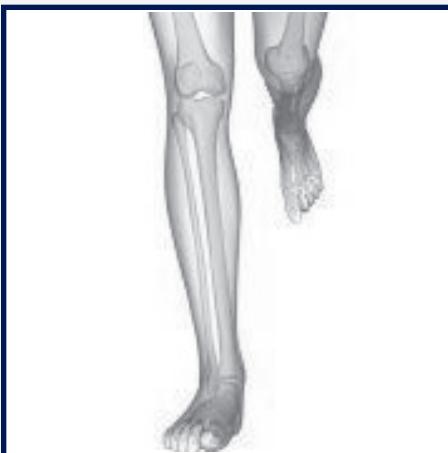
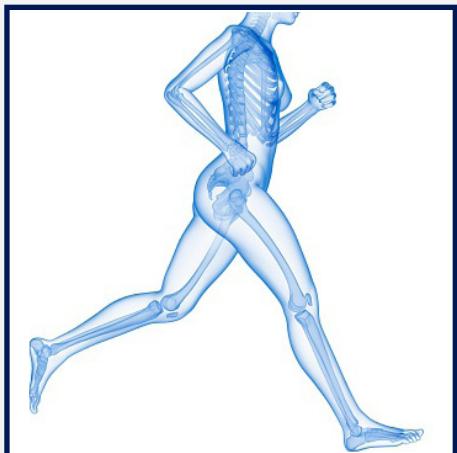


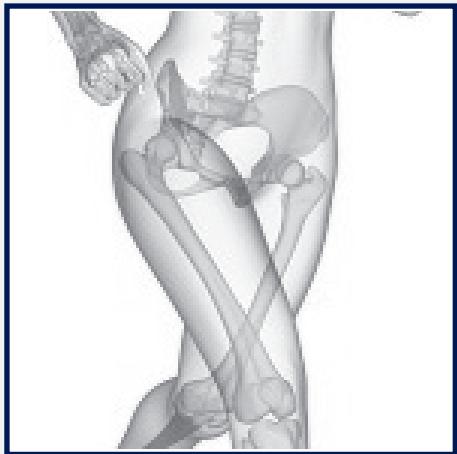


YOUR RUN3D REPORT

Accurate biomechanical data you can trust



*Everything you
need to know
about your
running!*



Client Name: Dave Bruce

Date of Birth: 10/12/1984

Clinician Name: admin

Assessment Date: 18/11/2016



INTRODUCING YOUR RUN3D REPORT

We are delighted to present the results of your Run3D analysis. During your assessment, we tested a wide-range of parameters that have been associated with musculoskeletal injuries and running performance. In this report, your individual results have been compared to our database of uninjured controls to highlight injury risk-factors and biomechanical parameters that are detrimental to your performance.

This is a very detailed and highly-specialised report. We have summarised some of the most important parameters at the beginning and your clinician will use the more detailed information to gain a thorough insight into your musculoskeletal function. These results will be used to provide you with evidence-based injury advice and specific performance recommendations.

HOW WILL THESE RESULTS HELP ME?

Your clinician will use the results presented in this report to help you:

Improve Running Performance

We have analysed your running technique to accurately identify gait patterns associated with reduced efficiency and decreased performance. Your clinician will recommend ways to modify your running style in order to address these issues, thereby increasing running efficiency and improving performance.

Treat an Existing Injury

Abnormal gait patterns are usually the root-cause of overuse injuries. Your Run3D assessment has objectively measured a wide-range of injury risk-factors so that your clinician can understand the root-cause of your injury and recommend an evidence-based rehabilitation programme.

Prevent Future Injuries

Your Run3D assessment has accurately measured patterns in your gait that might predispose you to injury. Your clinician will use this information to create a specific pre-habilitation programme to directly address your known injury risk-factors. This is especially important if you are looking to increase the volume and/or intensity of your training.



UNDERSTANDING YOUR RUN3D REPORT

There is a lot of information presented in this report and your clinician will focus your attention to the results that are most important for your specific injury and performance targets. This report gives unparalleled insight into your musculoskeletal function and the data will be used to recommend evidence-based treatment and optimise your performance.

Your results are presented in the following ways:

Your Results Summary

A summary of important injury risk-factors and performance indicators to provide a useful overview of your biomechanics.

Your results are compared to our database of uninjured controls and presented on a colour-coded scale to give a clear illustration of whether you are above, below or within our control range.

Key Parameter Graphs

A very detailed analysis of your biomechanics, looking at a much wider-range of proven injury risk-factors and performance indicators than presented in your Results Summary. This information provides your clinician with further insight into your results and any important findings will be discussed with you during your review.

Your biomechanics are compared to our database of uninjured controls and represented graphically to illustrate whether you are above, below or within our control range. Your numerical results are also presented in a table for further analysis.

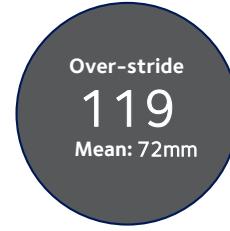
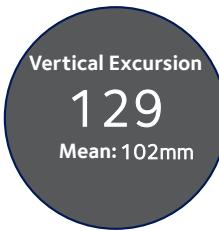
Gait Analysis Graphs

The exact three-dimensional movement of each joint throughout the gait cycle. This is highly specialised data and provides your clinician with results that have comparable accuracy and precision to gait analyses conducted at research laboratories and elite sports institutions.

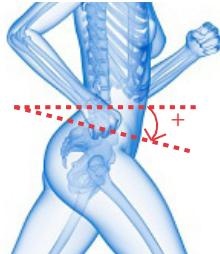
The gait analysis graphs are plotted with the joint angle (in degrees) on the vertical axis and the gait cycle (in % gait) on the horizontal axis. The range of our uninjured controls are shown in the shaded band.

YOUR GAIT ANALYSIS SUMMARY

Trial Conditions: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



Anterior Pelvic Tilt

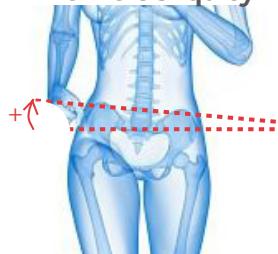


The amount the front of the pelvis tips forwards. Above if too much forwards tilt.



Your anterior pelvic tilt is within normal range for both legs.

Pelvic Obliquity

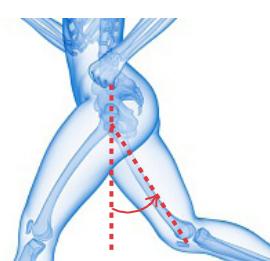


The side-to-side position of the pelvis. High when stance-side rises and other side drops.



Your pelvic obliquity is within normal range for both legs.

Hip Extension at Toe-Off

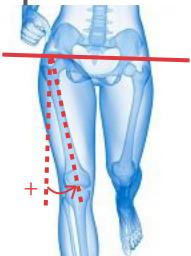


The amount your thigh extends behind the pelvis at the time of toe-off.



Your hip extension at toe-off is within normal range for both legs.

Hip Adduction



The amount your thigh collapses inwards towards the midline of the body.



Your hip adduction is within normal range for both legs.

Hip Internal Rotation



The amount your thigh twists inwards in relation to the pelvis.

BELOW

IDEAL

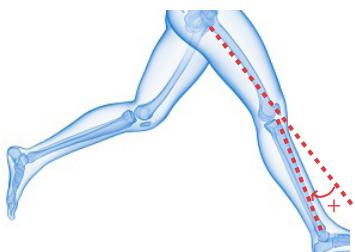
ABOVE

R

V

Your hip internal rotation is within normal range for your left leg and below normal range for your right leg. We recommend that you increase the flexibility of your hip rotators and improve pelvic and hip flexor mobility.

Knee Flexion at Foot-Strike



The amount your knee bends when your foot strikes the ground.

BELOW

IDEAL

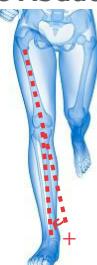
ABOVE

R

V

Your knee flexion at foot-strike is below normal range for your left leg and within normal range for your right leg. We recommend that you increase your cadence and bring your foot closer to your centre of mass at foot-strike.

Knee Abduction



The amount your knee collapses inwards towards the midline of your body.

BELOW

IDEAL

ABOVE

R

V

Your knee abduction is within normal range for both legs.

Dorsiflexion at Foot-Strike



The amount your ankle bends upwards or downwards as your foot strikes the ground

BELOW

IDEAL

ABOVE

R

V

Your dorsiflexion at foot-strike is above normal range for both legs. We recommend that you increase your cadence and bring your foot closer to your centre of mass at foot-strike.

Maximum Eversion



The maximum amount that your ankle everts (pronates) as your foot is on the ground.

