Vicon Motion Systems

Example Report for Strength and Conditioning

Report Requirements and Trial Descriptions

Useful links:

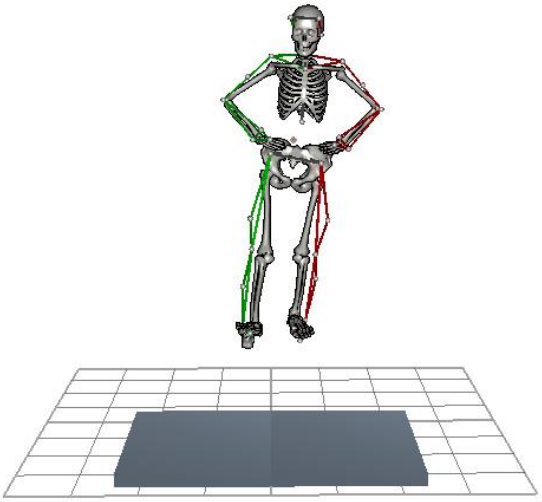
1Polygon Help
2Vicon Support website
3Vicon YouTube Channel
4Vicon Online Docs

3D Views

Click each hyperlink to view the variables

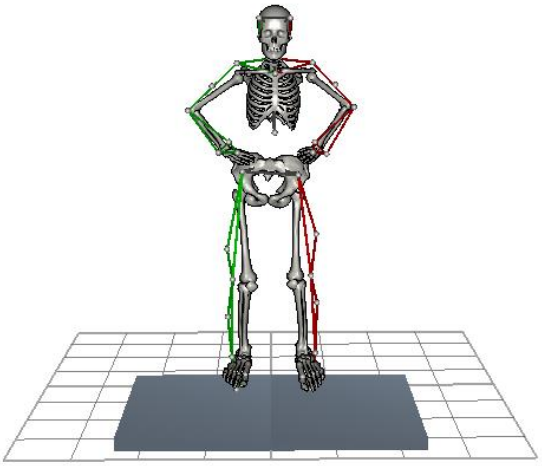
Hang Clean

Drop Jump



Tuck Jump

Sub Max Hops



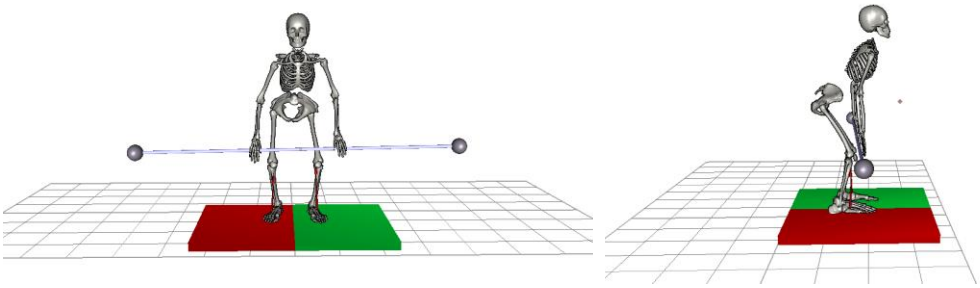
Use the time bar functions below to play/pause trials, and adjust the replay speed.
Navigate the 3D workspace using your mouse:
- **Right click + drag = rotate**
- **Left click + Push/pull = zoom**
- **Right and Left click + drag = Pan**

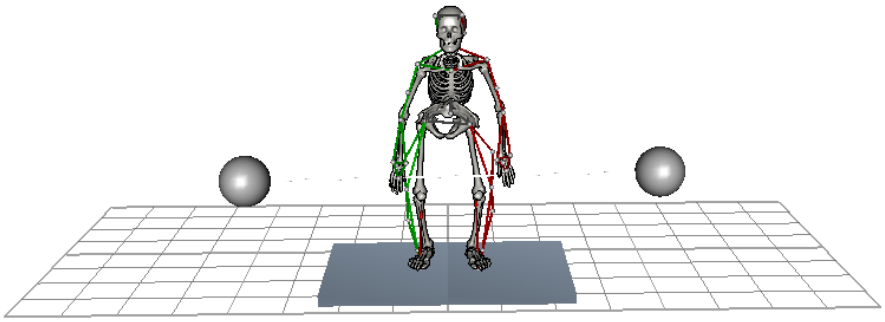
Close all windows

Hang Clean Trials

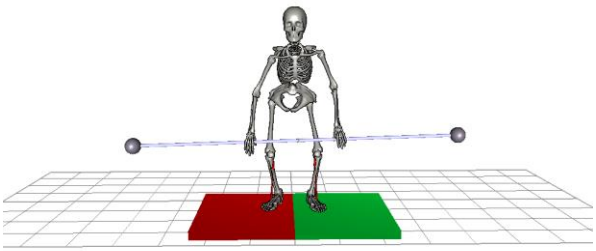
3D view and Sagittal Bar Path:

Trial_02 Bar Path and 3D 02 Only

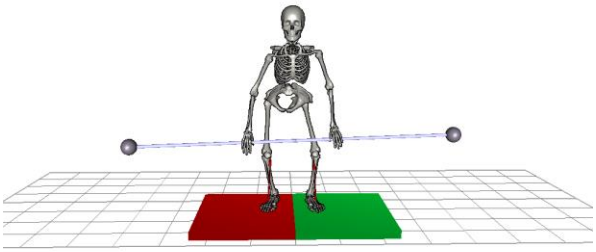


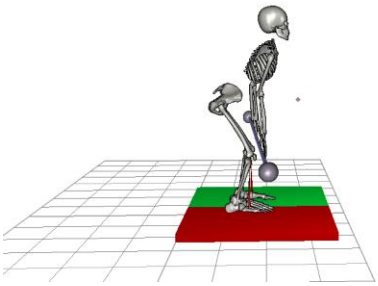


Trial_03 Bar Path and 3D 03 Only

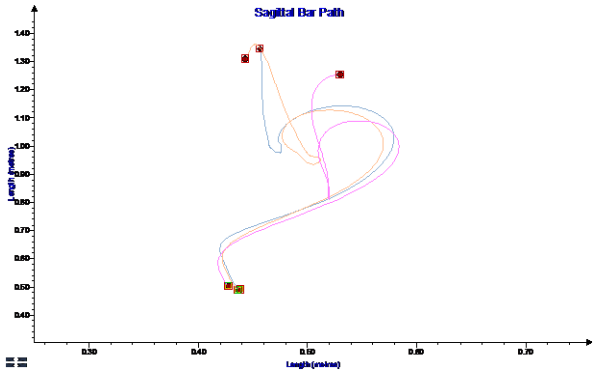


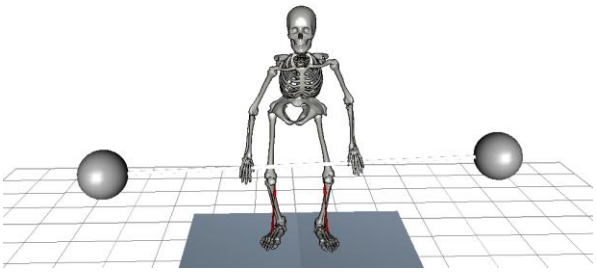
Trial_04 Bar Path and 3D 04 Only

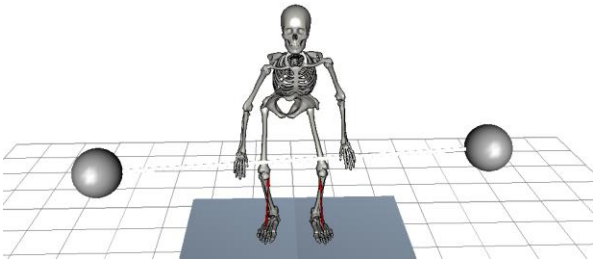




All Trial Comparison

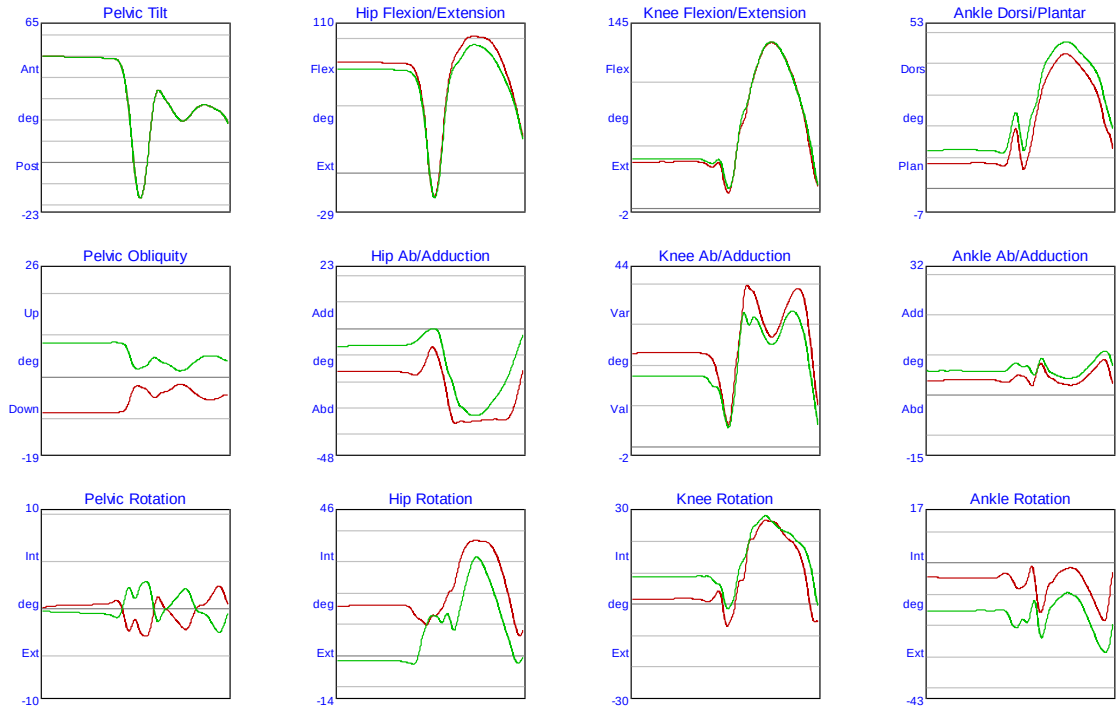






Lower Body Kinematic Variables:

Trial 02 Kinematics



Trial 03 Kinematics

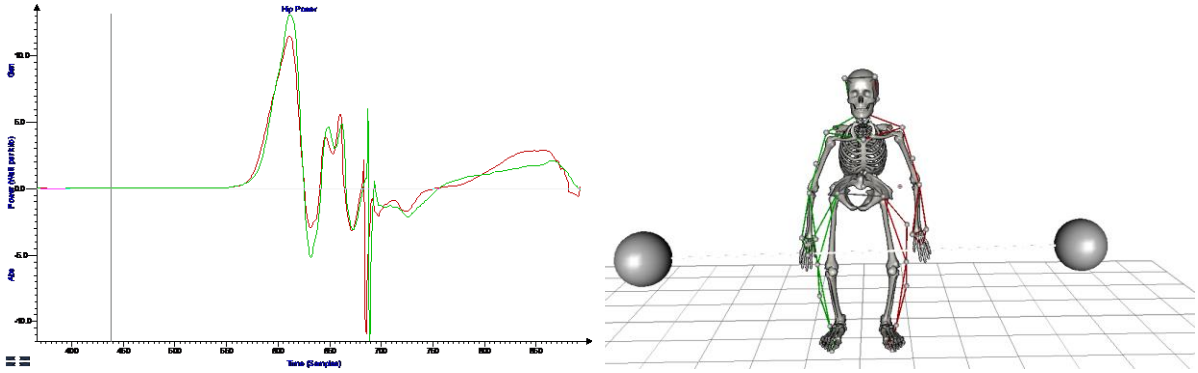
Trial 04 Kinematics

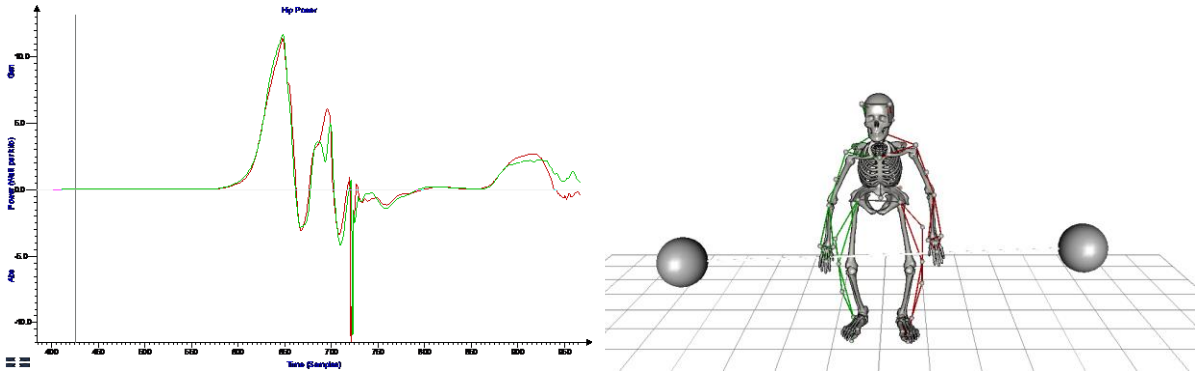
All Trials Kinematics Comparison

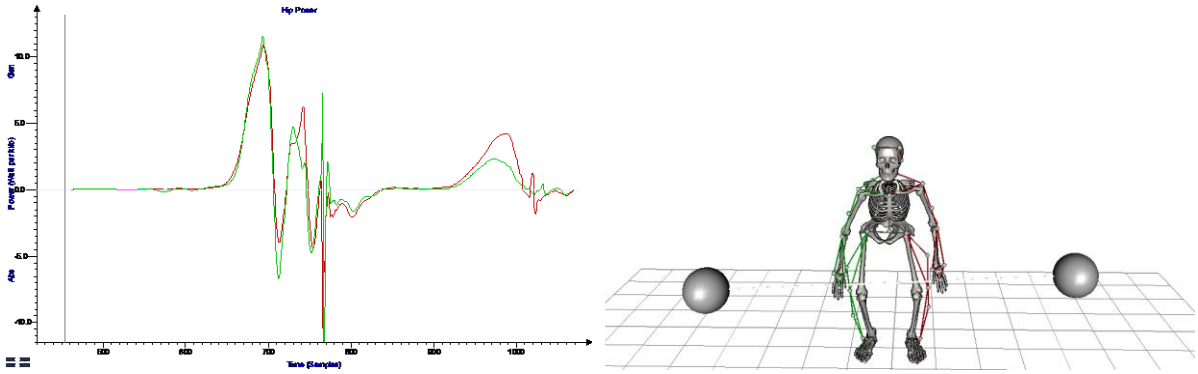
Double click graphs to view them full page
Expand Key Stats at the bottom to view mean, max, min values etc

