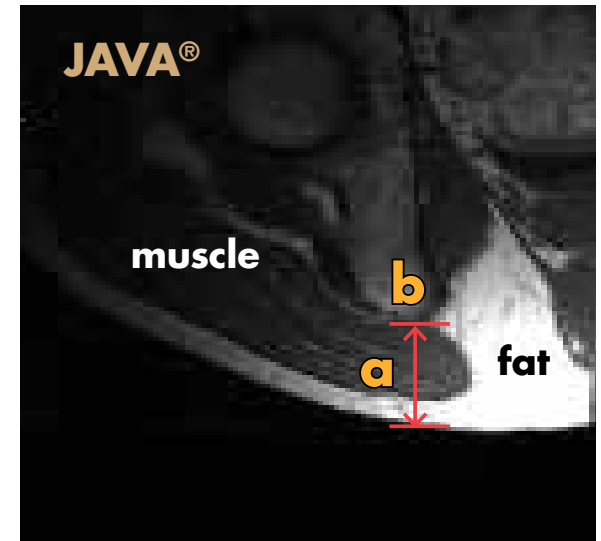
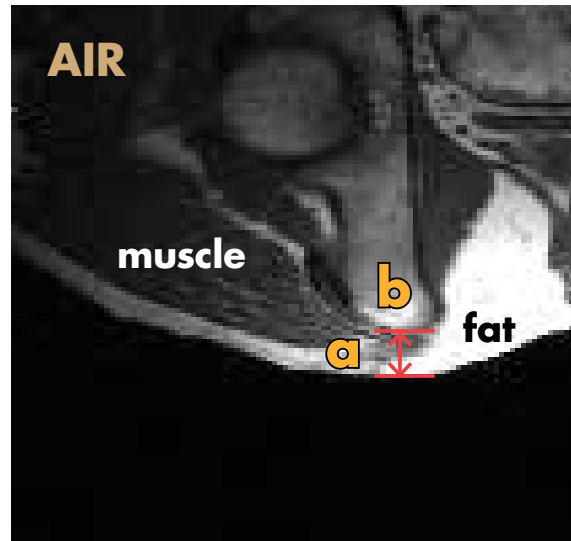
- Greater sitting stability for improved functional performance
- Improved skin outcomes
- Lower tissue distortion
- Lower long-term skin risk



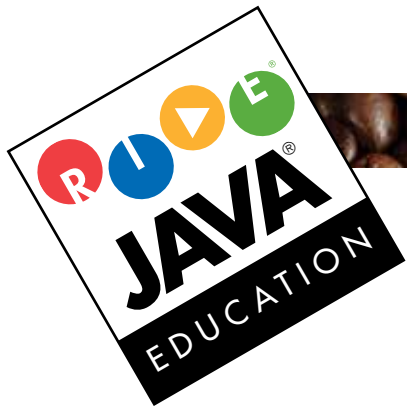
Minimal deep tissue deformation to reduce risk for skin breakdown



Area of scan is shaded for orientation.



Sitting in an open MRI, we can see and measure deep tissue deformation, a leading cause of severe pressure sores. Simply put, the less deep tissue deformation when seated on a cushion, the lower the risk for deep tissue injury. Notice how little tissue deformation occurs on the Java Cushion as compared to sitting on a properly inflated air cushion as evidenced by measurement of muscle and fat thickness (a) below the ischial tuberosities (b).



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Off Loading Wheelchair Cushion provides best case reduction in tissue deformation as indicated by MRI

Ten subjects, all with SCI, Paraplegia. Average time since onset was 18.4 years, with most recent being three years, and longest being 30 years.

Objective: Compare deep tissue deformation below the ITs and surrounding the femoral head under three conditions: 1) Fully suspended, 2) Properly-inflated Air Cushion, 3) Java Cushion.

At right: Subject in MRI; Far right: Set up for fully suspended studies.

Authors:

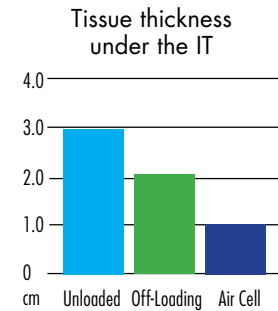
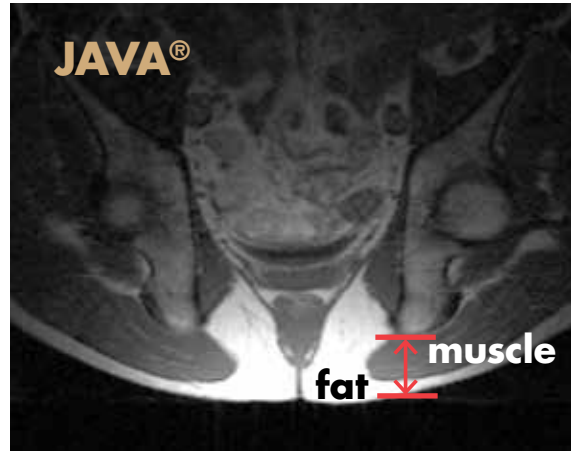
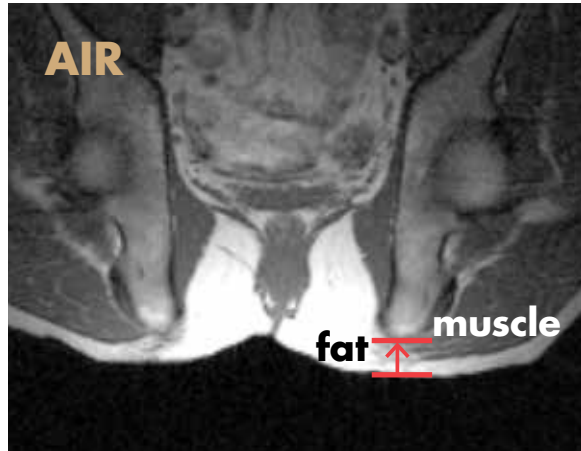
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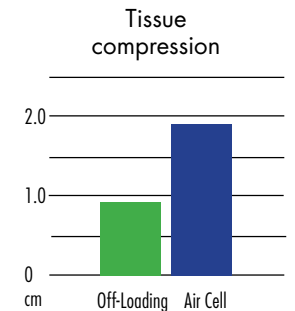
Chad McLean[®]



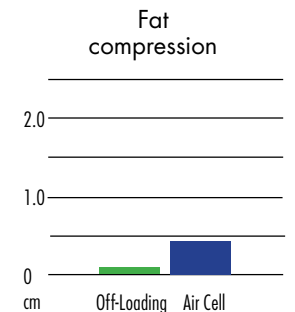
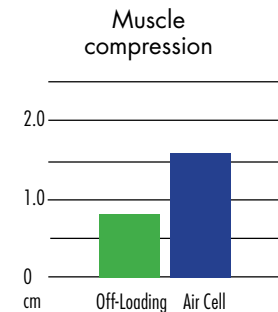
Compression at Ischial Tuberosities



Tissue thickness under the IT decreases when using the air cell cushion compared to the Java



Use of the Java Cushion results in 50% less compression than air cell cushion



Charts at right: Tissue compression is significantly impacted by a cushion, and compression in fatty tissue represents the majority of that impact. Some subjects had no muscle tissue below their ITs due to severe atrophy. Those subjects were excluded from the muscle compression measure.