BELOW

IDEAL

ABOVE

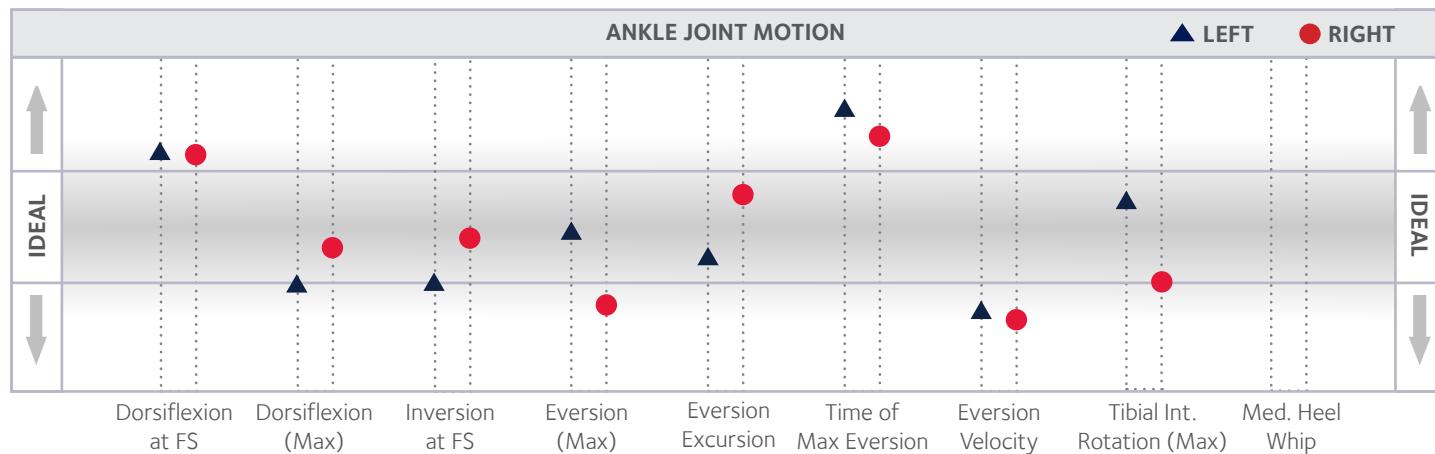
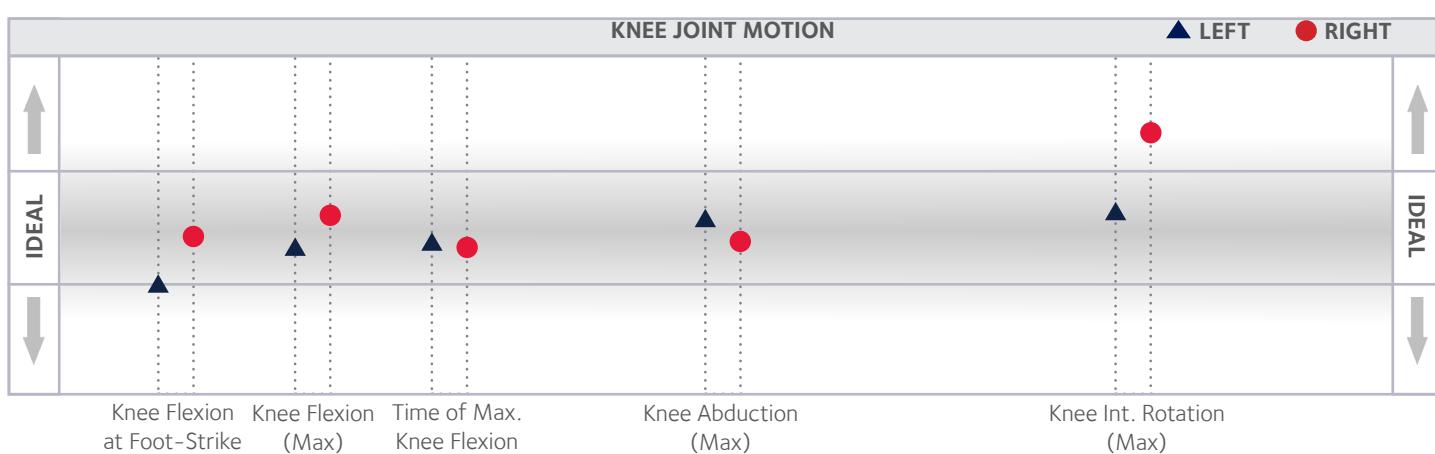
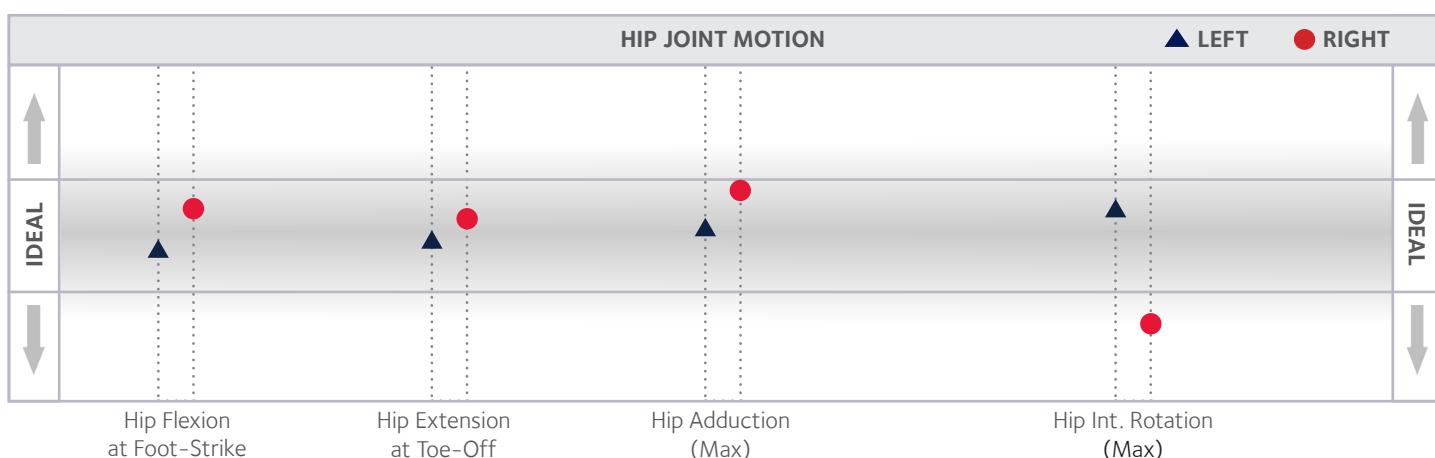
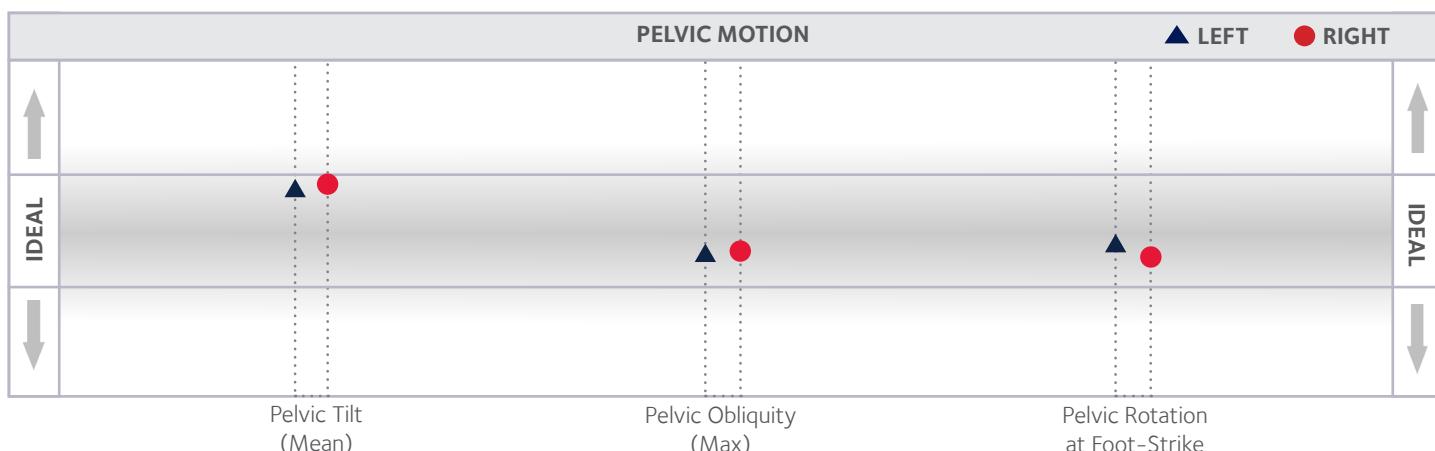
R

V

Your maximum eversion is within normal range for your left leg and below normal range for your right leg. We recommend that you improve the mobility of your ankle joint and flexibility of your lower leg muscles. Consider a neutral shoe.

