

Biokinetics and Associates Ltd. combines a unique blend of engineering consulting, design, evaluation and testing capabilities related to human impact protection. Our specialized impact biomechanics and ballistic test laboratories compliment an array of injury biomechanics research and analysis programs. Our laboratories are also available to external clients for research, compliance and quality control programs.

{gallery}capabilities{/gallery}

Our biomechanical engineers have at their disposal state-of-the-art computer modeling and analysis tools to support many of the injury analysis and prevention programs. We maintain an extensive library on injury biomechanics, accident analysis, epidemiological studies, product standards and regulations collected for over three decades.

Our three laboratories include a wide range of custom-designed testing and evaluation equipment for low and high rate impact trauma studies. These include an array of drop towers, pneumatic rams and air cannons for biomechanical and blunt trauma studies, universal receivers and biofidelic human surrogates for ballistic studies, and a stab test apparatus for body armour. Instrumentation and measurement capabilities include a large range of multi-axis high bandwidth sensors (i.e. acceleration, velocity, displacement, strain, force, pressure), high-speed video (up to 100,000 fps) and custom sensors. Our helmet laboratory is equipped for international helmet performance standards including impact attenuation, penetration, roll-off, stability and retention system strength testing. These can be applied to aircrew, automotive racing, bicycle, military, law enforcement, equestrian, football, hockey, martial arts, motorcycle and riot head protection systems.

Biokinetics is further distinguished in its injury biomechanical analysis capabilities by the large selection of human surrogates available for blunt impact trauma, ballistics and blast research. Many of these systems have been designed and fabricated by Biokinetics for use in specific research programs and in support of standards development efforts.

Biokinetics maintains a secure storage facility and is registered for the transfer of sensitive materials with the Canadian Controlled Goods Program. We are committed to ISO quality practices to ensure that our equipment and your data are reliable and accurate.