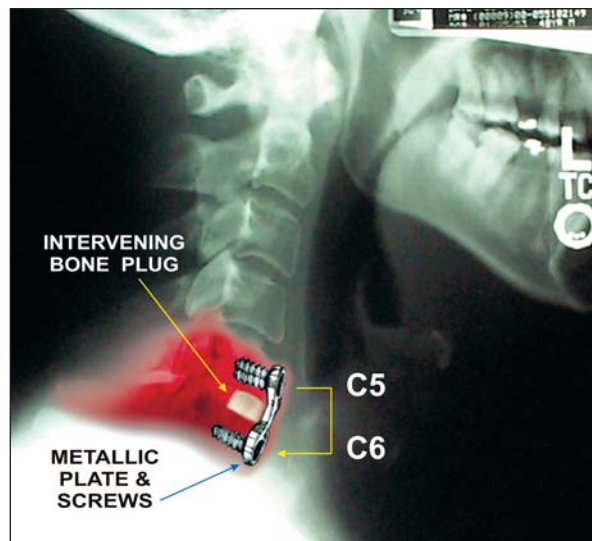


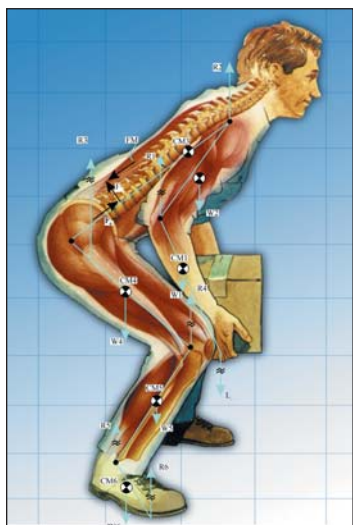
Medical Devices

ESI's multidisciplinary approach to engineering is well suited to consulting in the medical device field. With our strong capabilities in Biomechanical Engineering, Mechanical Engineering, Engineering Mechanics, Materials Engineering and Electrical Engineering, ESI has the ability to undertake a wide variety of complex medical device projects. Regardless of whether the device is used in the body (replacement joints, implants, etc.), on the body (orthopedic fixtures, braces, etc.) or simply acts on the body (surgical instruments, wheelchairs, etc.), ESI has the ability to

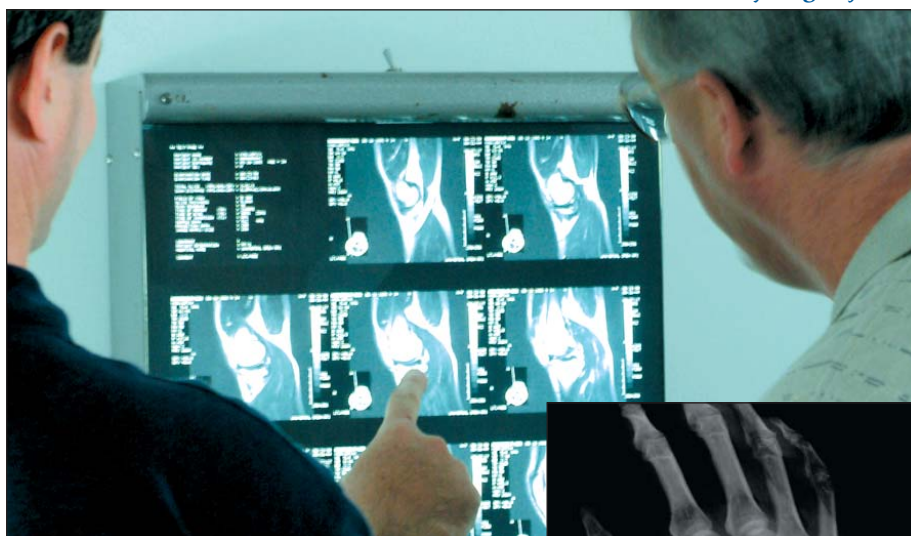
form an interdisciplinary team to address all of the relevant engineering issues. Irrespective of the type of project (engineering consulting, intellectual property or litigation), this ability to form cohesive, internal teams allows us to complete a medical device project in a timely, cost-effective manner.