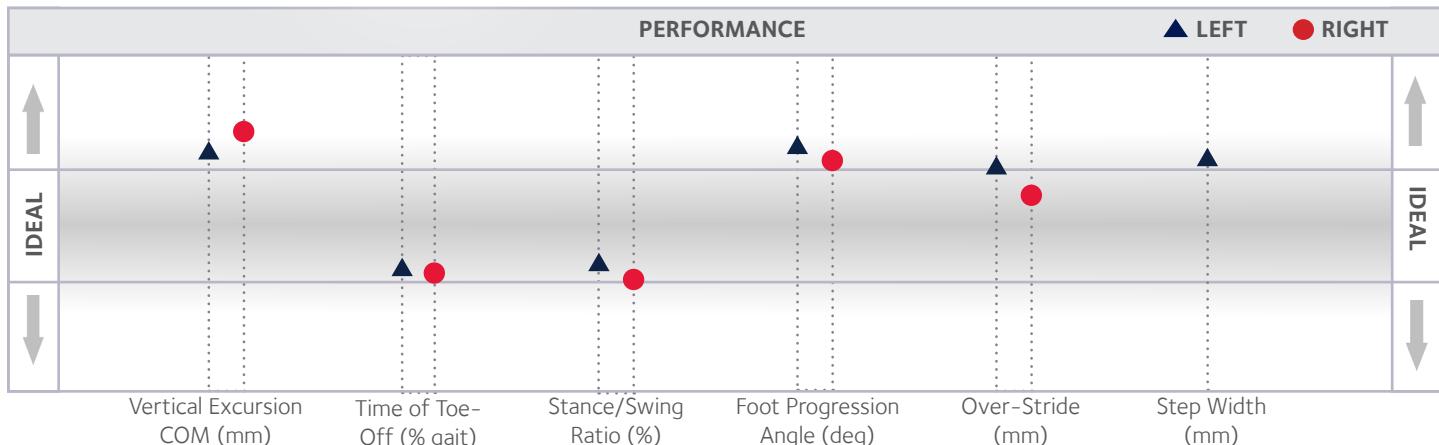
GAIT ANALYSIS PARAMETERS

Trial Conditions: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



GAIT ANALYSIS PARAMETERS cont'd

Trial Conditions: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



PARAMETER Units in Degrees Unless Specified Otherwise	YOUR RESULT (Mean (STD))		CONTROLS (Mean)	
	L	R	L	R
Pelvic Tilt (mean stance)	20.2 (0.7)	20.8 (0.8)	15.5	15.4
Pelvic Obliquity (max stance)	2.7 (0.9)	3.1 (0.6)	4.0	4.3
Pelvic Rotation at Foot-Strike	-3.2 (2.3)	-3.7 (1.7)	-2.3	-2.3
Hip Flexion at Foot-Strike	35.7 (1.4)	40.0 (1.7)	37.6	36.0
Hip Extension at Toe-Off	-1.1 (2.0)	-4.3 (1.5)	-1.7	-1.7
Hip Adduction (max stance)	4.5 (1.4)	6.7 (1.2)	3.7	1.6
Hip Internal Rotation (max stance)	17.4 (1.2)	10.7 (1.9)	15.5	20.2
Knee Flexion at Foot-Strike	6.6 (1.5)	11.1 (1.3)	12.4	12.1
Knee Flexion (max stance)	38.3 (1.2)	40.3 (1.3)	40.0	39.4
Time of Max Knee Flexion (% gait)	18.0 (1.4)	17.5 (0.7)	18.5	18.3
Knee Abduction (max)	-0.8 (0.3)	-1.6 (0.8)	-1.3	-0.5
Knee Internal Rotation (max)	-12.1 (1.0)	-8.4 (1.0)	-13.7	-20.1
Dorsiflexion at Foot-Strike	12.9 (0.6)	14.2 (1.0)	4.4	6.2
Dorsiflexion (max stance)	17.9 (0.9)	19.2 (0.9)	20.6	20.1
Dorsiflexion at Toe-Off				
Inversion at Foot-Strike	5.2 (0.7)	6.9 (1.0)	8.7	7.5
Eversion (max stance)	5.3 (1.6)	2.8 (1.9)	5.5	6.4
Time of max eversion (% gait)	19.7 (4.1)	19.7 (2.0)	13.0	13.0
Eversion Excursion	14.0 (2.7)	17.3 (3.2)	15.4	15.5
Eversion Velocity (degrees/second)	215.9 (37.9)	199.6 (30.9)	340.0	340.0
Tibial Internal Rotation (max)	-1.4 (0.7)	-6.9 (1.1)	-3.0	-2.8
Medial Heel-Whip				
Static Vertical Off-Set Angle				
Vertical excursion centre of mass (mm)	128.7 (5.3)	128.1 (5.0)	102.1	99.5
Time of toe-off (% gait)	41.7 (0.9)	40.5 (1.0)	44.0	44.0
Stance/Swing Ratio (%)	71.7 (2.7)	68.2 (2.7)	79.0	79.0
Foot Progression Angle	26.2 (0.8)	25.8 (0.8)	14.5	16.0
Over-Stride (mm)	118.6 (11.3)	97.0 (9.7)	71.5	75.2
Step-Width (mm)	137.35 (50.47)		100.4	
Cadence (Steps/Minute)	162.51		164.2	

GAIT ANALYSIS GRAPHS

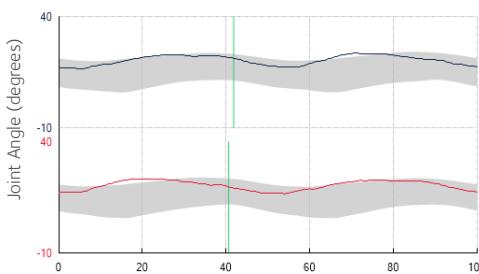
Trial Conditions: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)

— Left Leg

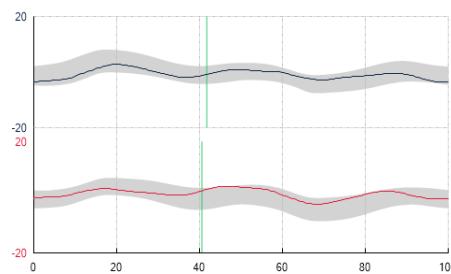
— Right Leg

Uninjured Controls

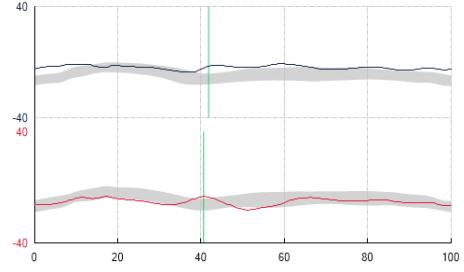
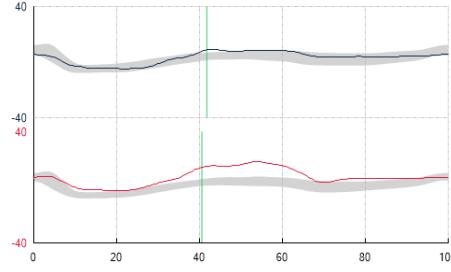
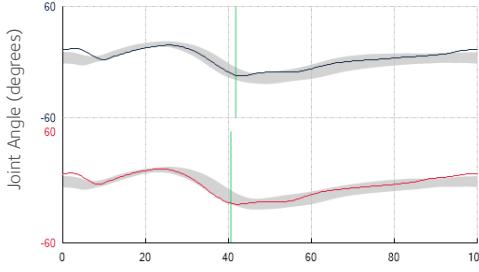
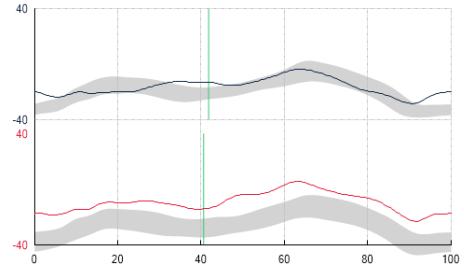
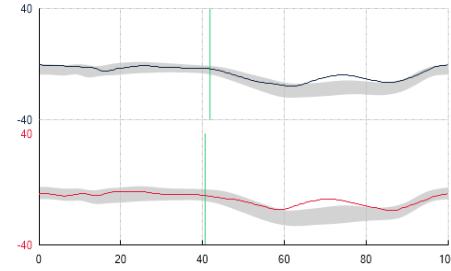
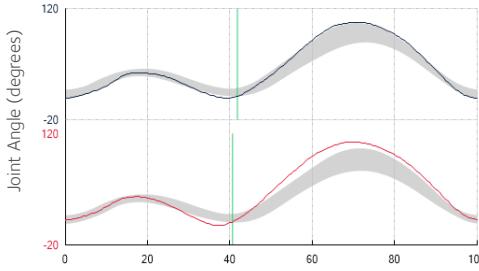
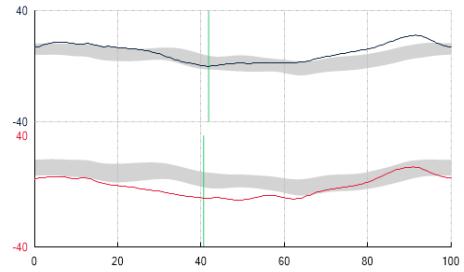
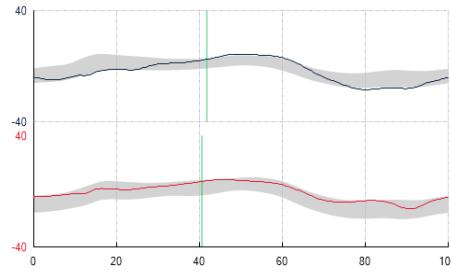
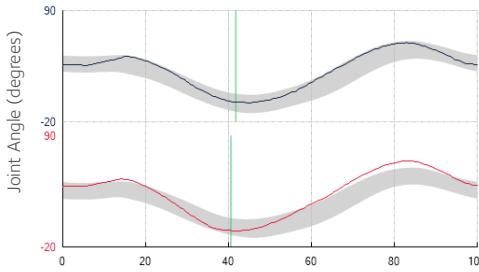
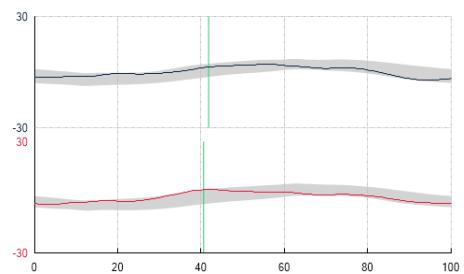
SAGITTAL



FRONTAL



TRANSVERSE



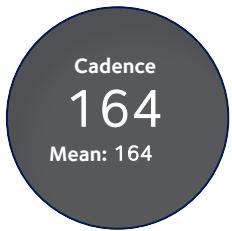
Gait Cycle (%)

Gait Cycle (%)

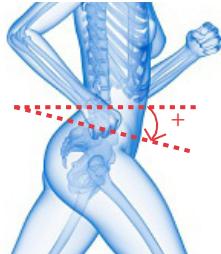
Gait Cycle (%)

YOUR GAIT ANALYSIS SUMMARY

Trial Conditions: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



Anterior Pelvic Tilt

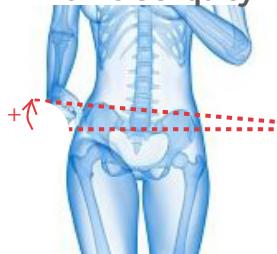


The amount the front of the pelvis tips forwards. Above if too much forwards tilt.



Your anterior pelvic tilt is within normal range for both legs.

