

Title: Smart Boot Cast for Improved Patient Compliance and Therapeutic Outcome

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| <p>Invention Summary</p> | <p>Lower leg immobilization is used to treat many types of lower leg injuries. This type of therapy is also used after surgery to immobilize the leg and allow the surgical site to heal without the risk of re-injury. Oftentimes the patient is put into a lower leg immobilization device and told to refrain from putting any weight on the limb for a period of time. As the limb heals and recovers, physicians will instruct patients that they may place “limited weight” on the foot. Despite their physician’s post operative instructions, patients are notoriously non-compliant when it comes to weight bearing instructions. In addition, when patients are instructed that they can put “25% body weight” on the immobilized leg, they often have no guidelines to help them assess when they have reached or exceeded the physician guidelines. This invention is a monitoring and feedback system that is incorporated into a lower leg immobilization device. The sensor system provides feedback to the patient and stores data to facilitate clinician assessment.</p> | | | | |
| <p>Market Applications</p> | <p>This device is targeted to athletes and others following foot or lower leg surgery requiring a cast.</p> | | | | |
| <p>Features, Benefits & Advantages</p> | <p>This device could promote better patient compliance, enhance clinician understanding and improve therapeutic outcome.</p> | | | | |
| <p>Intellectual Property & Development Status</p> | <p>This concept-stage invention is the basis for one of the design projects for the Bioengineering 3801/4801 Design Class sequence, and will be further developed in that context. It is available for developmental research support/licensing under either exclusive or non-exclusive terms.</p> | | | | |
| <p>Related Research</p> | <p>http://medicine.utah.edu/orthopaedics/physicians/faculty/kubiak.htm</p> | | | | |
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