

# ORTHOPAEDICS & DEVICES FOR OSTEOSYNTHESIS



Instron® has considerable experience of mechanical testing in orthopaedics: from basic static testing of raw materials, to impact loading of joint components, through to complete simulation for evaluating the fatigue and wear properties in vivo. Through every phase of implant development, our solutions meet a vast array of demands found within the orthopaedics field. These include hip and knee implants, spinal devices, and medical devices for trauma and osteosynthesis.

Photo (Right) ElectroPuls™ Dynamic Test Instruments offer high frequency fatigue and static test capability using only single-phase electrical power.





a



b



c



d



a Fatigue resistance of modular hip implants can be evaluated to ISO 7206 or ASTM F2068

b Testing of spinal constructs to ASTM F1717 on the ElectroPuls E1000 all-electric dynamic test instrument

c Fatigue testing of knee tibial trays to ISO 14879-1

d Static and fatigue tests on intramedullary nailing systems can be evaluated on Instron® systems



Fatigue tests of fixation devices for phalangeal, metacarpal, and carpal bones tested on ElectroPuls™.



Combined axial and torsional loadings can be applied to intervertebral disc replacements according to ASTM F2346.



The ElectroPuls™ E10000 Linear-Torsion test instrument can be fitted with a saline bath for long-term fatigue tests, or can be used to perform combined linear-torsion tests on whole bones.



Intervertebral body fusion devices can be tested to ASTM F2077 and F2267 on either the ElectroPuls™ or 8870 servohydraulic fatigue systems.



# Instron® – A Total Solution Provider



The Instron range of testing systems provides extensive capability; 3300 and 5900 electromechanical machines offer static tests, where as ElectroPuls™ all-electric dynamic test instruments perform quasi-static, cyclic and high-frequency fatigue tests

## Medical Sectors

DENTAL MATERIALS AND IMPLANTS



BIOMATERIALS AND TISSUE ENGINEERING



MEDICAL CONSUMABLES AND EQUIPMENT



IMPLANTABLE DEVICES



PHARMACEUTICAL



Bluehill® and WaveMatrix™ Software

Instron's instruments and technologies are used for various types of tests across many diverse medical sectors. 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. This includes support services such as IQ/OQ and products to help comply with 21 CFR Part 11.

## Global Support That is Local to You

Founded in 1946, Instron is the leading supplier of materials testing equipment and solutions. Operating with 25 offices, including three state-of-the-art manufacturing facilities, in 18 countries, and more than 1200 employees, we have a global infrastructure that is local to you.

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