Pelvic Obliquity

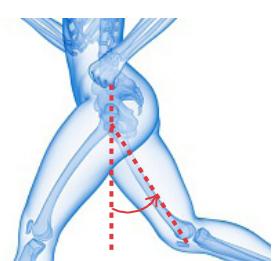


The side-to-side position of the pelvis. High when stance-side rises and other side drops.



Your pelvic obliquity is within normal range for both legs.

Hip Extension at Toe-Off

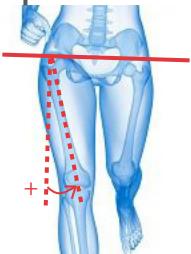


The amount your thigh extends behind the pelvis at the time of toe-off.



Your hip extension at toe-off is within normal range for both legs.

Hip Adduction



The amount your thigh collapses inwards towards the midline of the body.



Your hip adduction is within normal range for both legs.

Hip Internal Rotation



The amount your thigh twists inwards in relation to the pelvis.

BELOW

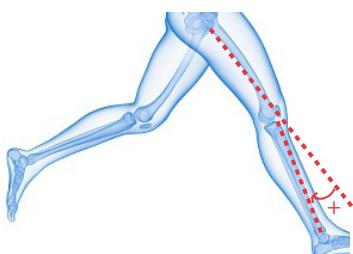
IDEAL

ABOVE

R

L

Knee Flexion at Foot-Strike



The amount your knee bends when your foot strikes the ground.

BELOW

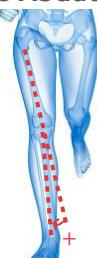
IDEAL

ABOVE

R

L

Knee Abduction



The amount your knee collapses inwards towards the midline of your body.

BELOW

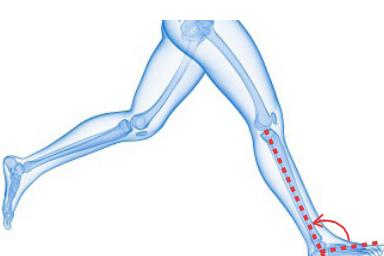
IDEAL

ABOVE

R

L

Dorsiflexion at Foot-Strike



The amount your ankle bends upwards or downwards as your foot strikes the ground

BELOW

IDEAL

ABOVE

R

L

Your dorsiflexion at foot-strike is above normal range for both legs. We recommend that you increase your cadence and bring your foot closer to your centre of mass at foot-strike.

Maximum Eversion



The maximum amount that your ankle everts (pronates) as your foot is on the ground.

BELOW

IDEAL

ABOVE

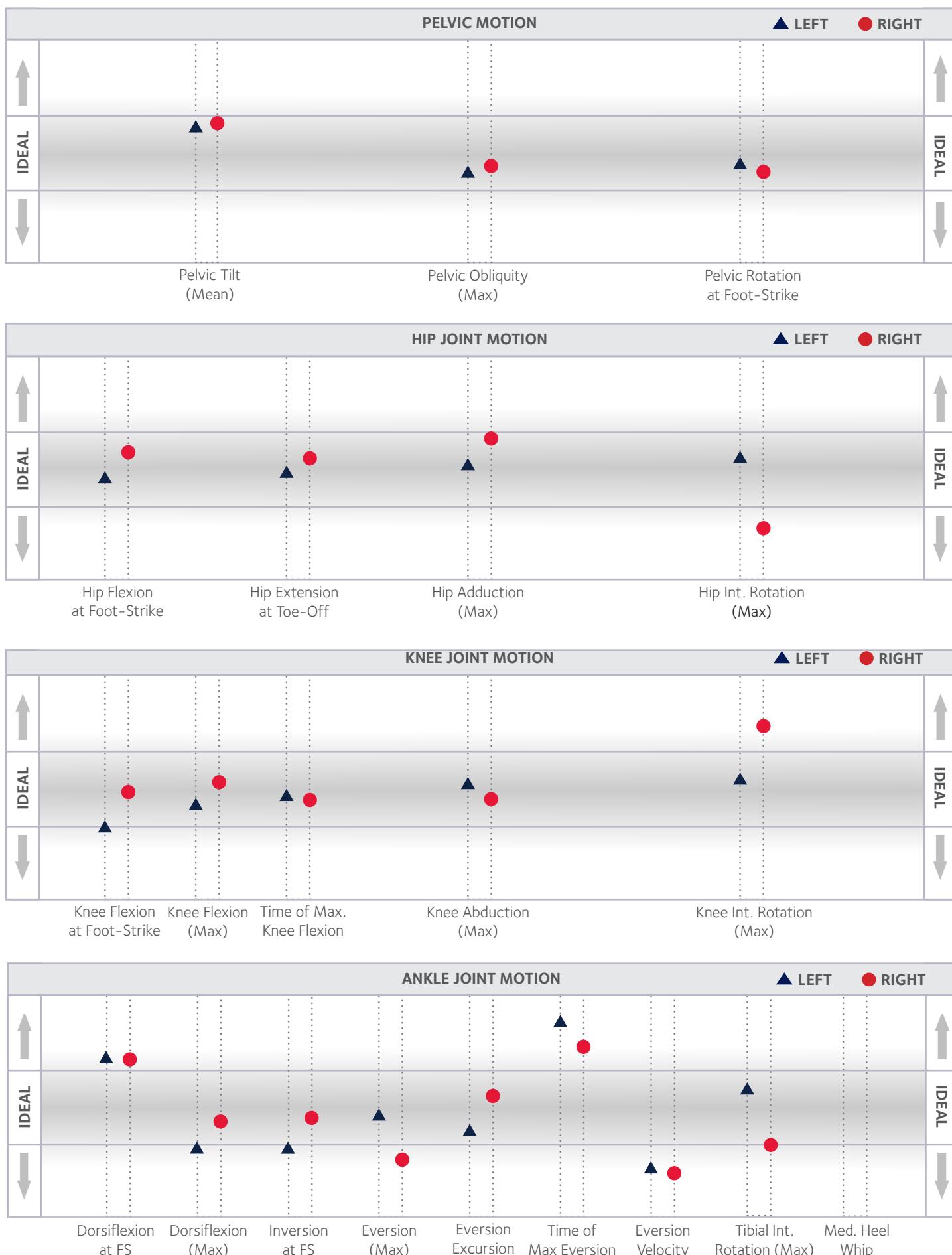
R

L

Your maximum eversion is within normal range for your left leg and below normal range for your right leg. We recommend that you improve the mobility of your ankle joint and flexibility of your lower leg muscles. Consider a neutral shoe.

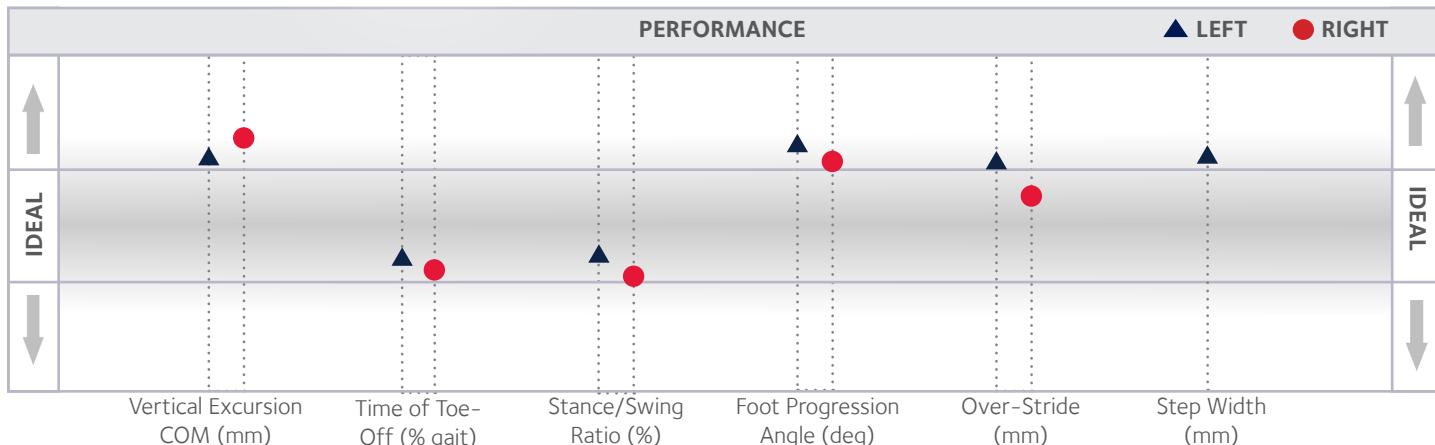
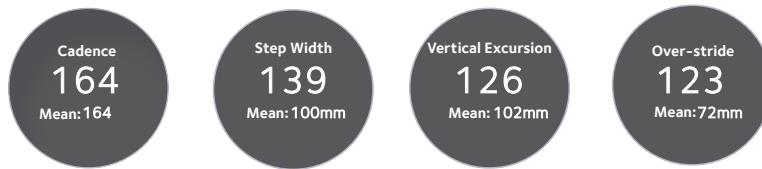
GAIT ANALYSIS PARAMETERS