Lower Body Kinetic Variables:

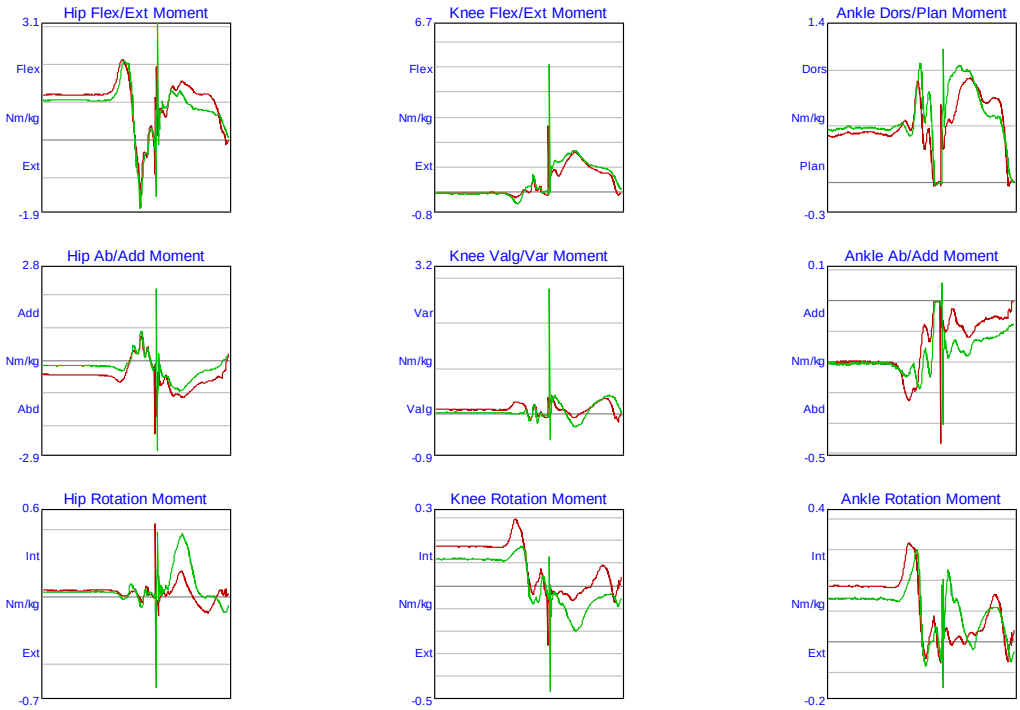
Trial 02 Powers Trial 03 Powers Trial 04 Powers

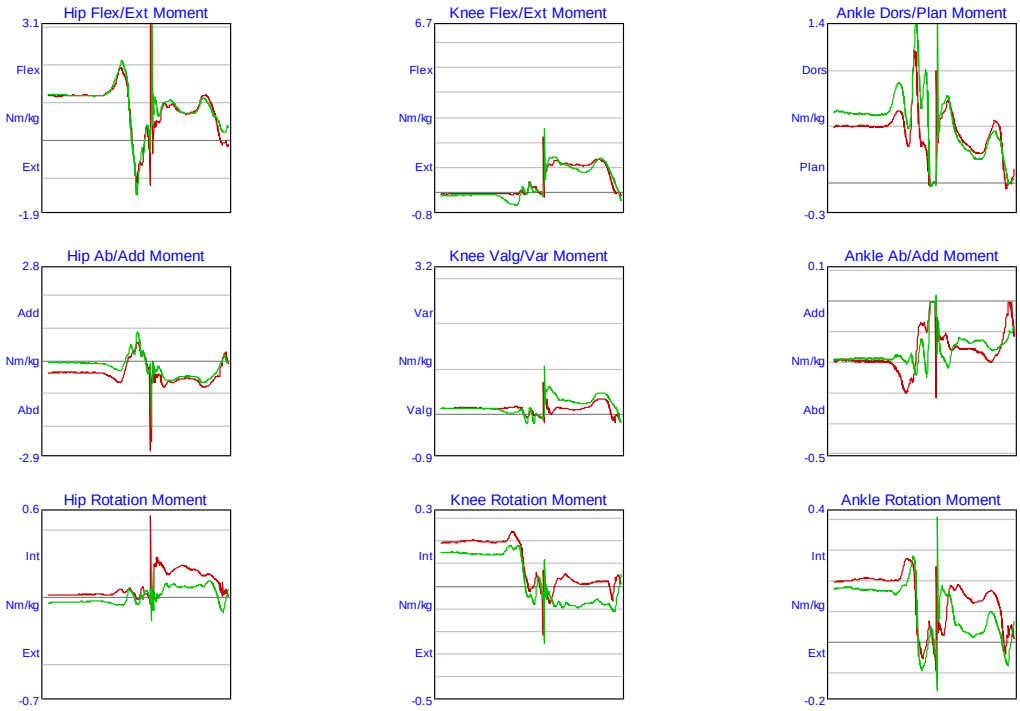


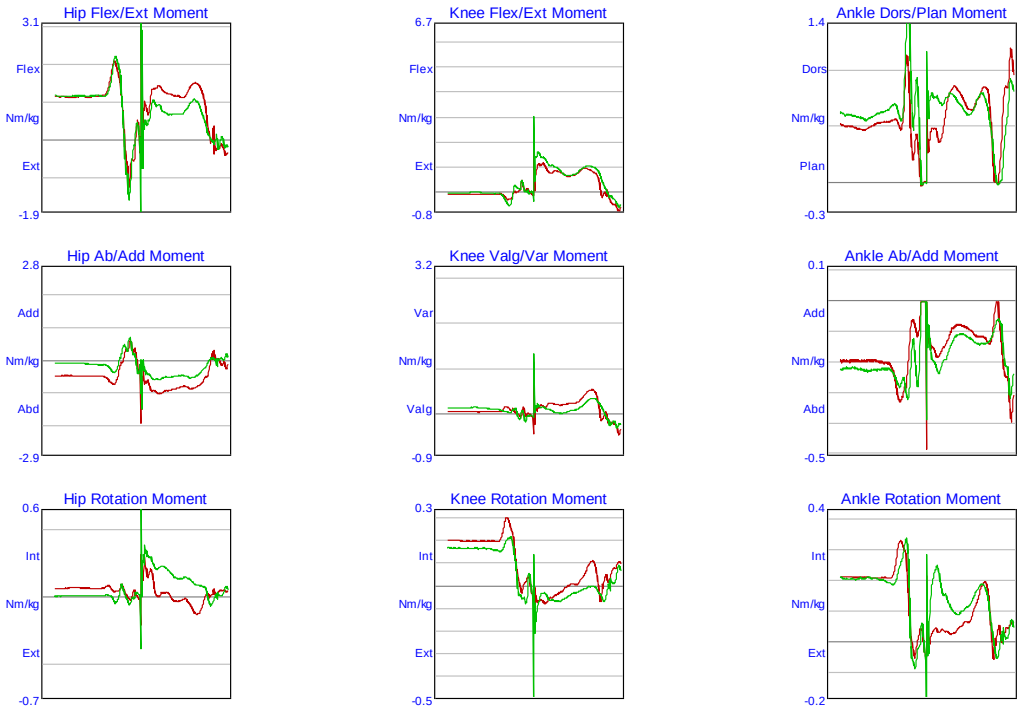




Trial 02 Moments Trial 03 Moments Trial 04 Moments


Hip Flex/Ext Moment
3.1
Flex
Nm/kg
Ext
-1.9
Knee Flex/Ext Moment
6.7
Flex
Nm/kg
Ext
-0.8
Ankle Dors/Plan Moment
1.4
Dors
Nm/kg
Plan
-0.3
Hip Ab/Add Moment
2.8
Add
Nm/kg
Abd
-2.9
Knee Valg/Var Moment
3.2
Var
Nm/kg
Valg
-0.9
Ankle Ab/Add Moment
0.1
Add
Nm/kg
Abd
-0.5
Hip Rotation Moment
0.6
Int
Nm/kg
Ext
-0.7
Knee Rotation Moment
0.3
Int
Nm/kg
Ext
-0.5
Ankle Rotation Moment
0.4
Int
Nm/kg
Ext
-0.2

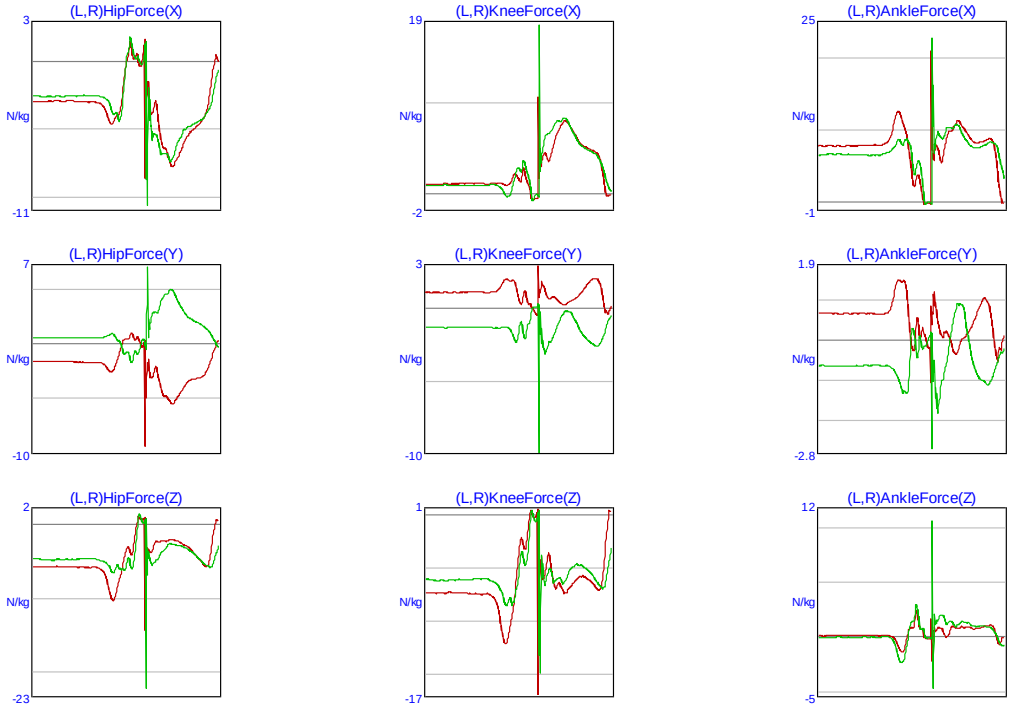

Hip Flex/Ext Moment
3.1
Flex
Nm/kg
Ext
-1.9
Knee Flex/Ext Moment
6.7
Flex
Nm/kg
Ext
-0.8
Ankle Dors/Plan Moment
1.4
Dors
Nm/kg
Plan
-0.3
Hip Ab/Add Moment
2.8
Add
Nm/kg
Abd
-2.9
Knee Valg/Var Moment
3.2
Var
Nm/kg
Valg
-0.9
Ankle Ab/Add Moment
0.1
Add
Nm/kg
Abd
-0.5
Hip Rotation Moment
0.6
Int
Nm/kg
Ext
-0.7
Knee Rotation Moment
0.3
Int
Nm/kg
Ext
-0.5
Ankle Rotation Moment
0.4
Int
Nm/kg
Ext
-0.2

