

Instron® Testing System Used in Stroke-Prevention Research

University of Cambridge, UK - Researchers study the biomechanics of the carotid artery

Instron has provided the University of Cambridge with a Model 3367 30kN Universal Testing Machine. The system will be used to measure hardening of arteries, caused by Atherosclerosis, which when present in the carotid artery can lead to a stroke.

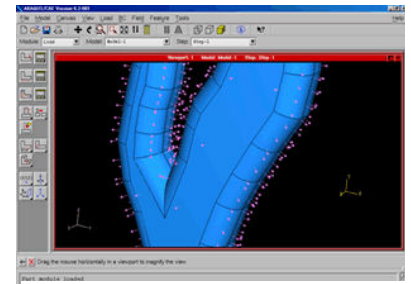


Figure 1: Computer generated image of the carotid artery

Dr. Michael Sutcliffe and colleagues are studying the material, known as plaque, which is deposited on the walls of arteries that causes Atherosclerosis. They are working to understand the interactions between the geometry and the material behavior of the plaque and the fluid mechanics of the blood flow through the artery.

The overall aim of the project is to use a combination of imaging and modelling of the carotid artery to develop better ways of estimating risk and to improve patient selection for different therapies. This includes a study of the stiffness and rupture of the plaque.



Figure 2: Artery Rupture

Dr. Jonathon Gillard, at the Department of Radiology based in Cambridge's Addenbrooke's Hospital, has developed world-leading techniques to produce high-resolution images of the carotid artery, using high-resolution Magnetic Resonance Imaging (MRI) and Computed Tomography (CT). Dr. Sutcliffe and colleague Dr, Yong Li are working with these imaging techniques.

The Instron testing machine will also be used for similar work on the mechanics of brain tissue that is being undertaken by a PhD student, Mr Dongjoo Kim, with Prof. John Pickard and Dr, Marek Czosnyka at the Department of Neurosurgery.

About University of Cambridge Department of Engineering

The Department of Engineering is the largest department in the University of Cambridge, representing approximately 10% of the University's activities by the majority of common metrics and is one of Europe's largest integrated engineering departments. It achieves the highest standards in both research and teaching. Its international reputation attracts the best students, academics, sponsors and partners from around the world.

Further information can be found at www.eng.cam.ac.uk. For information regarding their research into the biomechanics of the carotid artery contact: Dr. Michael Sutcliffe, email: mpfs@eng.cam.ac.uk.

About Instron®

Instron is a leading provider of testing equipment for the material and structural testing markets. A global company providing single-source convenience, Instron's products are used to test the mechanical properties and performances of various materials, components and structures in a wide array of environments. Instron systems evaluate materials ranging from the most fragile filament to advanced alloys, providing customers with a comprehensive resource for all their research, quality and service-life testing requirements. Additionally, Instron offers a broad range of service capabilities, including assistance with laboratory management, calibration expertise and customer training.

For more information on Instron's products and services, visit www.instron.com. Click on 'Contact Us' to locate a sales, service and technical support office near you.