

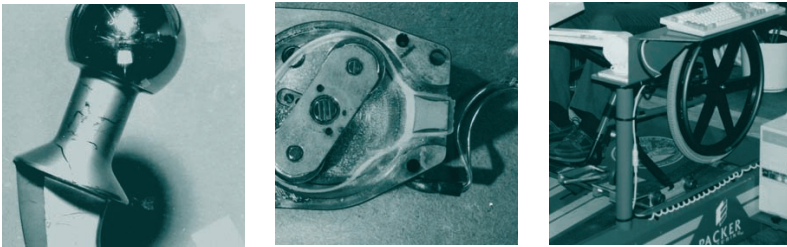
Biomechanics / Biomedical Engineering

The Biomechanics practice at Packer Engineering is led by a group with extensive backgrounds in biomedical and mechanical engineering research and analysis. Major areas of expertise include injury causation analysis and accident reconstruction involving motor vehicles, industrial equipment, construction sites, railroads, recreational and fitness equipment, wheelchairs, rehabilitation and assistive devices, and other consumer products.

Biomechanics and Human Performance staff work together in order to investigate and analyze medical device failures, workplace design, machine guarding, slips and falls, ergonomics, human perception and reaction, falls from heights, and warnings. Packer's Biomedical group also includes staff with expertise in medical device design and testing, and FDA compliance issues.

Services

- Injury causation analysis
- Accident reconstruction
- Product liability analysis
- Evaluation of safety training programs
- Project management
- Technology assessment



Industries

- Legal
- Insurance
- Automotive
- Railroads
- Construction
- Hospitals and health care providers
- Medical and assistive device manufacturers
- Medical instrument manufacturers
- Recreational equipment manufacturers
- Consumer product manufacturers



Forklift testing

Biomechanics / Biomedical Engineering

Types of Projects

- **Low-speed & high-speed motor vehicle collisions**
 - Injury causation analysis
 - Injury threshold analysis
 - Soft tissue injuries
 - Closed head injuries
 - Occupant kinematics & kinetics
 - Restraint systems
 - Automotive seat & interior design for safety
- **Occupational injuries**
 - Machine guarding
 - Slips & falls
 - Falls from heights
 - Stairs, ramps, & walkways
 - Manlifts, ladders, & stilts
 - Overhead doors
 - Forklifts
 - OSHA & building code compliance
 - Ergonomic design of work stations
 - Repetitive motion disorders
- **Recreational injuries**
 - Weight training machines
 - Treadmills
 - Playground equipment
 - Roller coasters
 - Bicycles
 - Trampolines
 - Helmets
- **Consumer product failures**
- **Motion analysis**
- **Human performance analysis**
 - Vision and visibility
 - Perception-reaction times
 - Driver behavior
 - Warnings
- **Impact tests with anthropometric test dummies**
- **Evaluation of safety training programs**
- **Medical device failures**
- **Intellectual property**