Trial exhibit preparation



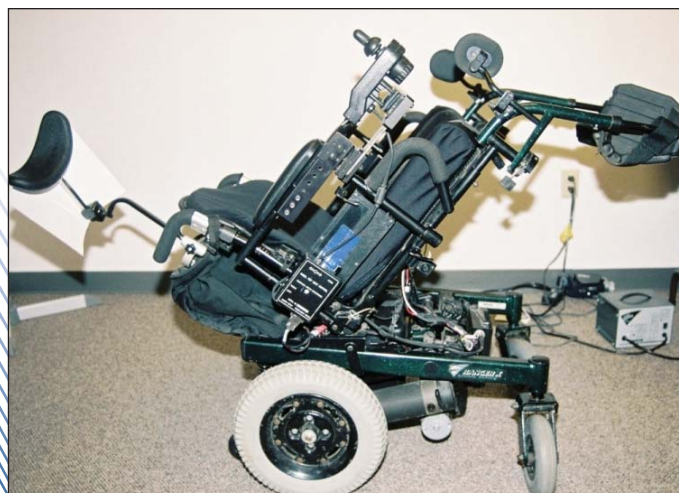
Biomechanics of lifting



Analyzing injuries



Stability devices



Mobility devices

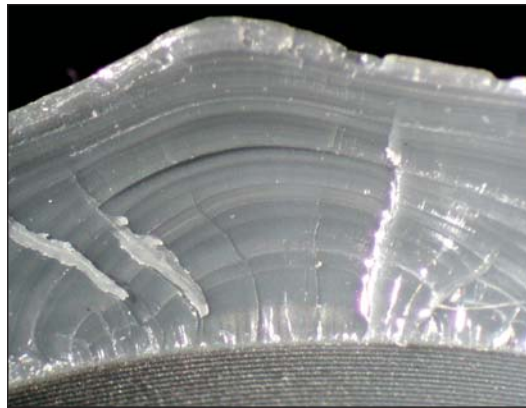


Orthopedic devices

Capabilities

ESI has numerous capabilities which can be brought to bear on medical device projects:

- Extensive Expertise in Failure Analysis
- A Large Staff of Experts in Materials Engineering (metals and polymers)
 - Scanning Electron Microscope (SEM) with EDS Capabilities
 - Optical Microscopy and Inspection Laboratory
 - Metallography Laboratory
- Wide-ranging Expertise in Biomechanical and Mechanical Engineering
- Comprehensive Design Analysis Capabilities
 - Finite Element Analysis
 - Computational Fluid Dynamics Analysis
- Technical Support Staff and Facilities for Testing and/or Instrumentation
- Electrical Engineering Expertise
- Manufacturing Expertise
- Quality Assurance Expertise
- Intellectual Property Expertise
- Extensive Expertise and Experience in Litigation Support
- Comprehensive Graphics Capabilities
 - Technical Illustrations and Drawings
 - Photography and Printing
 - Digital Video Editing
 - 3-D Computer Modeling
 - 3-D Computer Animations
 - Scale Modeling for Exhibits and Displays
 - Trial Exhibit Preparation

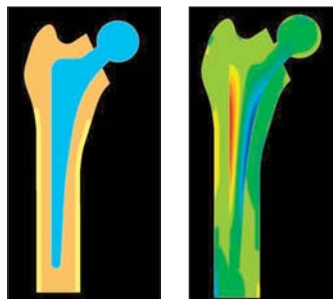


Close-up of the cyclic sterilization fracture

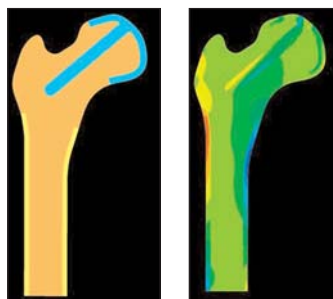
Plastic device fractured by repeated sterilizations



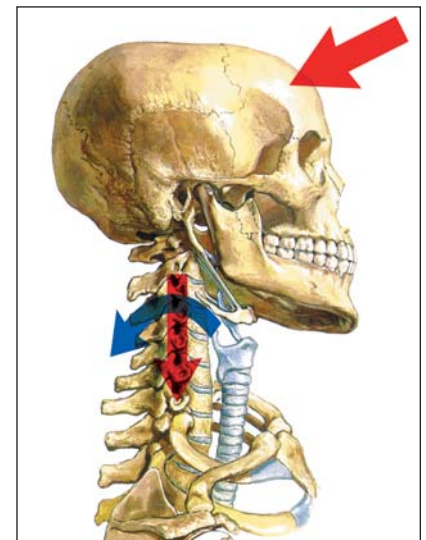
Femur



Hip replacement implant



Hip resurfacing implant



Technical graphics to explain

Providing Clear Answers Through Insights and Multidisciplinary Excellence

Assignments vary from national disasters to simple evaluations. We address complex issues with a multidisciplinary approach and the sharing of knowledge. Add to that research specialists, laboratories, test facilities, first-class modeling and graphics, and you have the best advice and support available in this industry...right here at ESI.

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