innervations

Technical Note

Updated 15th January 2021

Ballistic Measurement System – What are the priority outcome measures for each test type?

The BMS software can be used to calculate more than 60 different measurement parameters. All are validated in the scientific literature and have different relevance and application depending on the test type (e.g. countermovement, concentric only, isometric, drop / depth). In the following table we provide what we consider the priority measures for performance diagnosis and research for different test types.

Counter Movement

- **Peak Force**
- **Peak Force/mass**
- **Peak Power**
- **Peak Power/mass**
- **Peak Velocity**
- **Minimum Velocity**
- **Avg Ecc RFD**
- **Avg Conc RFD**
- **Total Eccentric Impulse**
- **Total Concentric Impulse**
- **Tm to Pk Fc**
- **Flight:Contract**
- **Peak Force Symmetry**
- **Minimum Force Symmetry**
- **Concentric Impulse Symmetry**
- **Eccentric Impulse Symmetry**
- **Force at transition Symmetry**

Concentric Only

- **Peak Force**
- **Peak Force/mass**
- **Peak Power**
- **Peak Power/mass**
- **Peak Velocity**
- **Avg Conc RFD**
- **Total Concentric Impulse**
- **Tm to Pk Fc**
- **Force@100ms**
- **Force@200ms**
- **%Fmax@100ms**
- **%Fmax@200ms**
- **Peak Force Symmetry**
- **Concentric Impulse Symmetry**

Isometric

- **Peak Force**
- **Peak Force/mass**
- **Avg Conc RFD**
- **Total Impulse**
- **Impulse 0-100 ms**
- **Impulse 0-200 ms**
- **Impulse 0-250 ms**
- **Impulse 0-300 ms**
- **Total Concentric Impulse**
- **Tm to Pk Fc**
- **Force@100ms**
- **Force@200ms**
- **%Fmax@100ms**
- **%Fmax@200ms**
- **Peak Force Symmetry**
- **Concentric Impulse Symmetry**

Drop / Depth

Peak Force
Peak Force/mass
Peak Power
Peak Power/mass
Peak Velocity
Minimum Velocity
Avg Ecc RFD
Avg Conc RFD
Total Impulse
Total Eccentric Impulse
Total Concentric Impulse
Tm to Pk Fc
Flight:Contract
Peak Force Symmetry
Concentric Impulse Symmetry
Eccentric Impulse Symmetry
Force at transition Symmetry