Trial Conditions: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



GAIT ANALYSIS PARAMETERS cont'd

Trial Conditions: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



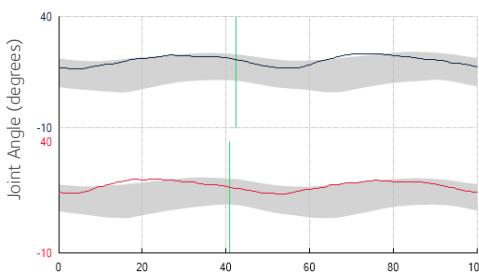
PARAMETER Units in Degrees Unless Specified Otherwise	YOUR RESULT (Mean (STD))		CONTROLS (Mean)	
	L	R	L	R
Pelvic Tilt (mean stance)	20.0 (0.8)	20.6 (0.8)	15.5	15.4
Pelvic Obliquity (max stance)	2.4 (1.0)	3.2 (0.9)	4.0	4.3
Pelvic Rotation at Foot-Strike	-3.4 (2.8)	-3.8 (1.7)	-2.3	-2.3
Hip Flexion at Foot-Strike	36.0 (1.9)	39.9 (1.6)	37.6	36.0
Hip Extension at Toe-Off	-1.3 (2.1)	-4.3 (1.7)	-1.7	-1.7
Hip Adduction (max stance)	4.5 (1.7)	6.9 (1.4)	3.7	1.6
Hip Internal Rotation (max stance)	16.8 (1.5)	10.7 (2.1)	15.5	20.2
Knee Flexion at Foot-Strike	6.6 (1.7)	11.5 (1.3)	12.4	12.1
Knee Flexion (max stance)	38.0 (1.4)	40.1 (1.3)	40.0	39.4
Time of Max Knee Flexion (% gait)	18.1 (1.4)	17.6 (0.8)	18.5	18.3
Knee Abduction (max)	-0.9 (0.4)	-1.7 (1.0)	-1.3	-0.5
Knee Internal Rotation (max)	-12.2 (1.0)	-8.4 (1.3)	-13.7	-20.1
Dorsiflexion at Foot-Strike	13.0 (0.6)	14.3 (0.8)	4.4	6.2
Dorsiflexion (max stance)	17.7 (0.9)	19.2 (0.9)	20.6	20.1
Dorsiflexion at Toe-Off				
Inversion at Foot-Strike	4.8 (0.9)	6.7 (1.2)	8.7	7.5
Eversion (max stance)	5.0 (2.2)	2.7 (2.2)	5.5	6.4
Time of max eversion (% gait)	20.4 (4.3)	19.8 (1.9)	13.0	13.0
Eversion Excursion	13.8 (2.9)	16.5 (4.0)	15.4	15.5
Eversion Velocity (degrees/second)	204.3 (49.5)	189.6 (42.7)	340.0	340.0
Tibial Internal Rotation (max)	-1.2 (0.7)	-7.0 (1.2)	-3.0	-2.8
Medial Heel-Whip				
Static Vertical Off-Set Angle				
Vertical excursion centre of mass (mm)	126.5 (5.4)	126.1 (5.2)	102.1	99.5
Time of toe-off (% gait)	42.3 (1.1)	40.8 (1.0)	44.0	44.0
Stance/Swing Ratio (%)	73.3 (3.3)	68.9 (3.0)	79.0	79.0
Foot Progression Angle	26.5 (1.0)	25.7 (0.7)	14.5	16.0
Over-Stride (mm)	123.0 (15.8)	96.4 (11.8)	71.5	75.2
Step-Width (mm)	138.84 (53.16)		100.4	
Cadence (Steps/Minute)	164.09		164.2	

GAIT ANALYSIS GRAPHS

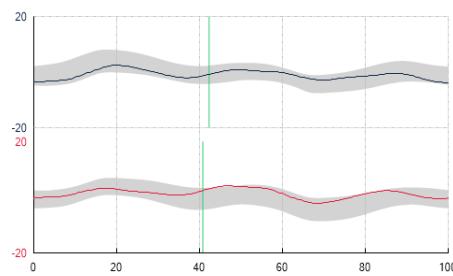
Trial Conditions: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)

— Left Leg — Right Leg ■ Uninjured Controls

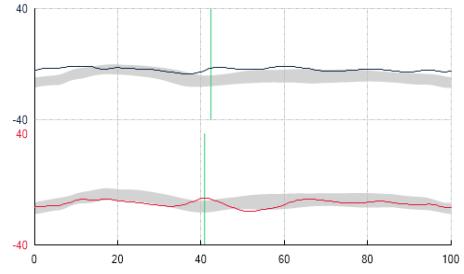
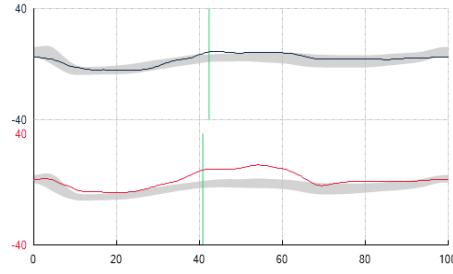
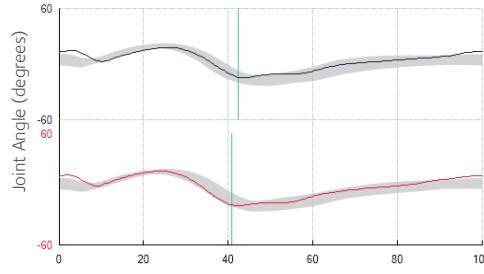
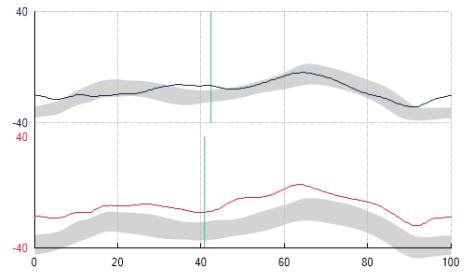
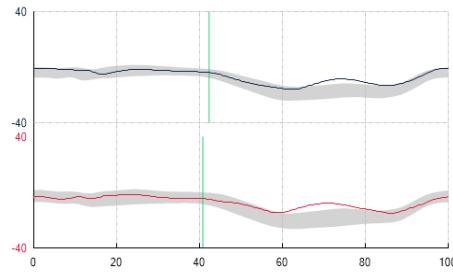
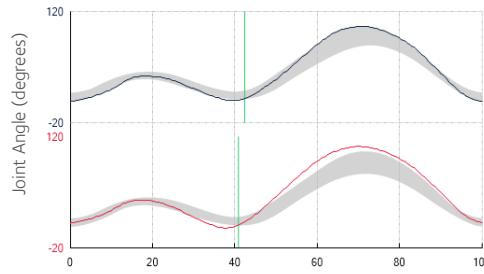
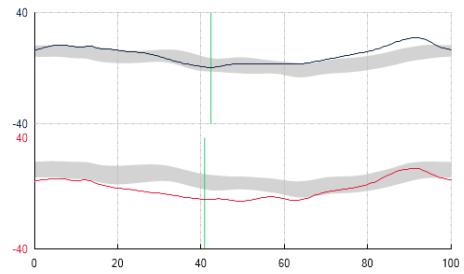
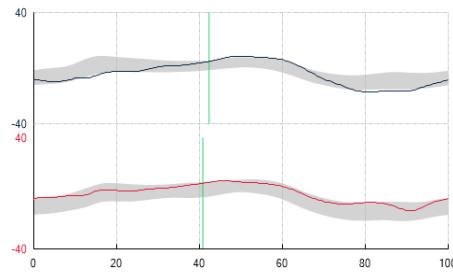
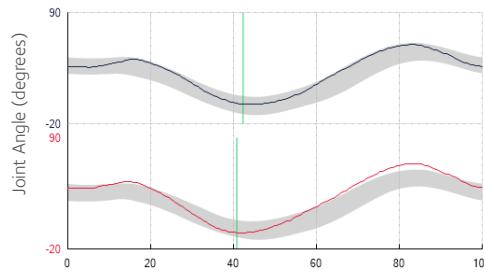
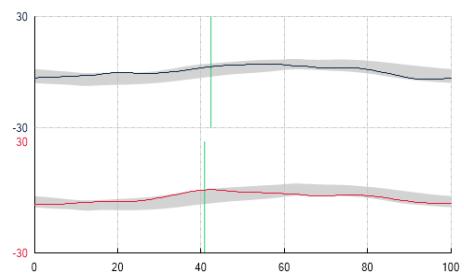
SAGITTAL



FRONTAL



TRANSVERSE



Gait Cycle (%)

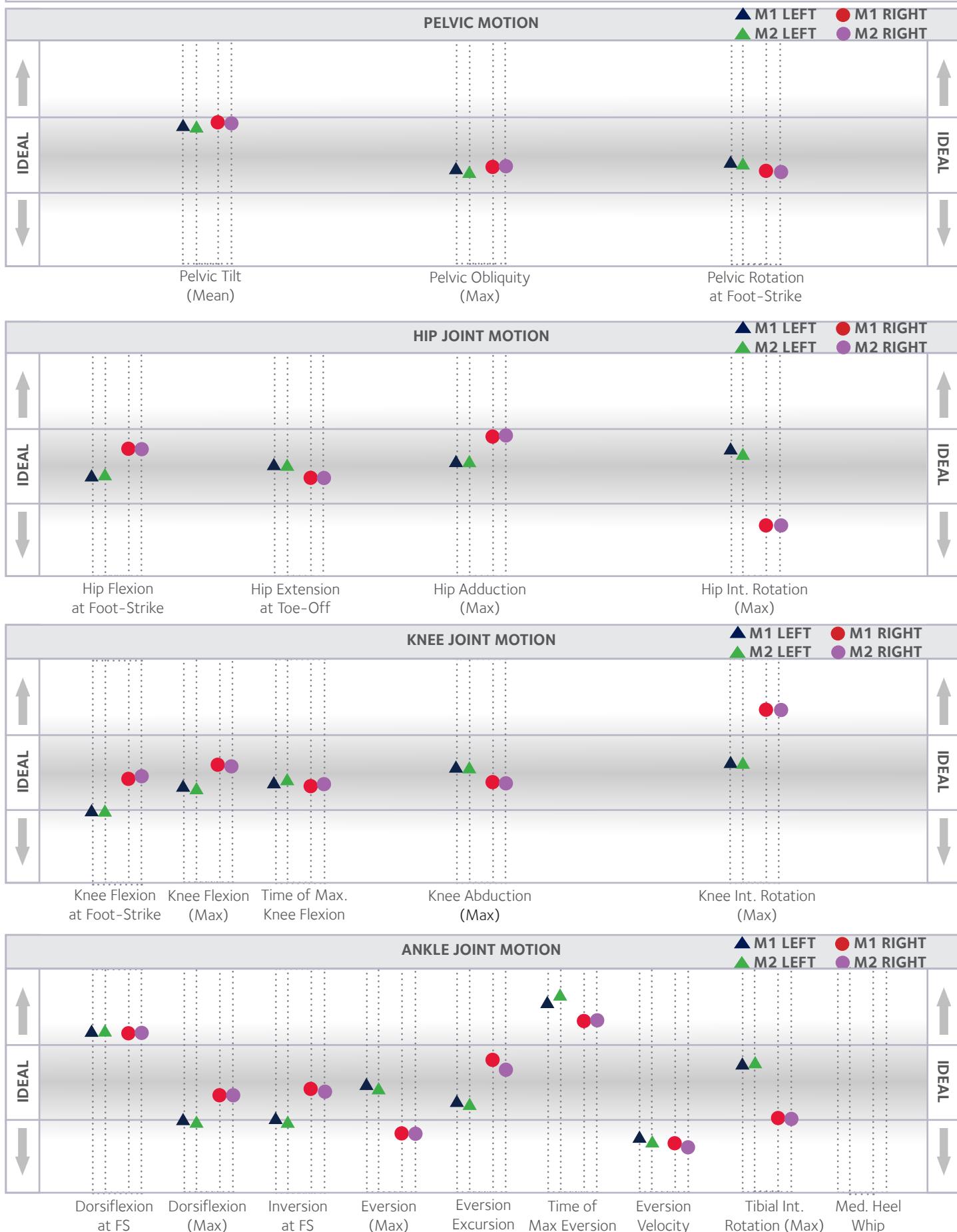
Gait Cycle (%)