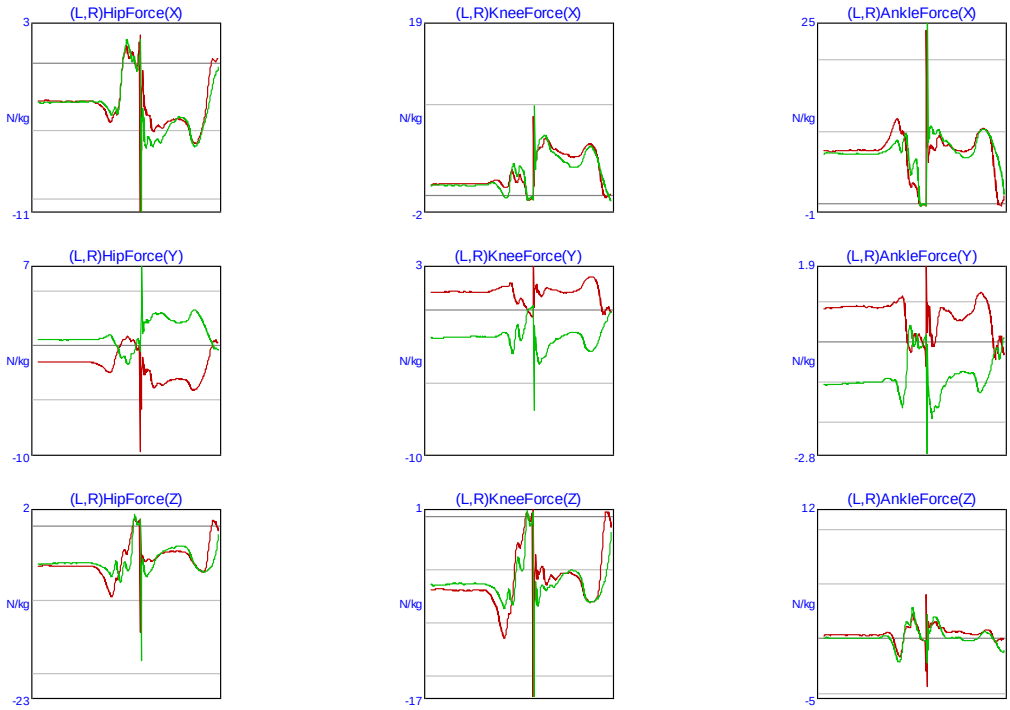


Trial 02 Forces

Trial 03 Forces

Trial 04 Forces



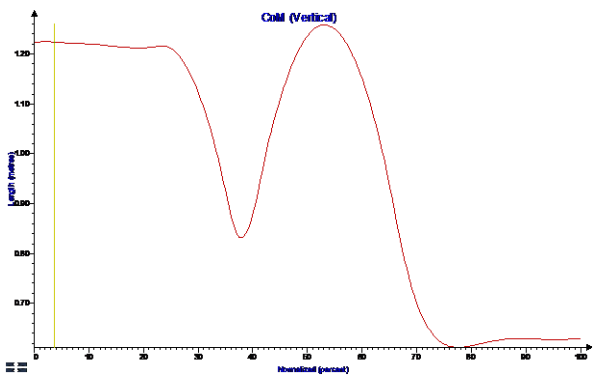


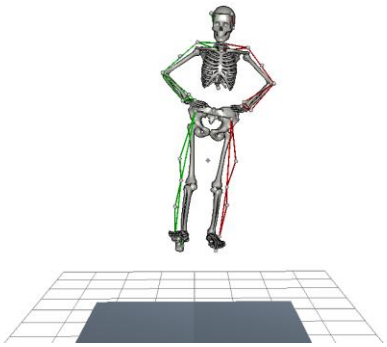
Close all windows

Drop Jump Trials

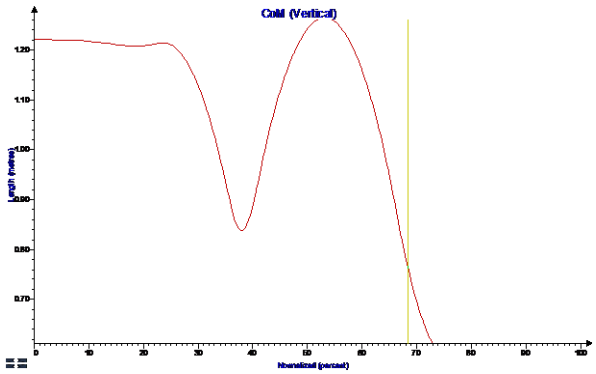
3D view and Centre of Mass vertical displacement:

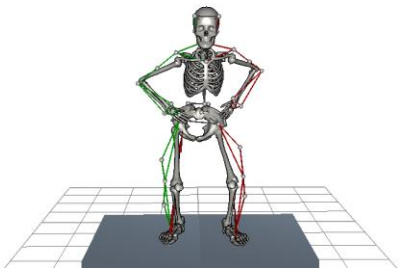
Drop Jump 03



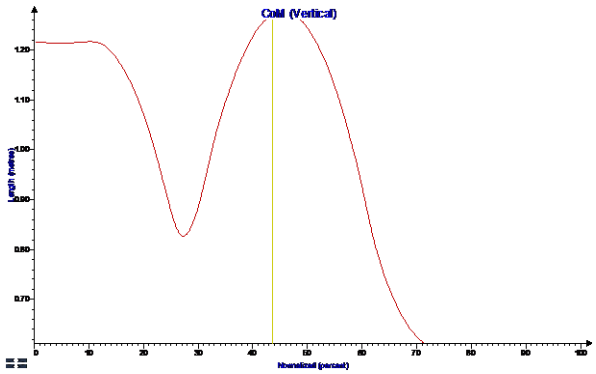


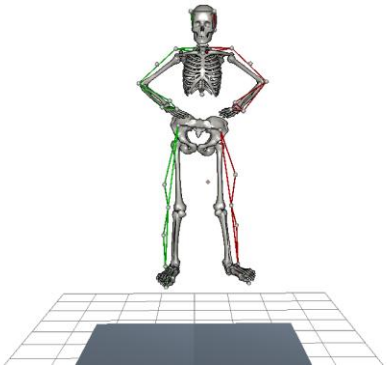
Drop Jump 04



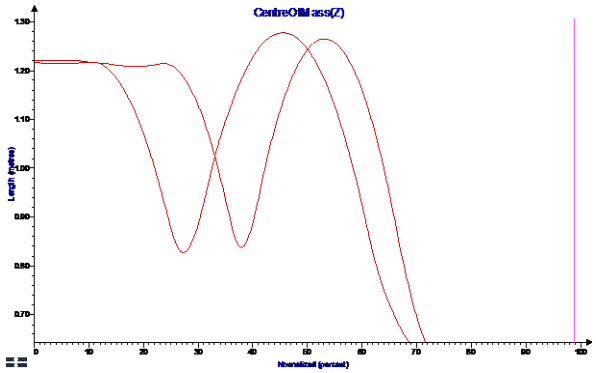


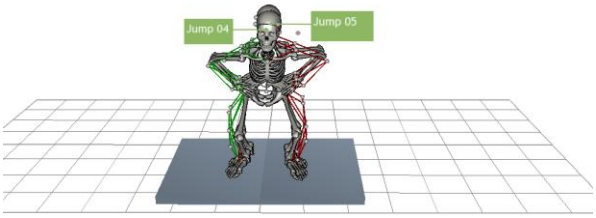
Drop Jump 05



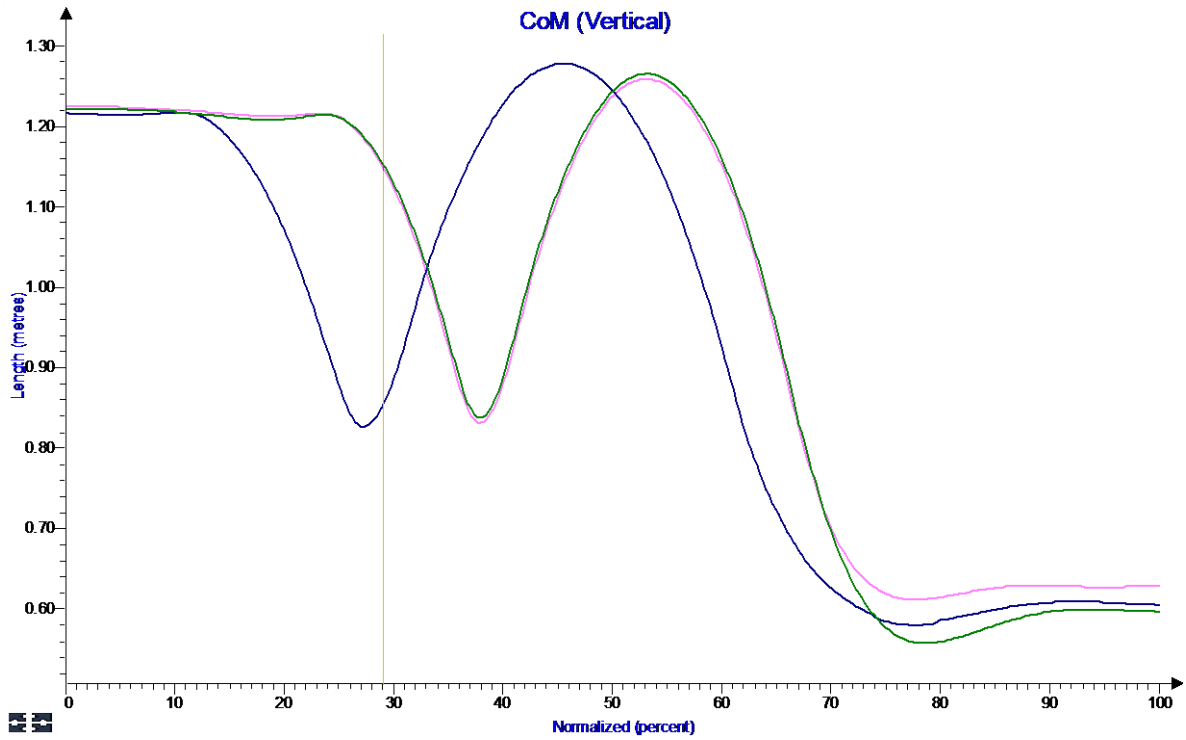


Comparison 04 and 05



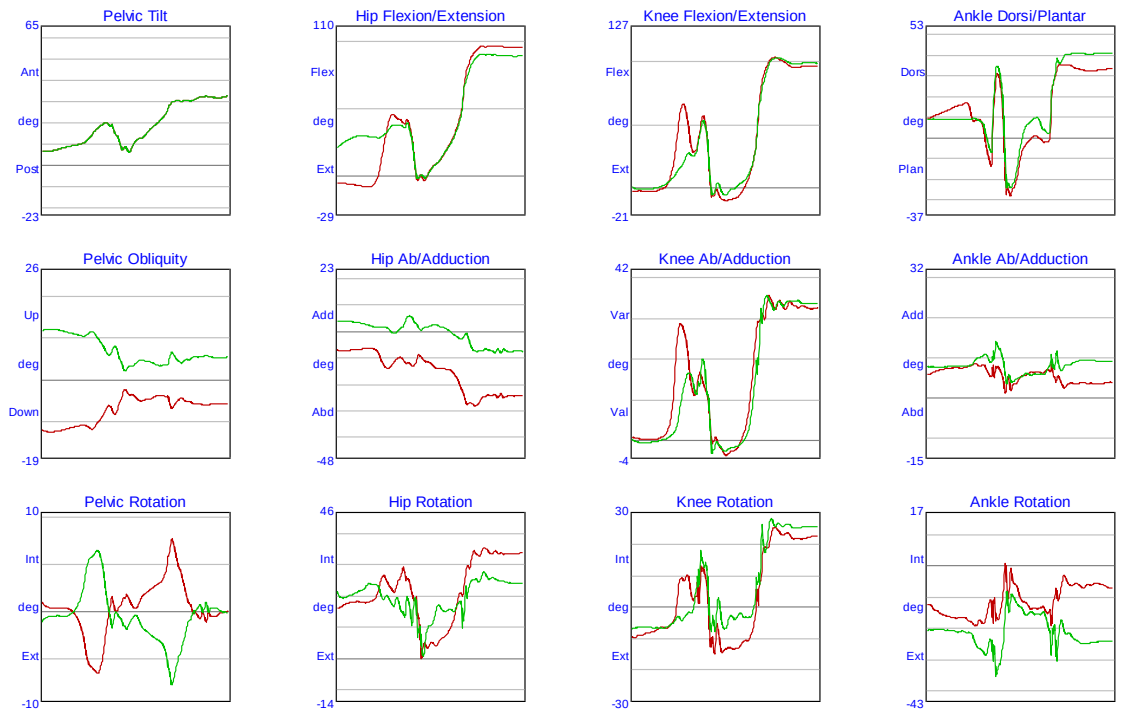


CoM Vertical Comparison

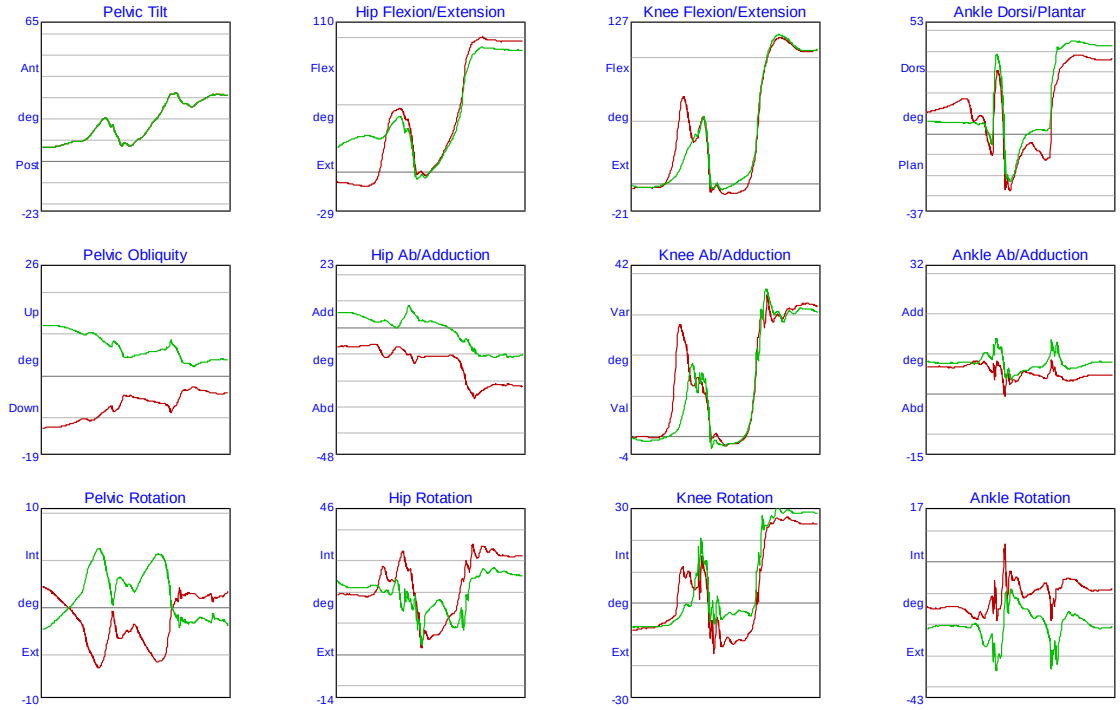


Lower Body Kinematic Variables:

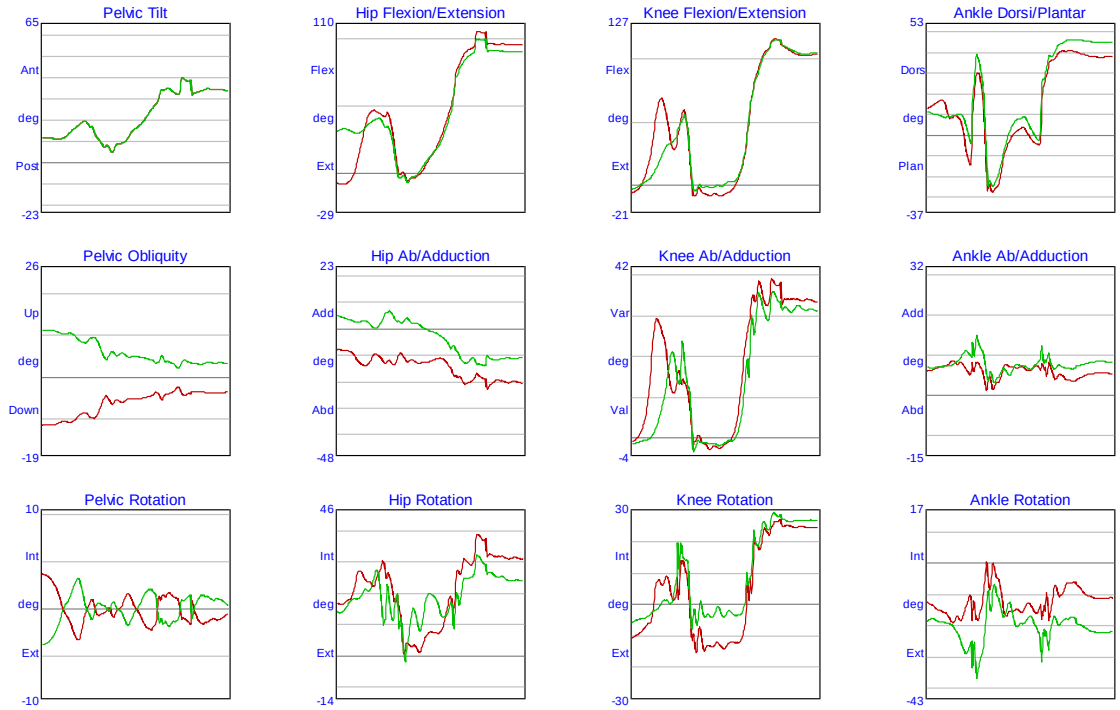
Drop Jump 03 Kinematics



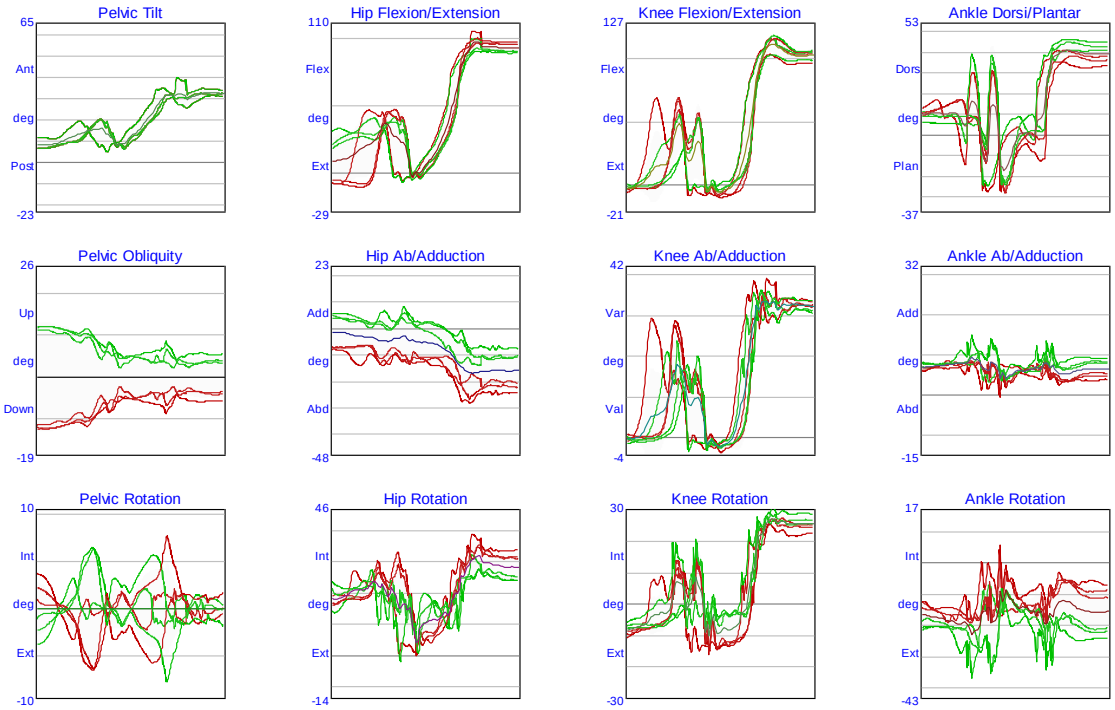
Drop Jump 04 Kinematics



Drop Jump 05 Kinematics



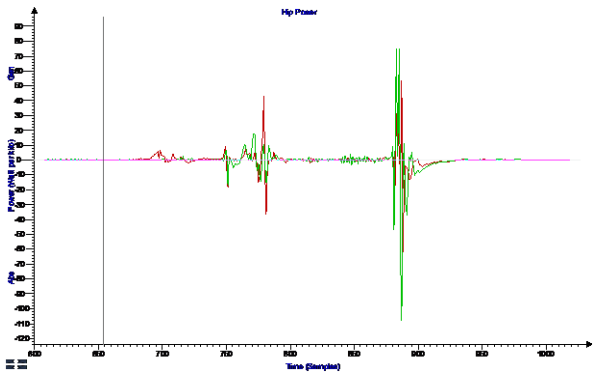
Drop Jumps Kinematics Comparison

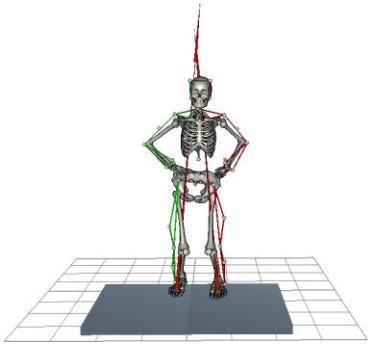


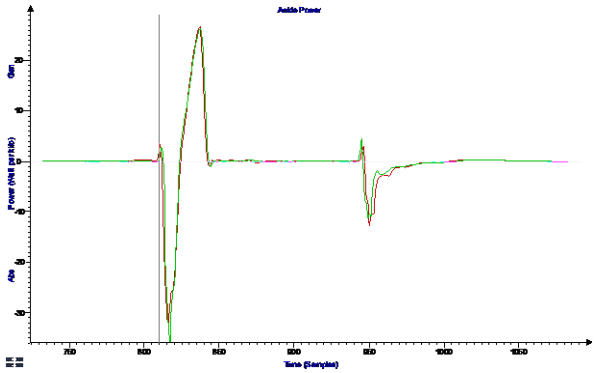
Double click graphs to view them full page
Expand Key Stats at the bottom to view mean, max, min values etc

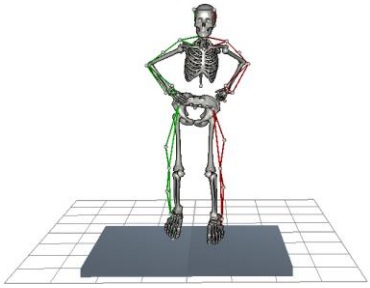
Lower Body Kinetic Variables:

<u>Drop Jump 03 Powers</u> <u>Drop Jump 04 Powers</u> <u>Drop Jump 05 Powers</u>

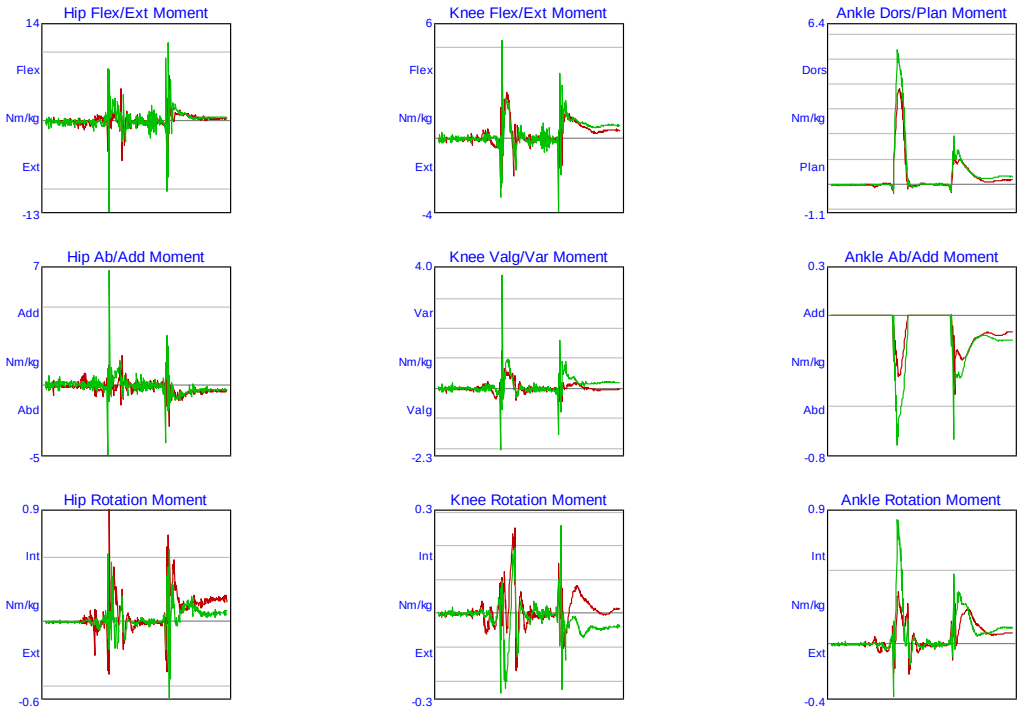


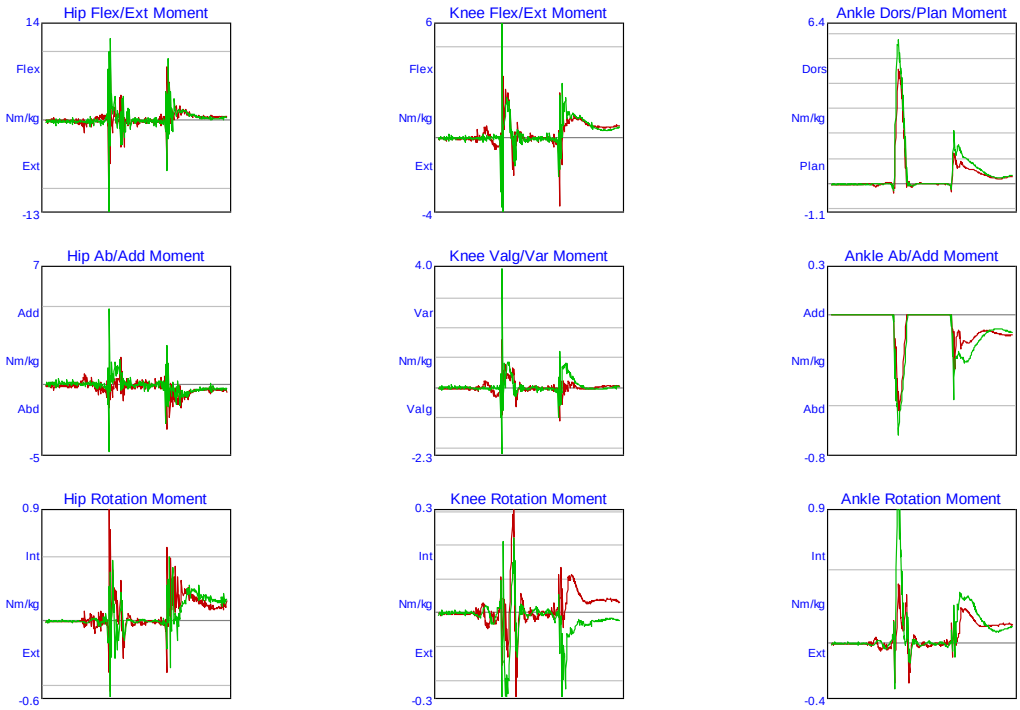


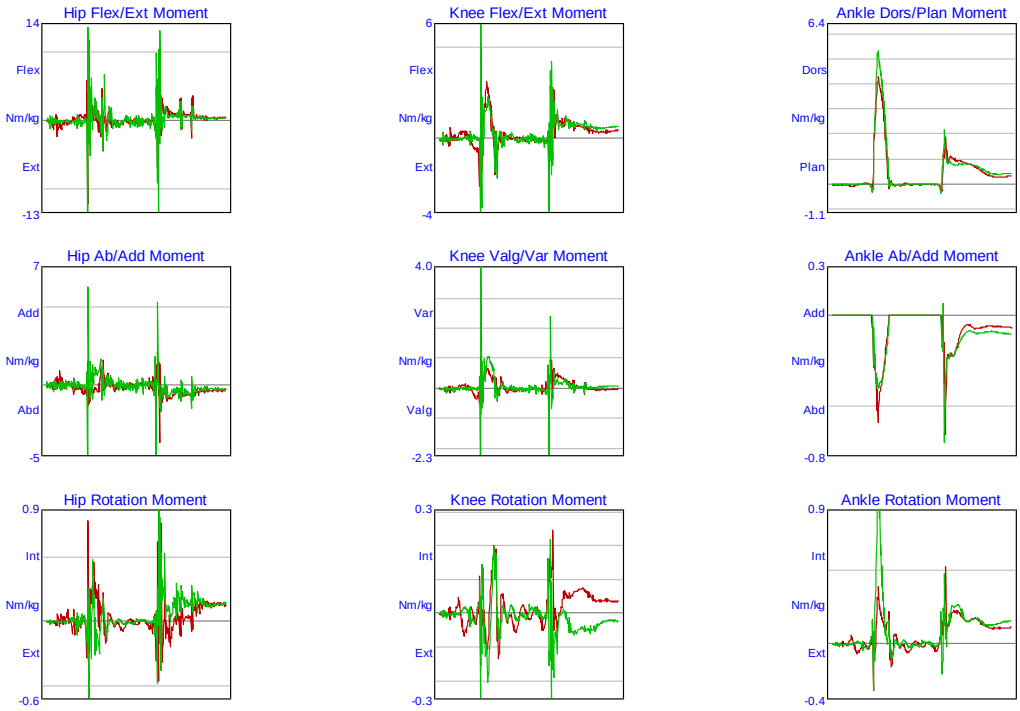




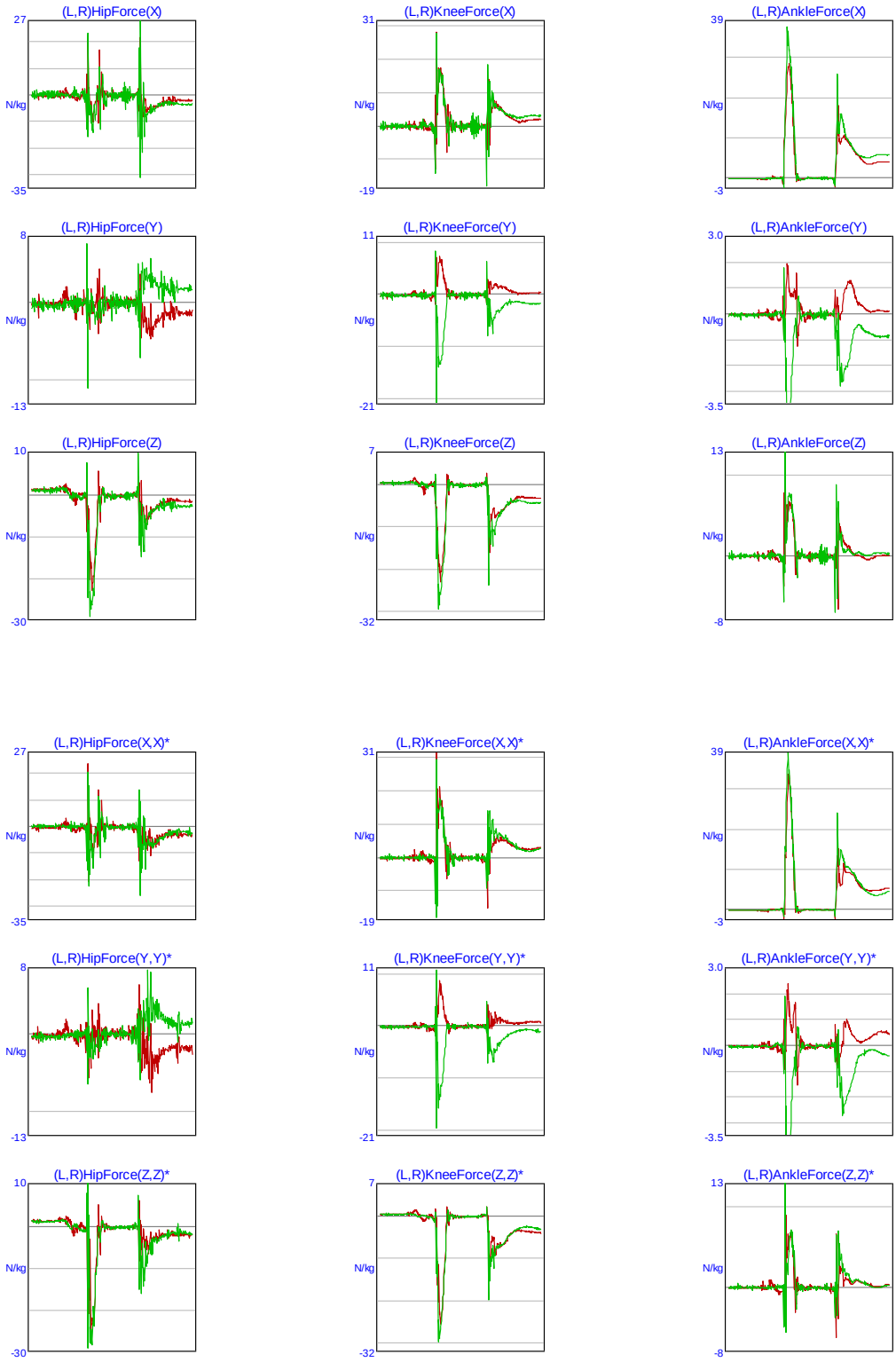
Drop Jump 03 Moments Drop Jump 04 Moments Drop Jump 05 Moments

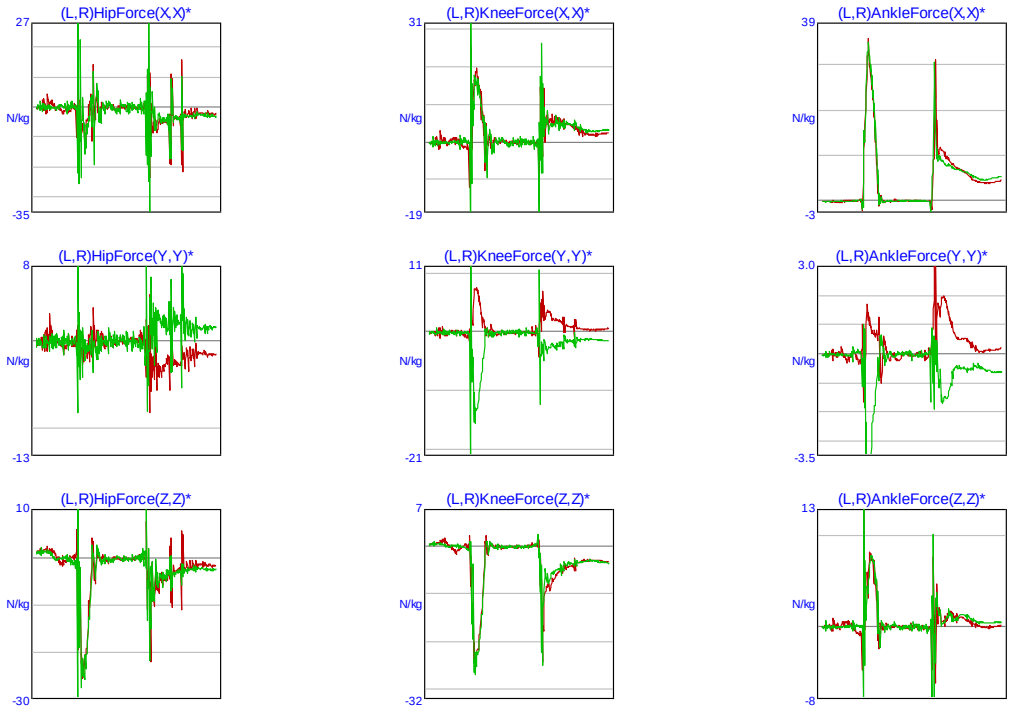






Drop Jump 03 Forces Drop Jump 04 Forces Drop Jump 05 Forces


(L,R)HipForce(X)
27
N/kg
-35
(L,R)KneeForce(X)
31
N/kg
-19
(L,R)AnkleForce(X)
39
N/kg
-3
(L,R)HipForce(Y)
8
N/kg
-13
(L,R)KneeForce(Y)
11
N/kg
-21
(L,R)AnkleForce(Y)
3.0
N/kg
-3.5
(L,R)HipForce(Z)
10
N/kg
-30
(L,R)KneeForce(Z)
7
N/kg
-32
(L,R)AnkleForce(Z)
13
N/kg
-8
(L,R)HipForce(X,X)*
27
N/kg
-35
(L,R)KneeForce(X,X)*
31
N/kg
-19
(L,R)AnkleForce(X,X)*
39
N/kg
-3
(L,R)HipForce(Y,Y)*
8
N/kg
-13
(L,R)KneeForce(Y,Y)*
11
N/kg
-21
(L,R)AnkleForce(Y,Y)*
3.0
N/kg
-3.5
(L,R)HipForce(Z,Z)*
10
N/kg
-30
(L,R)KneeForce(Z,Z)*
7
N/kg
-32
(L,R)AnkleForce(Z,Z)*
13
N/kg
-8

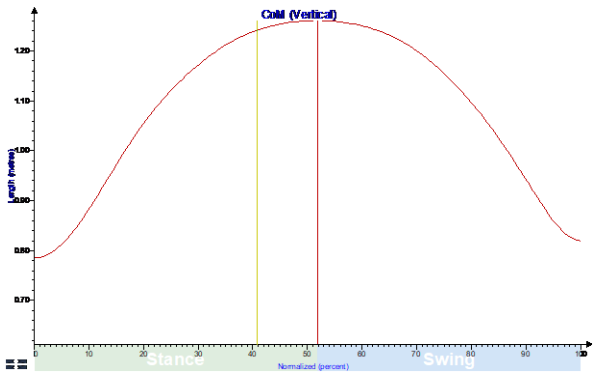


Close all windows

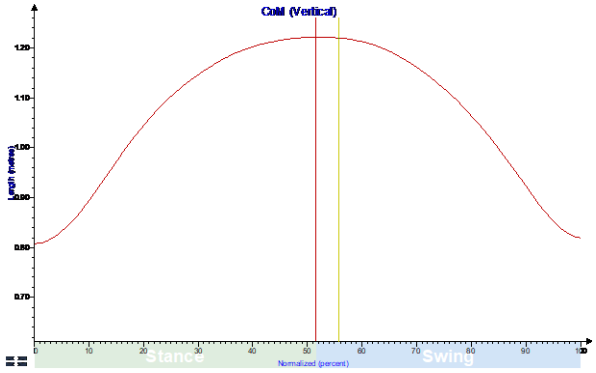
Tuck Jumps

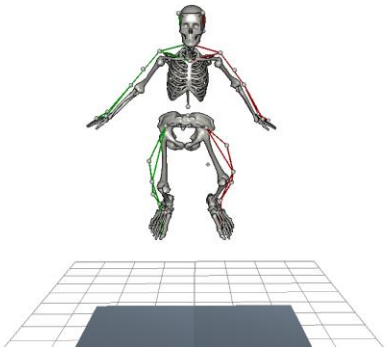
3D view and Centre of Mass vertical displacement:

Tuck Jump 01

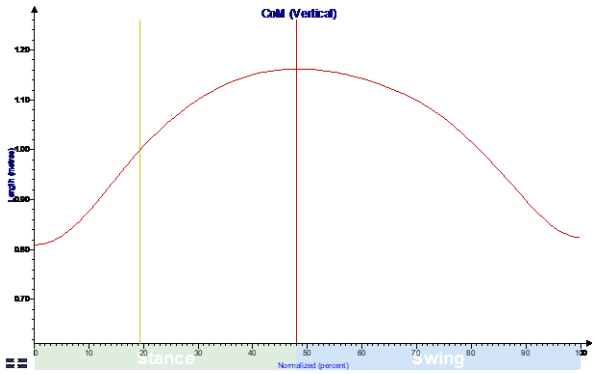


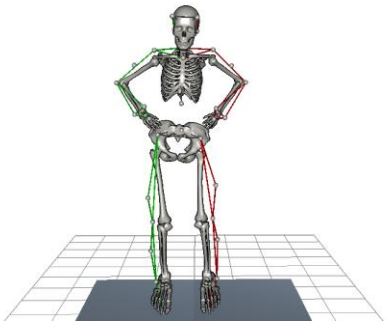
Tuck Jump 02



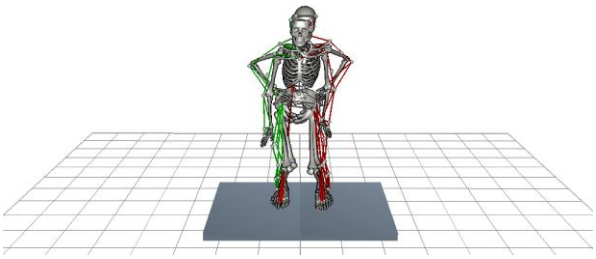


Tuck Jump 03





Tuck Jump Comparison 02 and 03



Lower Body Kinematic Variables:

Tuck Jump 01 Kinematics

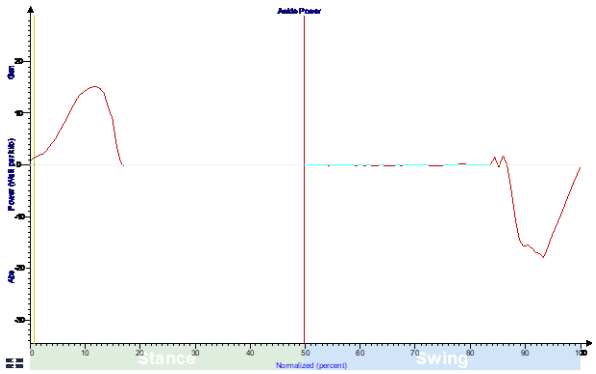
Tuck Jump 02 Kinematics

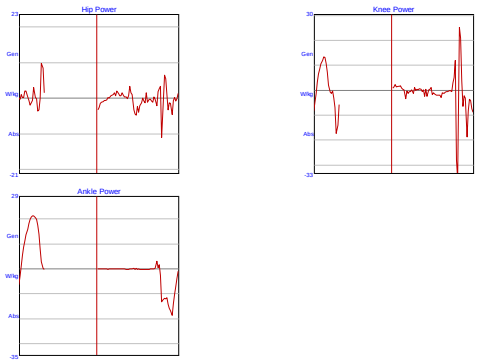
Tuck Jump 03 Kinematics

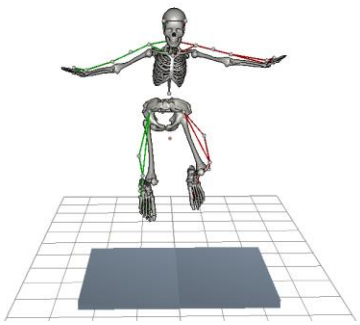
Tuck Jump All Trial Comparison

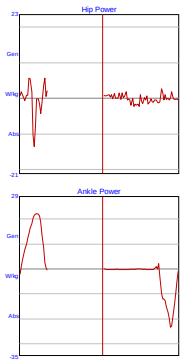
Lower Body Kinetic Variables:

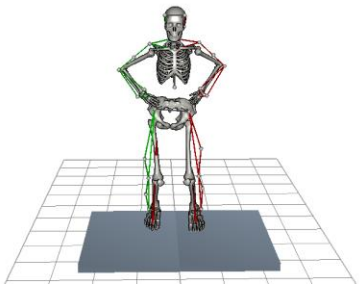
Tuck Jump 01 Powers Tuck Jump 02 Powers Tuck Jump 03 Powers







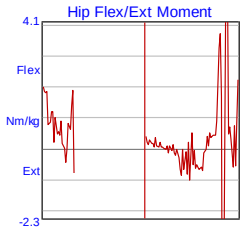


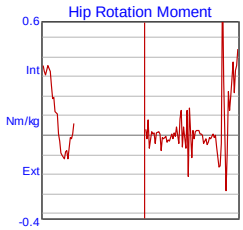


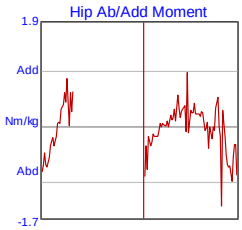
Tuck Jump 01 Moments Moments

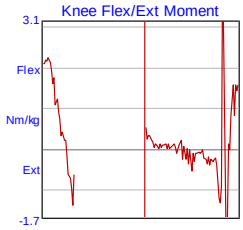
Tuck Jump 02 Moments

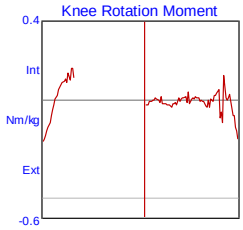
Tuck Jump 03

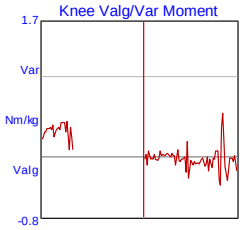


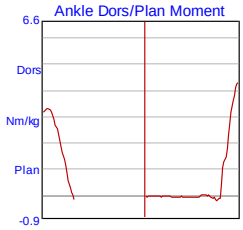


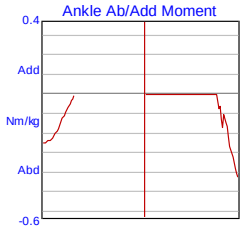


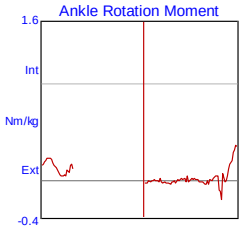


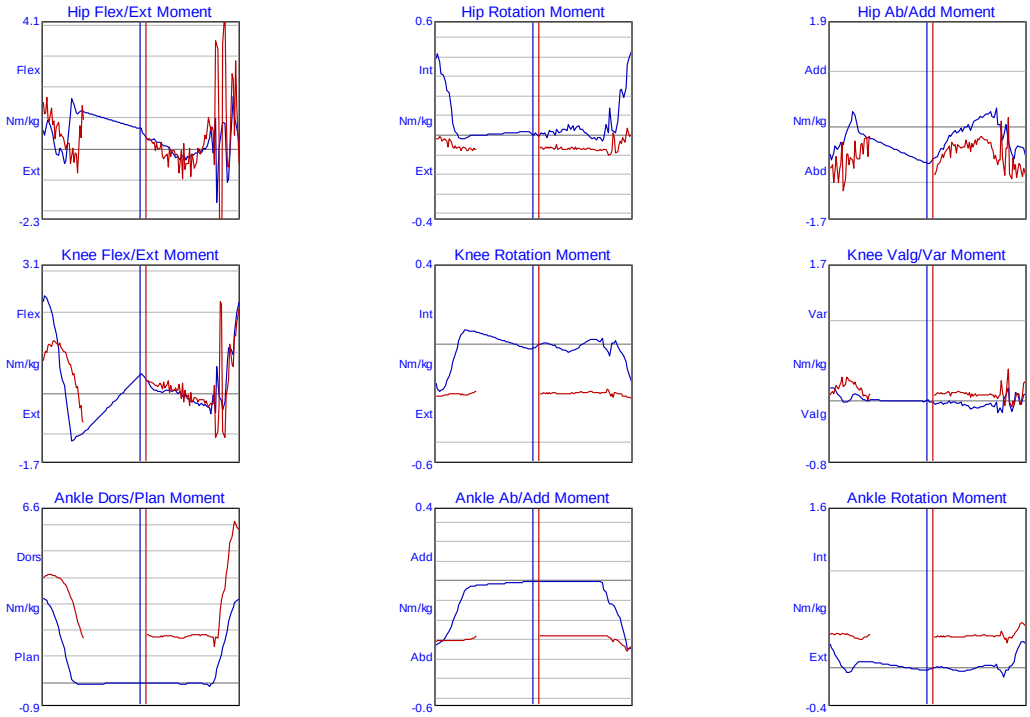




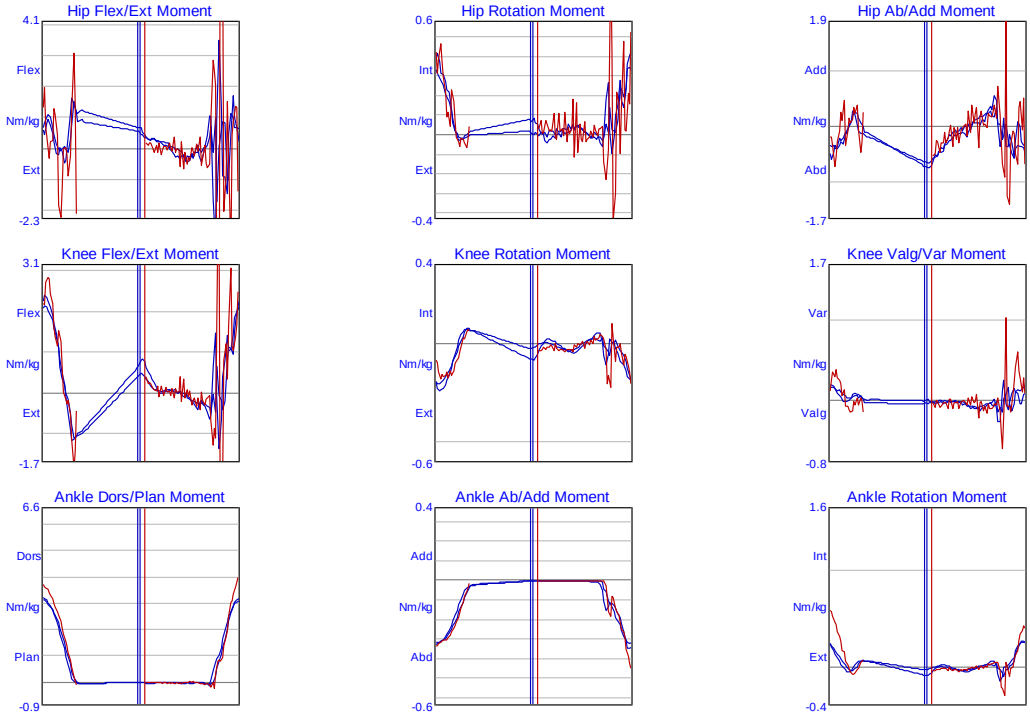






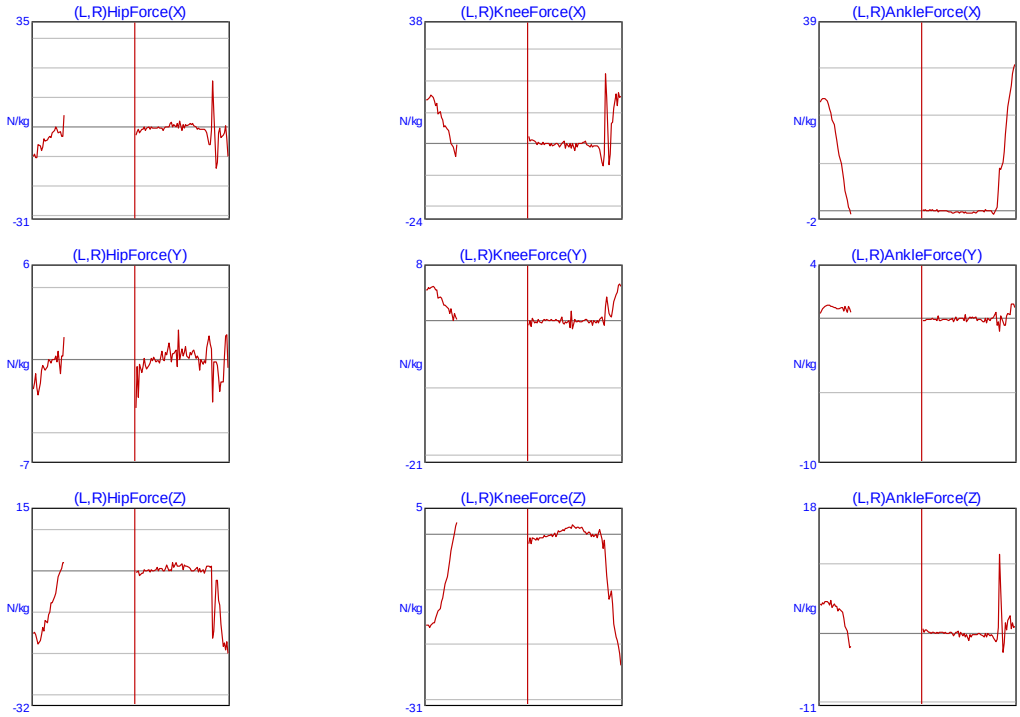


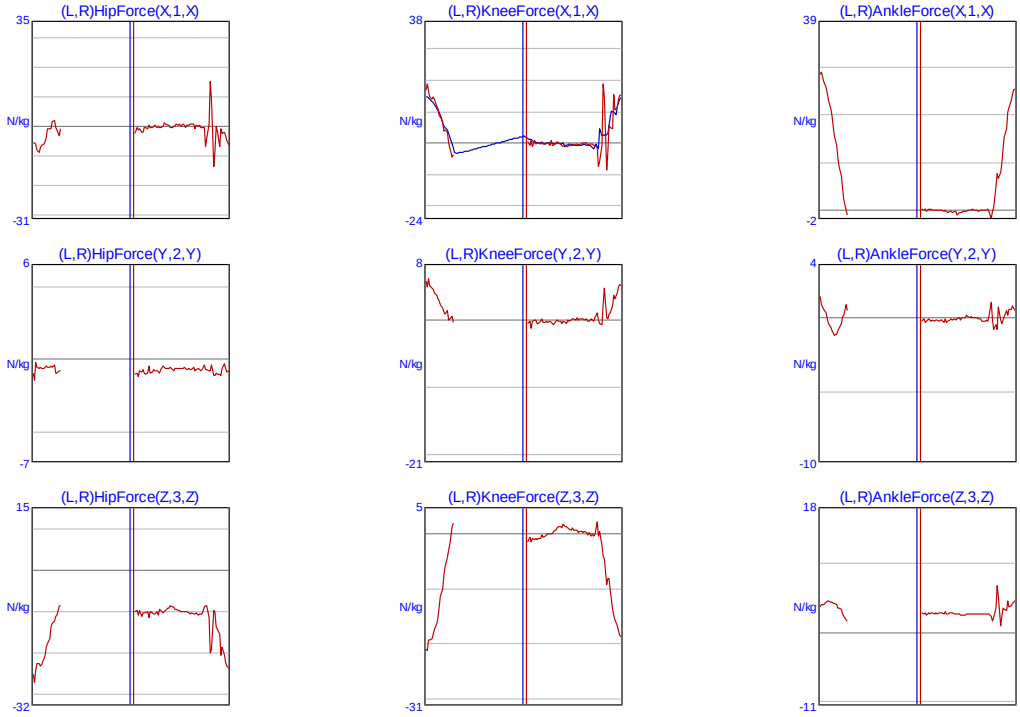
Tuck Jump 01 Forces

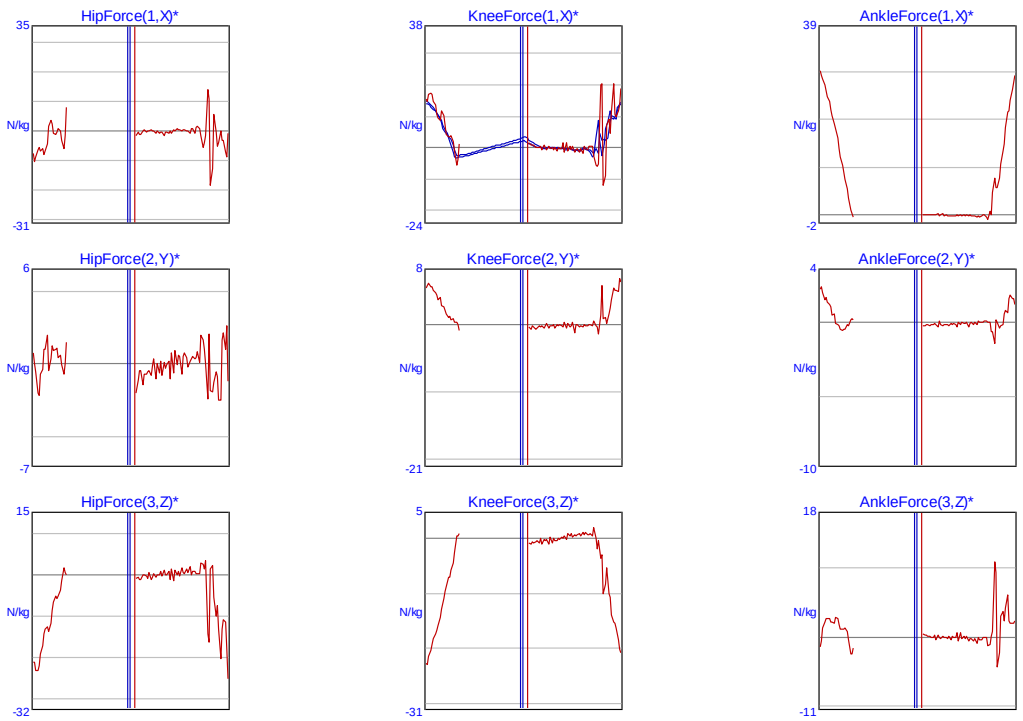


Tuck Jump 02 Forces

Tuck Jump 03 Forces


(L,R)HipForce(X)
35
N/kg
-31
(L,R)KneeForce(X)
38
N/kg
-24
(L,R)AnkleForce(X)
39
N/kg
-2
(L,R)HipForce(Y)
6
N/kg
-7
(L,R)KneeForce(Y)
8
N/kg
-21
(L,R)AnkleForce(Y)
4
N/kg
-10
(L,R)HipForce(Z)
15
N/kg
-32
(L,R)KneeForce(Z)
5
N/kg
-31
(L,R)AnkleForce(Z)
18
N/kg
-11


