Blunt Impact Trauma Assessment

Overview

Biokinetics provides testing services to assess personal protective equipment (PPE) for blunt impact trauma. The services address the needs of the military, law enforcement and corrections communities where impacts from personal assault, thrown or handheld threats are expected. Similar services can be provided for transportation, industrial and recreational applications where impact protection from blunt force trauma must be assessed.

Capabilities

Equipment and Instrumentation
- pneumatic impactors with capacity up to 5000 Joules
  - high mass, 25 kg @ 20 m/s
  - low mass, 150 gram @ 90 m/s
- drop tower impactor with capacity up to 500 J (10 kg @ 10 m/s)
- speed measurement with optical gates and/or light screens
- surrogates for blunt trauma assessment
  - head - arm - elbow
  - torso - groin - abdomen
  - legs - knee - hip
- extensive high-speed measurement capabilities (acceleration, pressure, force, displacement, strain, video)

Measurements
- blunt trauma injury assessment including acceleration, displacement and force based injury functions
- impact and rebound velocity

Services

Personal Protection
- torso and abdominal PPE
- arm and leg padding
- spine protectors
- helmets and facial protection

Research and Development
- personal protection products
- aged PPE degradation
- standards development
- injury assessment
- performance specifications

Quality Control and Proof Testing
- batch control for materials and end-use products
- proof testing to standard and custom specifications
- database management
- official laboratory reports

Making an Impact on Safety™

Lower leg protector performance assessment
Blunt Impact Trauma Assessment

Specifications

Biokinetics maintains its blunt trauma testing and research facilities to meet the stringent specifications of civilian, military and law enforcement standards. The qualified technical and engineering staff ensure a high level of understanding and confidence in the test results. Biokinetics can meet special testing needs, time schedules and equipment requirements. Please call us.

**Details**
- Impact anvils of all shapes, sizes and mass that meet international standards (edge, pipe, sphere, corner, cylinder, spike, plate)
- Can simulate real world threats such as thrown bricks, swung bats, kicks and punches
- Test surrogates that comply with CSA Z617-06
- Test headforms and equipment to meet CSA Z611
- High speed data acquisition, signal conditioning and data post processing

**Other**
- Biokinetics laboratory is recognized by national and international research and regulating bodies
- Client confidentiality assured
- Secure storage area
- PPE disposal services available

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<th>Agency</th>
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<tr>
<td>CSA</td>
<td>CSA Z617-06</td>
<td>Personal protective equipment (PPE) for blunt trauma</td>
<td>Bodily trauma</td>
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<tr>
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