Gait Cycle (%)

GAIT ANALYSIS COMPARISON

Trial Conditions Measurement 1: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)

Trial Conditions Measurement 2: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



GAIT ANALYSIS COMPARISON cont'd



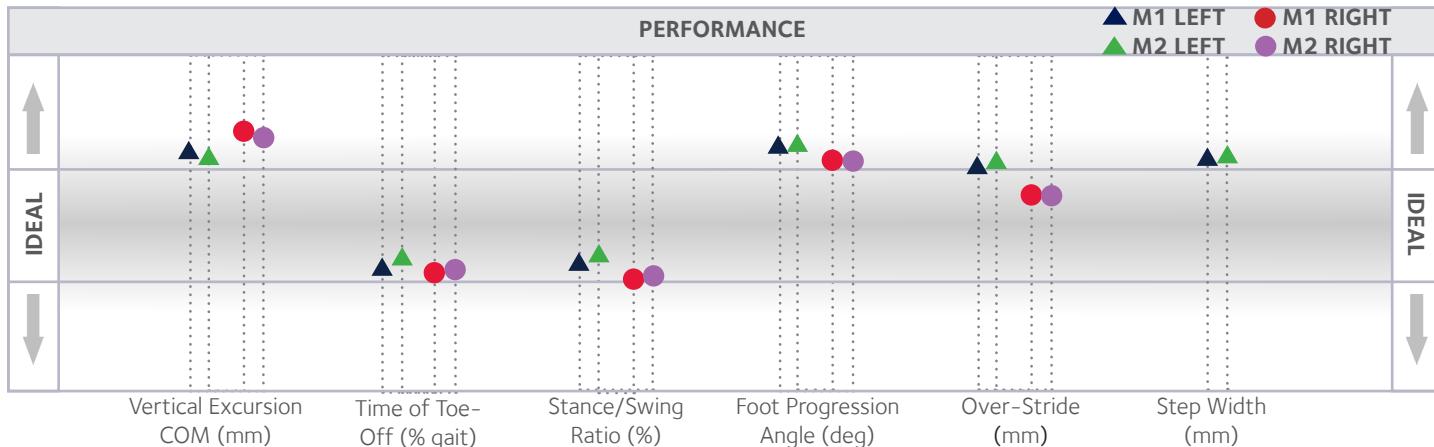
Trial Conditions Measurement 1: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



Trial Conditions Measurement 2: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)



PERFORMANCE



Vertical Excursion
COM (mm)

Time of Toe-
Off (% gait)

Stance/Swing
Ratio (%)

Foot Progression
Angle (deg)

Over-Stride
(mm)

Step Width
(mm)

PARAMETER	M1 (Mean (STD))		M2 (Mean (STD))	
	L	R	L	R
Units in Degrees Unless Specified Otherwise				
Pelvic Tilt (mean stance)	20.21 (0.75)	20.78 (0.78)	19.96 (0.84)	20.6 (0.82)
Pelvic Obliquity (max stance)	2.69 (0.86)	3.13 (0.62)	2.36 (1.01)	3.19 (0.87)
Pelvic Rotation at Foot-Strike	-3.2 (2.28)	-3.72 (1.71)	-3.38 (2.76)	-3.81 (1.66)
Hip Flexion at Foot-Strike	35.74 (1.44)	40.03 (1.73)	35.98 (1.92)	39.92 (1.63)
Hip Extension at Toe-Off	-1.12 (1.98)	-4.31 (1.54)	-1.26 (2.05)	-4.35 (1.67)
Hip Adduction (max stance)	4.52 (1.37)	6.67 (1.2)	4.51 (1.72)	6.86 (1.41)
Hip Internal Rotation (max stance)	17.41 (1.17)	10.72 (1.94)	16.85 (1.55)	10.72 (2.12)
Knee Flexion at Foot-Strike	6.63 (1.49)	11.09 (1.35)	6.57 (1.69)	11.46 (1.31)
Knee Flexion (max stance)	38.34 (1.24)	40.27 (1.29)	38.03 (1.42)	40.07 (1.26)
Time of Max Knee Flexion (% gait)	17.97 (1.45)	17.46 (0.69)	18.13 (1.39)	17.57 (0.75)
Knee Abduction (max)	-0.82 (0.32)	-1.6 (0.82)	-0.88 (0.42)	-1.73 (1.0)
Knee Internal Rotation (max)	-12.13	-8.36 (1.0)	-12.25	-8.42 (1.26)
Dorsiflexion at Foot-Strike	12.91 (0.58)	14.25 (0.95)	12.96 (0.61)	14.31 (0.84)
Dorsiflexion (max stance)	17.88 (0.86)	19.18 (0.9)	17.67 (0.94)	19.18 (0.94)
Dorsiflexion at Toe-Off				
Inversion at Foot-Strike	5.19 (0.68)	6.93 (1.01)	4.78 (0.9)	6.71 (1.23)
Eversion (max stance)	5.33 (1.62)	2.77 (1.86)	5.03 (2.25)	2.74 (2.21)
Time of max eversion (% gait)	19.71 (4.09)	19.71 (2.04)	20.37 (4.31)	19.79 (1.86)
Eversion Excursion	14.0 (2.71)	17.3 (3.17)	13.78 (2.89)	16.47 (4.03)
Eversion Velocity (degrees/second)	215.91	199.58	204.27	189.58
Medial Heel-Whip				
Tibial Internal Rotation (max)	-1.35 (0.7)	-6.91 (1.07)	-1.24 (0.69)	-7.02 (1.17)
Static Vertical Off-Set Angle				
Vertical excursion centre of mass (mm)	128.74	128.14	126.48	126.05
Time of toe-off (% gait)	41.74 (0.9)	40.54 (0.95)	42.29 (1.09)	40.76 (1.04)
Stance/Swing Ratio (%)	71.67 (2.67)	68.23 (2.7)	73.34 (3.3)	68.87 (2.97)
Foot Progression Angle	26.22 (0.76)	25.83 (0.76)	26.51 (1.05)	25.69 (0.73)
Over-Stride (mm)	118.6 (11.3)	97.0 (9.7)	123.0 (15.8)	96.4 (11.8)
Step-Width (mm)		137.35 (50.47)		138.84 (53.16)
Cadence (Steps/Minute)		162.51		164.09

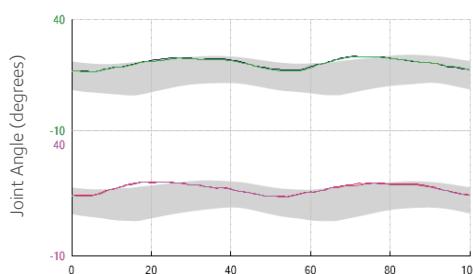
GAIT ANALYSIS GRAPHS COMPARISON

Trial Conditions Measurement 1: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)

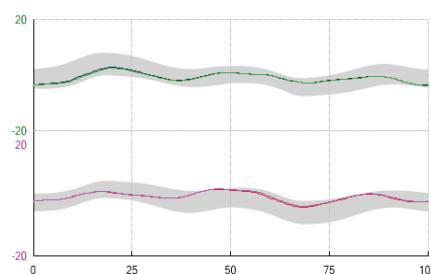
Trial Conditions Measurement 2: Running at 10 min/mile with neutral footwear on 02/09/2016 (initial)