(L,R)HipForce(X,1,X)
35
N/kg
-31
(L,R)KneeForce(X,1,X)
38
N/kg
-24
(L,R)AnkleForce(X,1,X)
39
N/kg
-2
(L,R)HipForce(Y,2,Y)
6
N/kg
-7
(L,R)KneeForce(Y,2,Y)
8
N/kg
-21
(L,R)AnkleForce(Y,2,Y)
4
N/kg
-10
(L,R)HipForce(Z,3,Z)
15
N/kg
-32
(L,R)KneeForce(Z,3,Z)
5
N/kg
-31
(L,R)AnkleForce(Z,3,Z)
18
N/kg
-11



NB: If graphs appear blank, select the graph pane in Tumbnail View > go to the Ribbon above > Traces > Default Cycle > re-select Kinematic Cycles > play trial

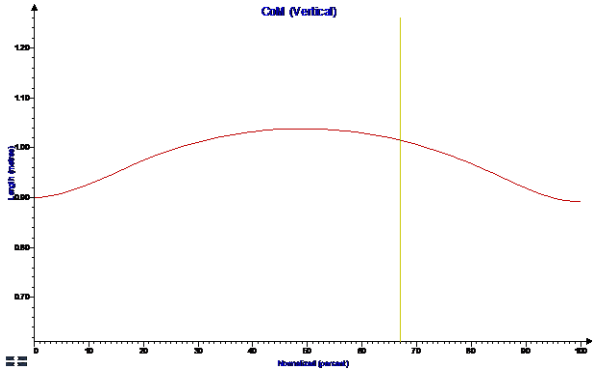
When Viewing in Polygon Viewer - use the Spacebar to view un-normalised graphs

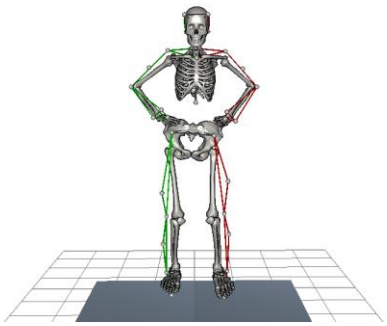
Close all windows

Sub Max Hops

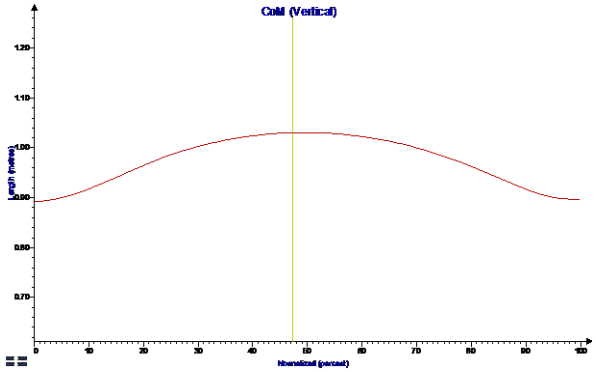
3D view and Centre of Mass vertical displacement:

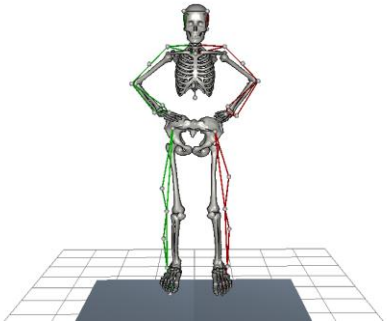
Sub Max Hops 03



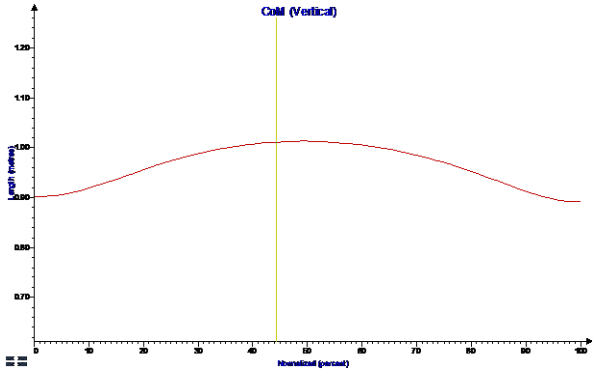


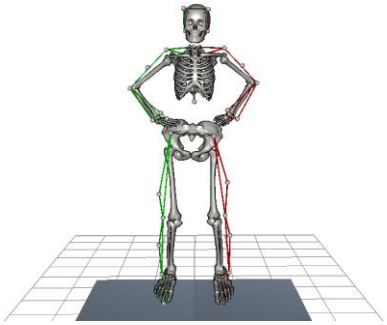
Sub Max Hops 04





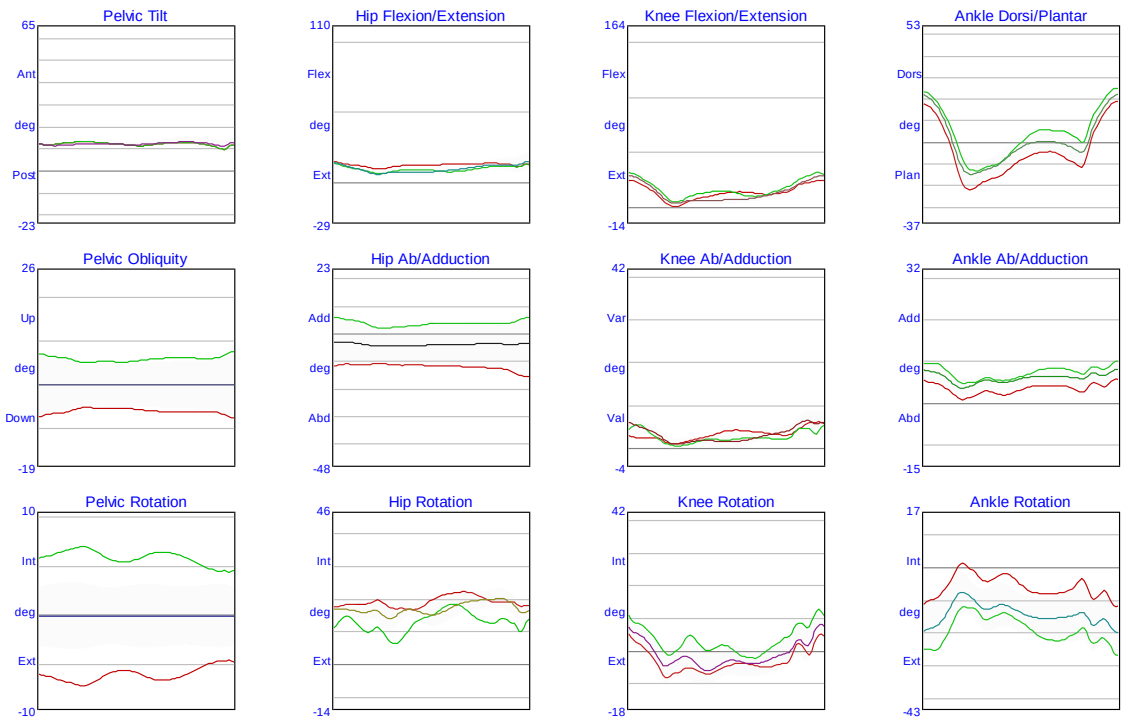
Sub Max Hops 05





Lower Body Kinematic Variables:

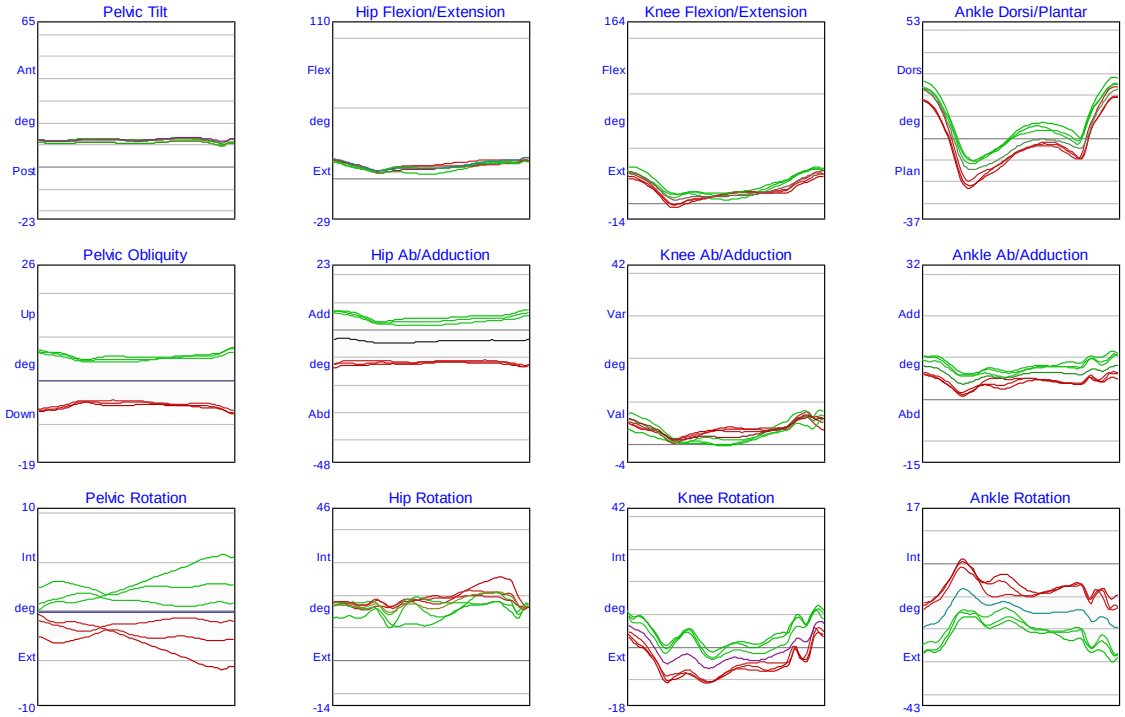
Sub Max 03 Kinematics



Sub Max 04 Kinematics

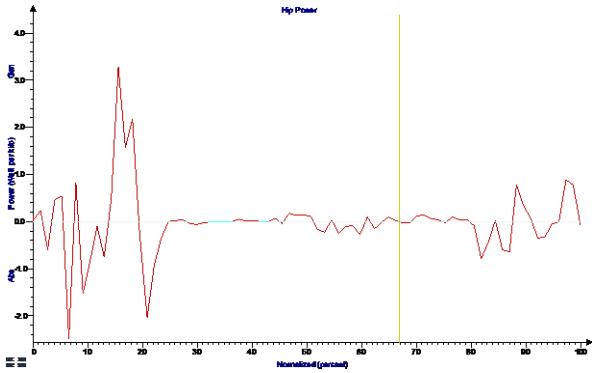
Sub Max 05 Kinematics

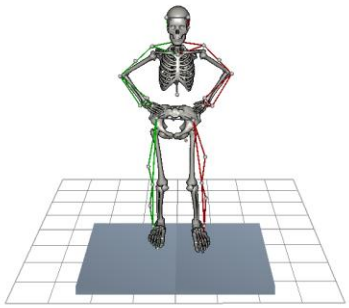
All Sub Max hops Kinematics comparison

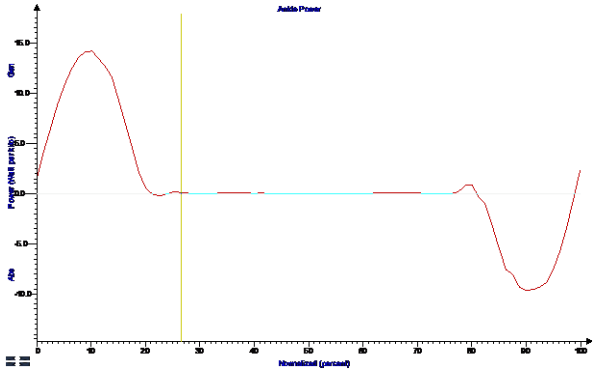


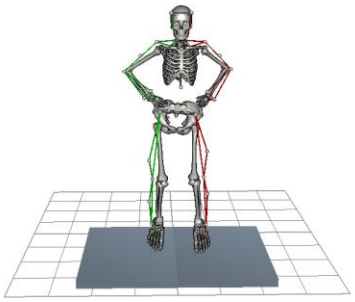
Lower Body Kinetic Variables:

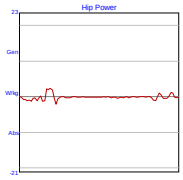
<u>Sub Max 03 Powers</u> <u>Sub Max 04 Powers</u> <u>Sub Max 05 Powers</u>

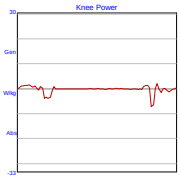


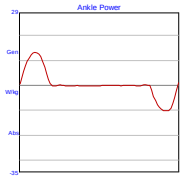


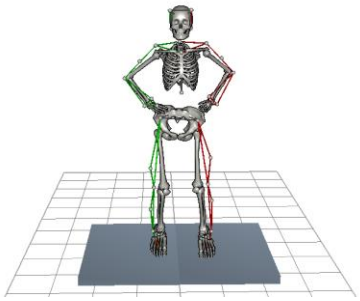








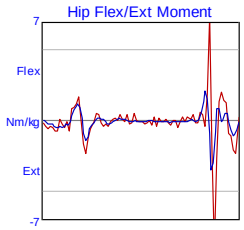


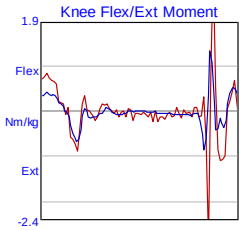


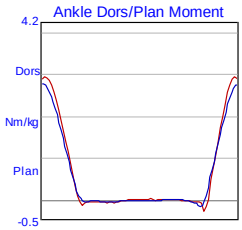
Sub Max 03 Moments

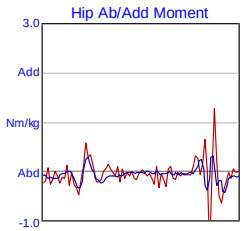
Sub Max 04 Moments

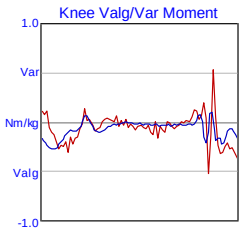
Sub Max 05 Moments

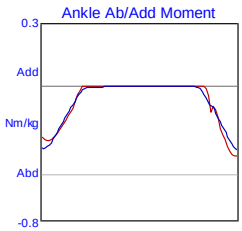


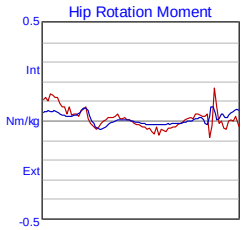


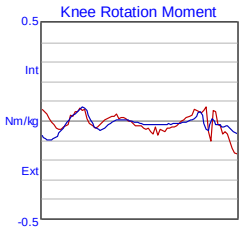


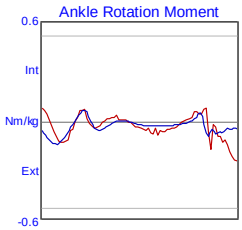


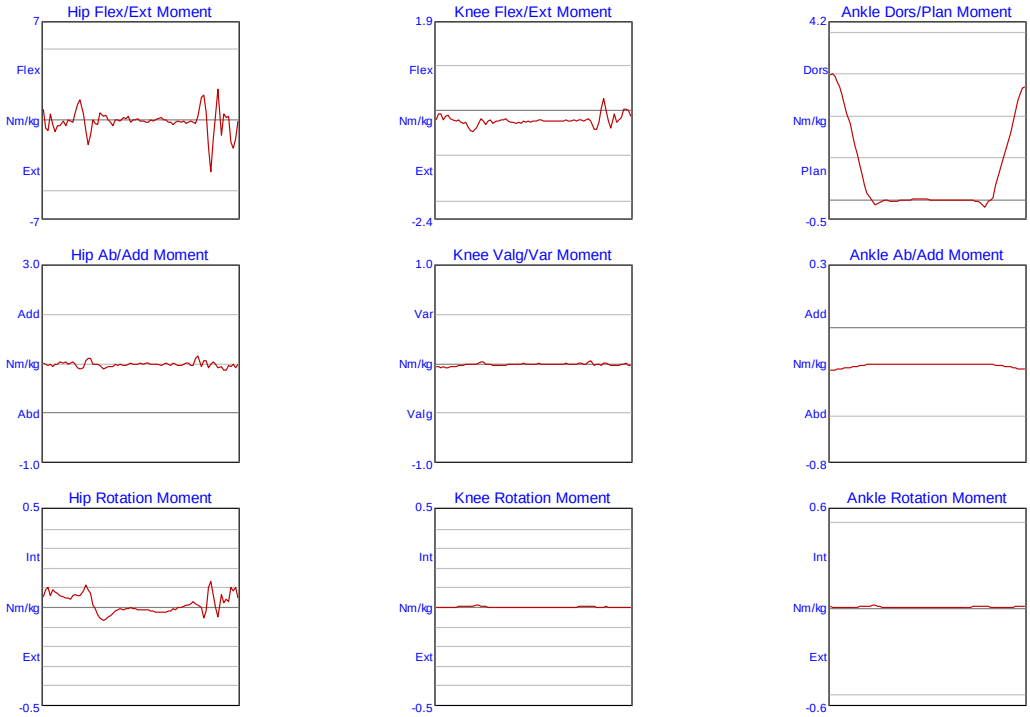


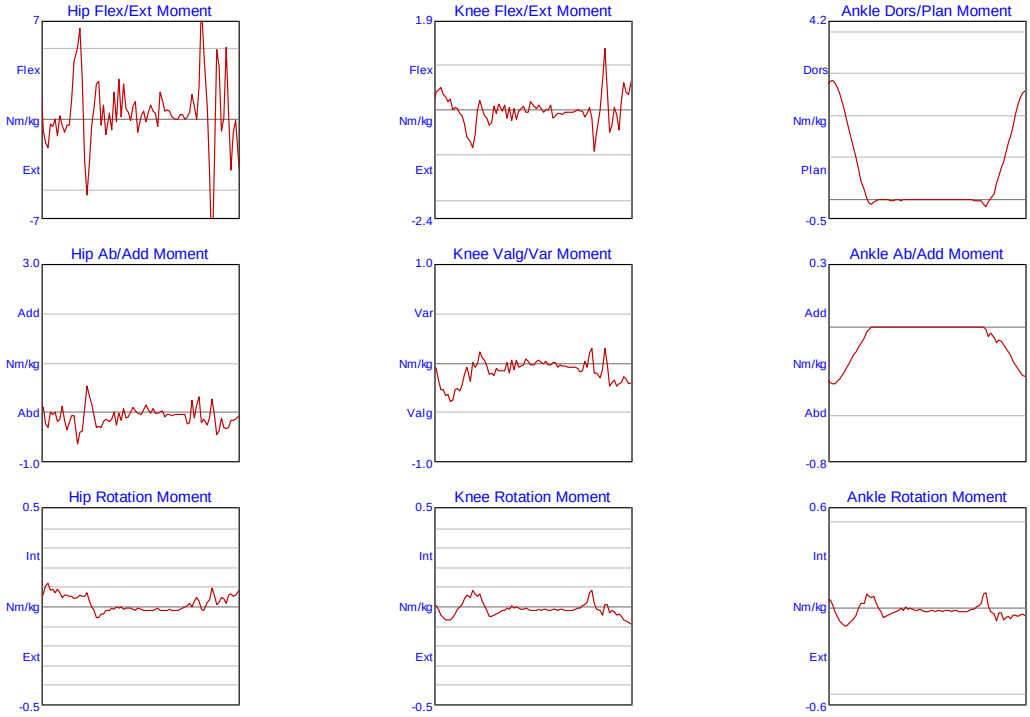




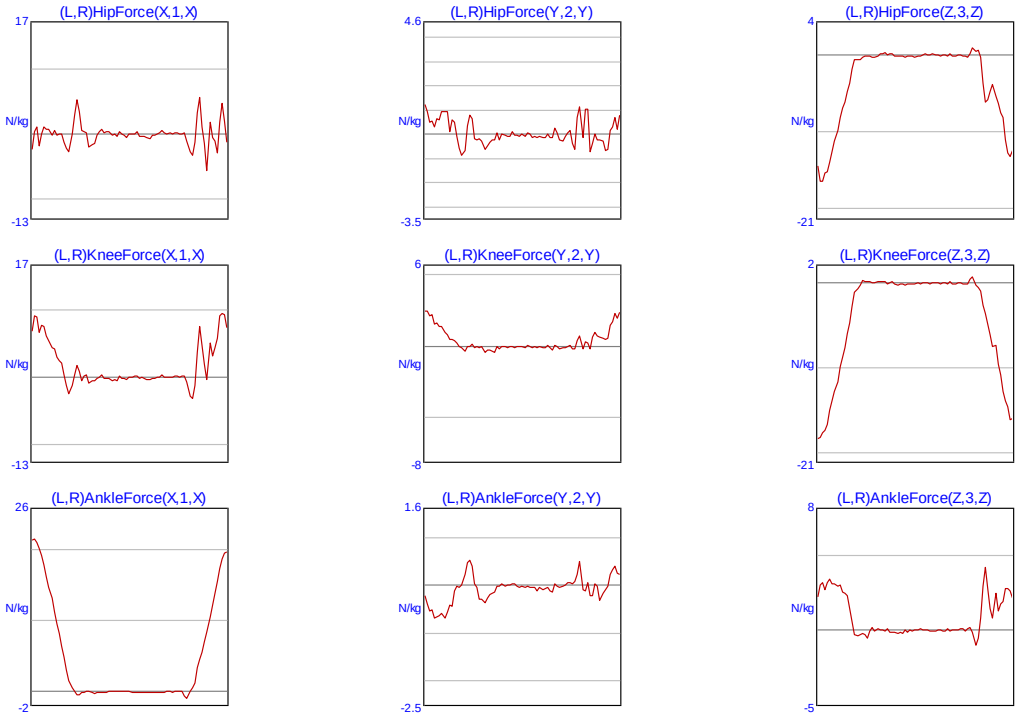


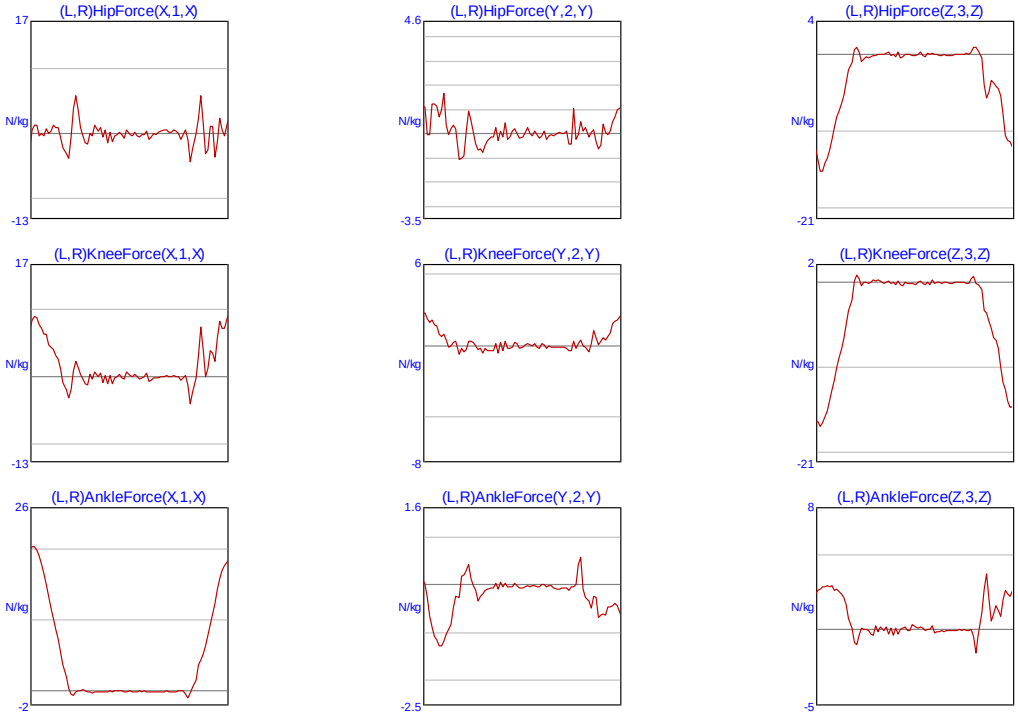






Sub Max 03 Forces Sub Max 04 Forces Sub Max 05 Forces





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When Viewing in Polygon Viewer - use the Spacebar to view un-normalised graphs

Close all windows

Return to the Report

Strength and Conditiong Example

Report Requirements and Trial Descriptions

This report templates uses the Full Body Plug-in Gait Model. The subject performs three trials for each of the following movements: Drop Jumps, Hang Clean, Tuck Jumps and Sub Max Hops.

Drop Jumps - from a box height of your choosing, land both feet at the same time. If using force plates land one foot per plate.
Hang Clean - use a barebell of your choice, markers can be placed on the bar. The MidBar can be modelled to plot the bar path.
Tuck Jumps - Repeated maximum effort jumps for a set time.
Sub Max Hops - repeated hops to a metronone for a set time.

Events for normalization
Tuck Jumps and Sub Max Hops the events should be placed at the maximum and minimum height of the subject Centre of Mass (CoM) to create normalization cycles.

Place Holders are as follows:

1) Drop Jump trial 01
2) Hang Clean trial 01
3) Hang Clean trial 02
4) Hang Clean trial 03
5) Drop Jump trial 02
6) Drop Jump trial 03
7) Tuck Jumps trial 01
8) Tuck Jumps trial 02
9) Tuck Jumps trial 03
10) Sub Max Hops trial 01
11) Sub Max Hops trial 02
12) Sub Max Hops trial 03