Wake Forest University

Office of Technology Asset Management

http://www1.wfubmc.edu/otam/

Featured Technology

NOVEL MINIMALLY INVASIVE MEASUREMENT OF INTERSTITIAL COMPARTMENT PRESSURE

INVENTOR: Dr. David Carroll, Department of Physics

OVERVIEW

Acute Compartment Syndrome (ACS) can lead to devastating disabilities, amputation, or even death, if not diagnosed and treated immediately. ACS occurs when increased interstitial pressure within a closed muscle compartment, often the result of a fracture or other trauma, compromises blood flow to muscles and nerves within that compartment and results in ischemia and significant tissue and nerve damage. **Rapid diagnosis is critical** as it has been demonstrated that within eight hours of ischemia of the compartment, the damage to the muscles is often irreversible. **Current methods of diagnosing ACS are extremely invasive** and rely on the insertion of a large bore needle (16- 18- gauge needle) into the compartment to measure interstitial pressure. Clearly, the need exists for a more sensitive, minimally invasive pressure sensor to diagnose ACS.

INVENTION

Researchers at Wake Forest University and Wake Forest University Health Sciences have **developed a novel pressure sensor that can measure real time interstitial compartment pressure while avoiding the inherent invasiveness of catheter techniques**. This sensor has been shown to easily measure pressures as low as 10mm Hg, and studies are ongoing to demonstrate a detection of pressure as low as 2mm Hg. This minimally invasive novel technology has the **potential to replace the current fluid-filled manometric systems or solid-state transducers that are currently used** to measure interstitial compartment pressure.

MISSION

To maximize the value of Wake Forest University's intellectual assets through the creation of novel and effective models for commercializing technology.

Licensing Contact:
Stephen J. Susalka, Ph.D.
Assistant Director

Email: ssusalka@wfubmc.edu
Phone: (336) 716-3729