Instron is the leading, global supplier of mechanical testing systems, suitable for tension, compression, flexure, peel, tear, friction, torsion, and fatigue tests. Hospital and surgical products are often consumable and designed for one-time patient use. Items such as catheters, guidewires, intravenous lines, tubing, and an assortment of wound closure products such as bandages, sutures, and staples all fall within this category. Mechanical testing of these products is especially important to guarantee properties such as adequate tensile strength, low frictional forces, and sufficient elongation are appropriately matched to the application. If these mechanical characteristics are inappropriately matched for the product, patient, or surgical application, this could have disastrous effects to the patient. For example, a curved needle poorly designed for suturing a wound could damage a patient’s surrounding tissues, and inhibit a surgeon’s ability to properly close the wound.
In the clinic and operating room, Instron test systems are used to check the performance of surgical wire, surgical needles, and surgical gloves. These systems offer effort-free load control, a small footprint, and a wide range of test methods. The systems are used to measure the characteristics of materials, such as tensile strength, and to verify the performance of components, such as medical adhesives. For example, Instron’s Compression Test System is used to test Intravenous (I.V.) tubing at a connecting joint where the nurse or doctor would press during patient application. The measurement is repeated for each joint, and the test result is used for recording purposes.

Instron’s Application Modules for Bluehill Universal software are used to configure representative testing standards. For example, needle penetration forces for curved needle testing can be configured to ASTM F3014, and peel properties can be measured to ASTM F88. Instron’s Application Modules also allow for the use of additional modules to meet specific needs. Instron’s Application Modules for Bluehill Universal software provide a large range of test methods, which makes the test system a powerful tool for users to measure and test a wide range of materials in an easy and efficient way. The testing results can then be used to ensure the quality of products and improve the performance of medical materials.
Instron’s instruments and technologies are used for various types of tests across many diverse medical sectors. The flexibility of Instron systems to adapt to numerous applications make our systems truly universal.

Designed from the ground up for touch, Instron’s static testing software, Bluehill Universal, is easy-to-use, increases testing efficiency, and contains modular features that enable users to run the most complex tests.

With ISO 9001 accreditation, our goal is to provide the best ownership experience by delivering the highest quality products, expert support, and world-class service. Instron Connect provides users with a powerful communication platform via a secure connection between the Instron system at your facility and Instron’s global technical support engineers. With Instron Connect, users receive faster remote technical support, reduce risk with schedule verification and preventive maintenance reminders, and are effortlessly able to keep up to date with the latest software features.

Manufacturers of catheters and guidewires used in cardiovascular surgery evaluate the frictional properties of these products as they are pushed through a tortuous path to mimic conditions in the human body.

Medical Sectors

Visit our website to learn more about the different medical sectors we support: go.instron.com/bio