— Left Leg 1 — Right Leg 1 Uninjured Controls
— Left Leg 2 — Right Leg 2

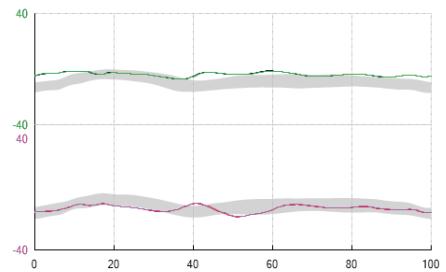
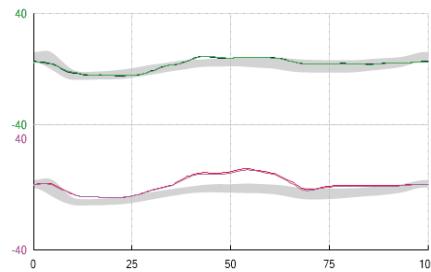
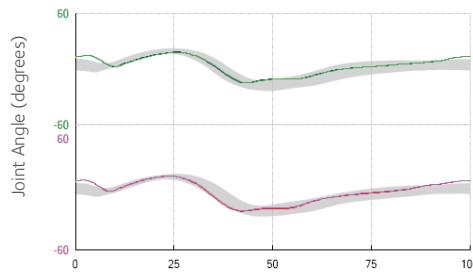
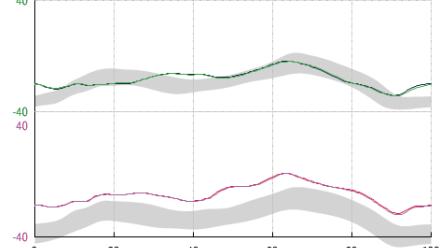
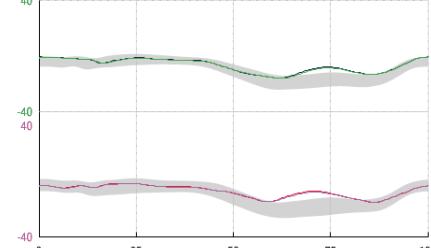
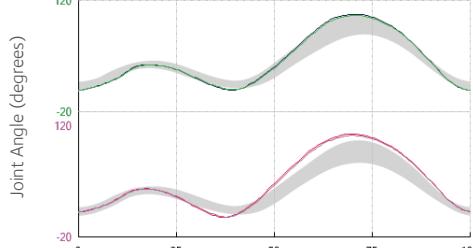
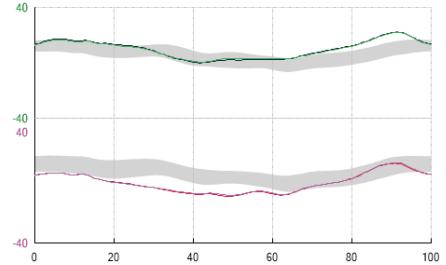
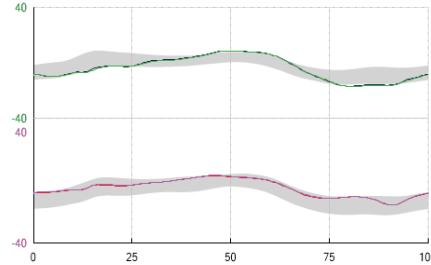
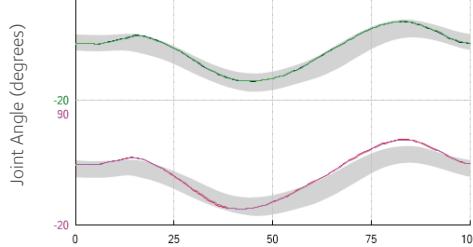
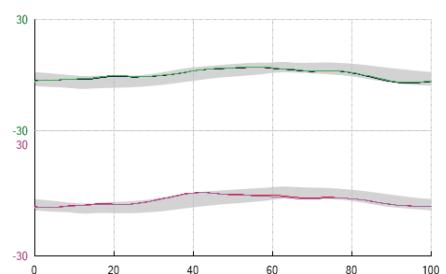
SAGITTAL



FRONTAL



TRANSVERSE



Gait Cycle (%)

Gait Cycle (%)

Gait Cycle (%)

YOUR CLINICAL EXAM SUMMARY

Trial Conditions: MSK Basic on 18/11/2016

Hip Abductor Strength



Your hip abductor strength is above normal range for both legs.

Hamstring Strength



Your hamstring strength is above normal range for both legs.

Ankle Inverter Strength



Your ankle inverter strength is within normal range for your left leg and above normal range for your right leg.

Hip External Rotation RoM



Your hip external rotation range of motion is within normal range for your left leg and below normal range for your right leg. We recommend that you improve the range of motion of your hip external rotators.

Hip Internal Rotation RoM



Your hip internal rotation range of motion is within normal range for both legs.

Hip Flexor Flexibility



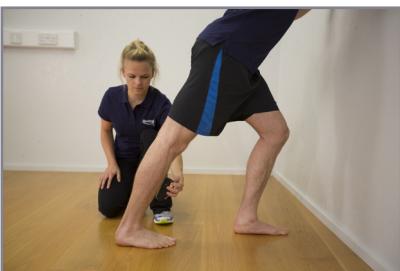
Your hip flexor flexibility is within normal range for both legs.

Ankle Dorsiflexion RoM (Knee Bent)



Your ankle dorsiflexion range of motion (knee bent) is within normal range for both legs.

Ankle Dorsiflexion RoM (Knee Extended)



Your ankle dorsiflexion range of motion (knee extended) is within normal range for both legs.

MTPJ RoM



Your MTPJ range of motion is above normal range for both legs.

Single Legged Squat



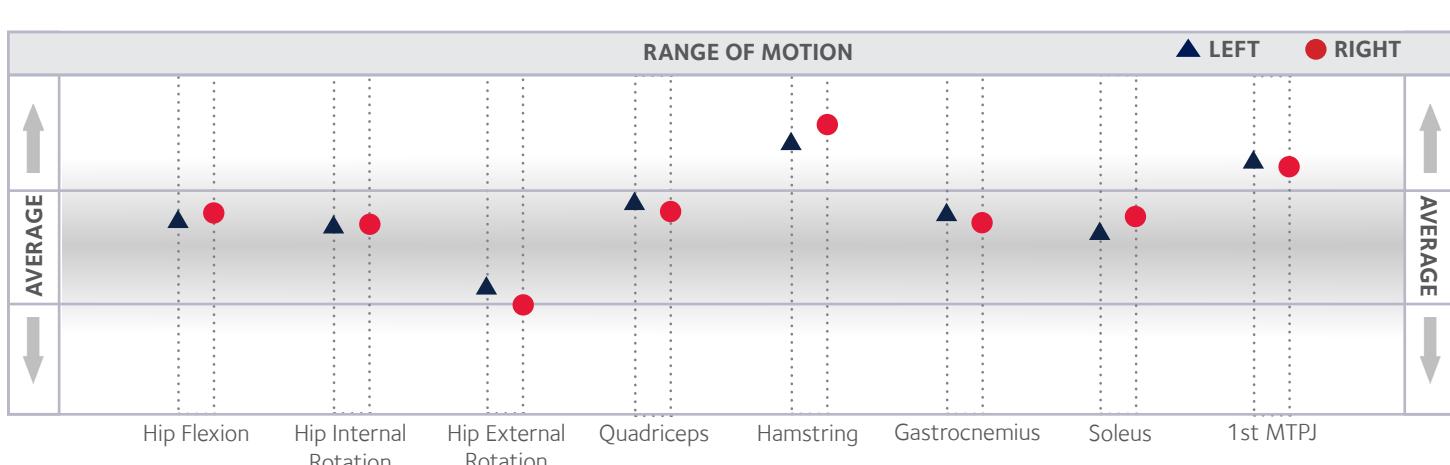
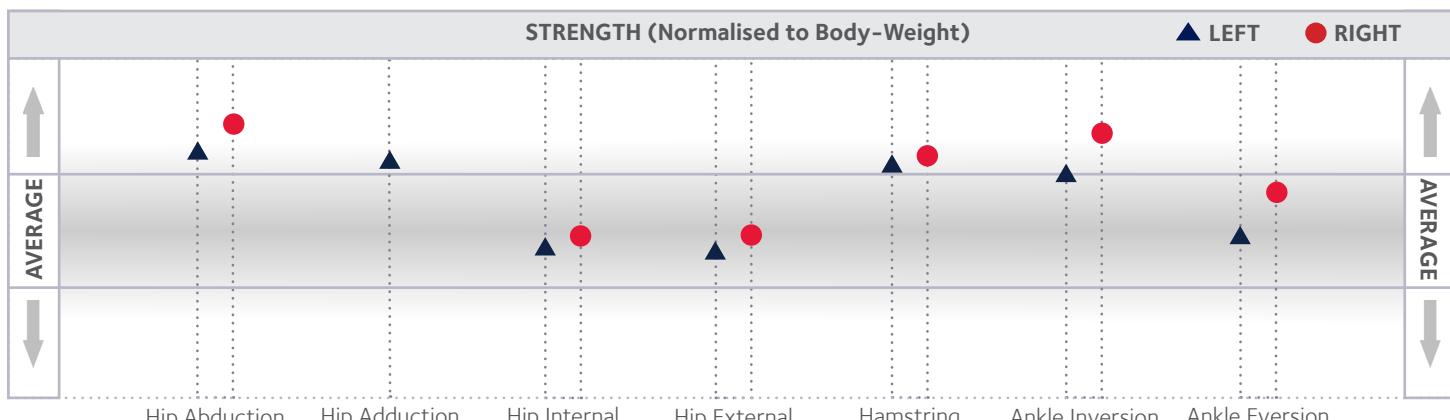
On your right we observed: Contralateral pelvic drop. Medial knee dive.

On your left we observed: Loss of flat-foot contact. Contralateral pelvic drop. Medial knee dive.

We recommend that you improve the control of your single leg squat by strengthening your hip/pelvic stabilisers and practicing with support.

CLINICAL EXAM PARAMETERS

Trial Conditions: MSK Basic on 18/11/2016



PARAMETER (Units)	YOUR RESULT		CONTROLS (Mean)	
	L	R	L	R
Please note that your clinician will have used his/her clinical judgement to select the combination of clinical tests most appropriate for you.				
STRENGTH (Normalised to BW)				
Hip Abduction	16.8	18.3	13.4	13.1
Hip Adduction	283		224	
Hip Internal Rotation	13.3	13.2	14.1	13.5
Hip External Rotation	15.7	16.8	16.7	17.1
Hamstring	29.7	30.5	23.4	23.4
Ankle Inversion	21.7	28.5	17.4	19.3
Ankle Eversion	26.8	27.5	27.5	24.3
RANGE OF MOTION (Degrees)				
Hip Flexion (Thomas Test)	75	74	79.4	79.4
Hip Internal Rotation	41	44	38.5	38.8
Hip External Rotation	38	34	42.8	41.6
Quadriceps	1	1	4.1	3.6
Hamstring	12	9	27.8	27.8
Gastrocnemius	49	48	45.4	45.5
Soleus	44	46	42.4	42.5
1st MTPJ	97	94	73.5	73.9
FUNCTION AND STRUCTURE (Units as Specified)				
Leg Length (mm):	835	851	-	-
Calf Raises:	27	26	17.7	18.5
Bridge (secs): Normal Left Leg Up Right Leg Up	30.0	30.0	30.0	Target 30 secs each
Single Leg Squat Left (observations noted)	Contralateral pelvic drop. Medial knee dive.			
Single Leg Squat Right (observations noted)	Loss of flat-foot contact. Contralateral pelvic drop. Medial knee dive.			

SOME USEFUL INFORMATION

The Gait Cycle

The gait cycle is divided into stance and swing phases: stance is when your foot is on the floor and swing is when it is in the air. Foot-strike and toe-off represent the beginning and end of stance respectively.

Gait analysis graphs are plotted with the gait cycle on the horizontal axis: foot-strike is at 0% and the same foot comes back into contact with the ground again at 100%. Toe-off is represented by a vertical line.

Describing Human Motion

Human motion is defined in three planes - looking at you from the side (the sagittal plane), from the front/back (the frontal plane) and from the top/bottom (the transverse plane).



Sagittal Plane
(side view)



Frontal Plane
(front view)



Transverse Plane
(top view)

We measured the exact movement of your joints in each of these 3-dimensions. For example, we measured how much your knee bent and extended (side view), how much it moved inwards and outwards (front view) and how much it twisted (top view).

The Gait Analysis (Curve) Graphs

Each of the three planes (side, front and top views) for your pelvis, hip, knee and ankle joints are plotted on a separate graph and the resulting 12 graphs are the ones that you see in your report (see next page for joint motion descriptions). The sagittal (side) views are all shown in the left column, the frontal (front) views are all shown in the central column and the transverse (top) views are all shown in the right column.

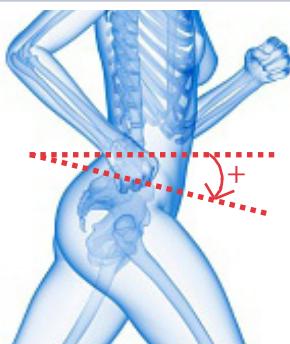
The vertical axis shows the joint angle in degrees and the horizontal axis represents the gait cycle (0% = footstrike, vertical line = toe-off, 100 % = foot-strike again). The right and left legs are represented by separate lines. The shaded areas represent the mean and standard deviation of our uninjured controls and by comparing your graphs to these shaded areas we can identify any abnormal patterns in your gait.

The Parameter (Dotted) Graphs

There are many gait parameters that are known to be associated with musculoskeletal injuries. The Run3D software automatically extracts these parameters from your gait data, compares them to our database of uninjured controls and presents them in a simplified format to help us identify injury risk-factors.

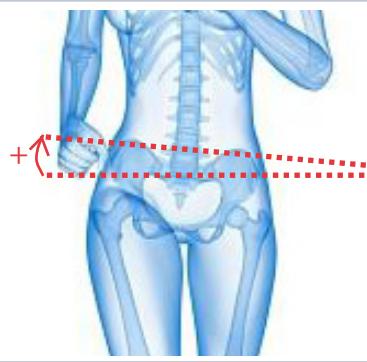
Ideally, you are looking for your dots to be within the shaded region (comparable to our uninjured controls) and for your right and left dots to be similar (a symmetric gait pattern).

Anterior/Posterior Pelvic Tilt



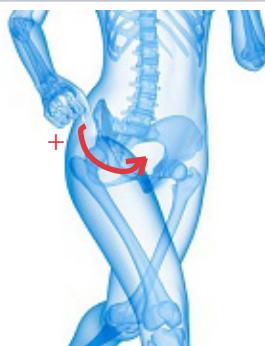
Anterior (+ve) is when the front of the pelvis tips forwards and the back rises. Too much can lead to reduced hip extension and overstriding.

Pelvic Obliquity



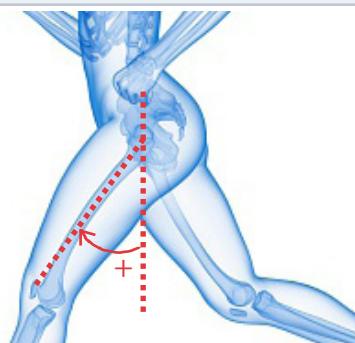
Pelvic obliquity (+ve up) is when one side of the pelvis drops downwards and the other side rises. Too much influences hip motion and can lead to injury.

Pelvic Rotation



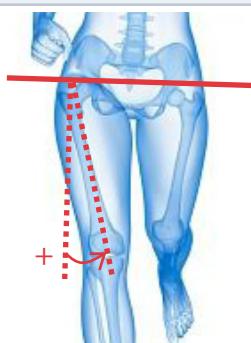
Pelvic rotation (+ve forwards) is when one side of the pelvis twists inwards.

Hip Flexion/Extension



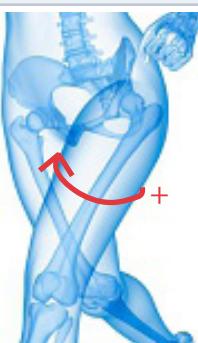
The hip is flexed (+ve) when the leg is lifted in front of the body and extended when the leg is behind the body. Avoid decreased hip extension at toe-off.

Hip Adduction/Abduction



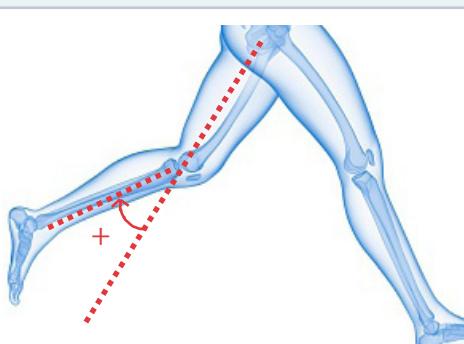
Hip adduction (+ve) is when the thigh collapses inwards relative to the pelvis. Too much hip adduction should be avoided as it can lead to injury.

Hip Rotation



Hip rotation (internal +ve) is when the thigh twists inwards and outwards relative to the pelvis. Too much hip rotation can lead to injury.

Knee Flexion/Extension



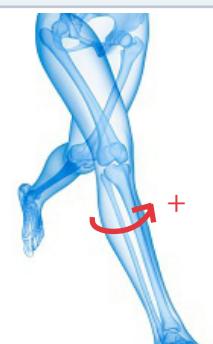
The knee is flexed (+ve) when it is bent and extended when it is straight. Too much peak knee flexion increases patellofemoral joint contact forces.

Knee Adduction/Abduction



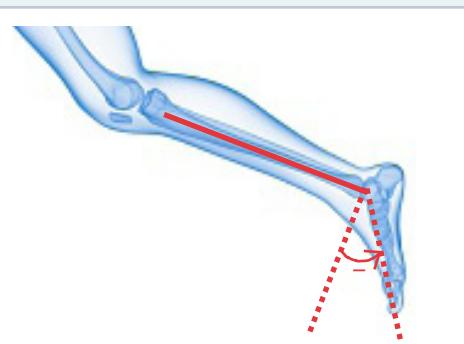
Knee abduction (valgus) (+ve) can be visualised as knock-knees. Knee adduction (varus) can be visualised as bow-legs.

Knee Rotation



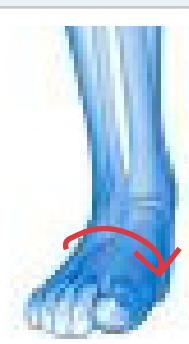
Knee rotation (internal +ve) is when the lower-leg twists inwards relative to the thigh. Abnormal motion can alter the forces at the knee and knee-cap.

Ankle Dorsiflexion/Plantarflexion



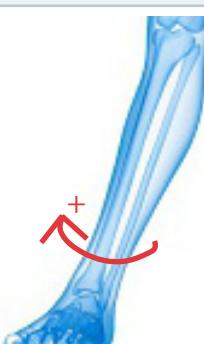
Plantarflexion (-ve) is when the toes are pointed towards the ground and dorsiflexion (+ve) is when the toes are lifted upwards towards the lower-leg.

Rearfoot Eversion/Inversion



Inversion (+ve) and eversion are when the back of the foot roll outwards and inwards relative to the lower-leg.

Tibial Rotation



Tibial internal rotation (+ve) is when the tibia twists inwards relative to the rear-foot.



WHAT HAPPENS NEXT

We hope that your Run3D assessment was beneficial and worthwhile. Your clinician will have interpreted the results presented in this report and used the information to provide you with an optimised rehabilitation programme and performance recommendations. These recommendations might include gait retraining, exercise therapy, strength and conditioning, orthotic/footwear solutions, physiotherapy treatment or referral to another specialist.

It is extremely important that you heed the advice given to you by your clinician in order to benefit from your Run3D assessment and achieve your goals.

If you have any questions about your report, then please do not hesitate to contact your clinician directly.

DISCLAIMER

This report presents the data collected using a Run3D gait analysis system. The clinician who carried-out your assessment is not employed by Run3D Limited and is a healthcare professional providing independent advice and services.

All results presented in this report must be interpreted by a trained healthcare professional and you are at all times responsible for the actions you take as a consequence of the results presented here.

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