3D GAIT ANALYSIS & MUSCULOSKELETAL TESTING

PATIENT INFORMATION LEAFLET

This pamphlet tells you more about Run3D gait analysis. Please don't hesitate to ask your clinician if you have any further questions.

www.run3d.co.uk

ABOUT THIS GUIDE

You have musculoskeletal pain and following discussions with your clinician about treatment options you may be considering a Run3D gait analysis to help treat your condition.

The aim of this guide is to:

- Explain how Run3D gait analysis works
- Describe what is involved in a Run3D assessment
- Answer frequently asked questions

Run3D gait analysis is an advanced way of quantifying how you walk and run. The results of your assessment help your clinician to identify the root-cause of your pain and recommend data-driven advice and treatment.

Run3D is the gold standard of gait and musculoskeletal analysis, providing all the information you need to understand the cause of your injury, which is the first step to putting it right.

WHAT IS 3D GAIT ANALYSIS?

3D gait analysis uses special infrared cameras to measure the positions of reflective markers that are attached to your legs. The marker positions are used to create an accurate 3D model of your lower-limbs and to precisely measure how your pelvis, hip, knee and ankle joints are moving.

This is the same technology that is used by specialist orthopaedic hospitals, research institutions and film studios!

Gait analysis enables your clinician to accurately and objectively identify any abnormal patterns or asymmetries in your walking and running gait. A complementary musculoskeletal examination of your flexibility, strength, neuromuscular control and alignment is used to help your clinician further understand your biomechanical profile.

The information gathered during your Run3D assessment enables your clinician to provide data-driven rehabilitation advice and optimise your treatment pathway.

> *"Run3D identified the root-cause of my injury, now I'm armed with the tools to rectify it"*
>
> Jo Pavey, five-time Olympian

WHY IS 3D GAIT ANALYSIS IMPORTANT?

The body moves in three anatomical planes, which combine to form a complex sequence of movements and rotations. For example when the knee bends, it also rotates and moves towards the other leg. In order to properly understand joint motion, it is important to measure all these movement patterns and 3D gait analysis enables us to do this.

Conventional video-based assessments that are used in shops only record motion in 2D and do not measure the rotational movements of the body. Furthermore, video analyses are usually subjective and not sensitive enough to detect the subtle abnormalities that can lead to musculoskeletal pain.

> *"I would describe a Run3D gait analysis as a MRI of your gait and biomechanics.*
>
> *It allows your clinician to understand the root-cause of your pain, which is the first step to putting it right."*
>
> Fay Barrington, Oxfordshire.

WHO CAN IT HELP?

Run3D gait analysis can help anyone with pain during walking or running, including but not limited to:

- Low back pain
- Greater trochanteric bursitis
- Sacroiliac joint dysfunction (SJD)
- Piriformis syndrome
- Hip osteoarthritis
- Hamstring tendinopathy
- Adductor/groin pain
- Patellofemoral pain
- Iliotibial band syndrome
- Patellar tendinopathy
- Meniscal tears/ injuries
- Knee osteoarthritis
- Medial tibial stress syndrome
- Recurring calf strain
- Chronic progressive calf tightening
- Achilles tendinopathy
- Tibialis posterior tendinopathy/ Dysfunction
- Plantar fasciitis
- Reduced mobility

HOW CAN RUN3D HELP ME?

By taking scientific measures of your gait and biomechanical function, we can fully understand why you are moving in a certain way and provide you with a successful and long-term treatment plan.

The results of your Run3D gait analysis are used to give you data-driven advice and to recommend the optimal treatment pathway for your condition. Depending on what we find, this might be a customised exercise programme, physiotherapy, gait retraining, and/or footwear advice.

Our scientific approach enables us to:

- Accurately identify the root-cause of musculoskeletal pain, which is the first step to a successful treatment plan.
- Recommend data-driven rehabilitation protocols and footwear advice on the basis of precise data.
- Prevent musculoskeletal injuries before they occur by identifying and addressing biomechanical risk-factors.

Run3D gait analysis can help anyone with pain during walking or running.

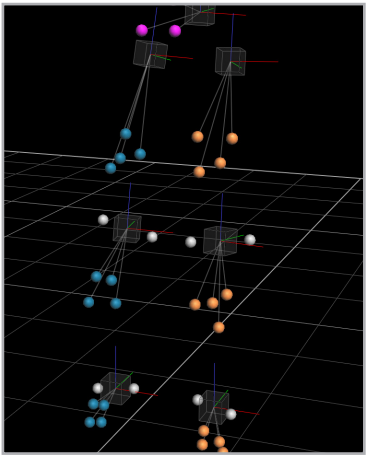
01

Set-Up

We attach 39 reflective markers to your legs and shoes, positioned on specific anatomical landmarks.

This step takes about 5-10 minutes.

It is best if you can wear shorts, but if you are uncomfortable about this then please talk to your clinician.

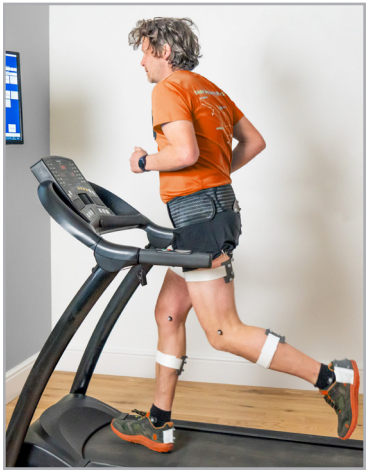


02

Camera View

Our infrared cameras don't see you, they only see the reflective markers.

Using the exact same technology as specialist orthopaedic hospitals, our motion capture cameras measure the position of the markers 200 times a second and enable us to precisely measure how you are walking and running.



03

Gait Analysis

You walk and/or run at your preferred speed on the treadmill, and once you are comfortable, your clinician will start to record your data.

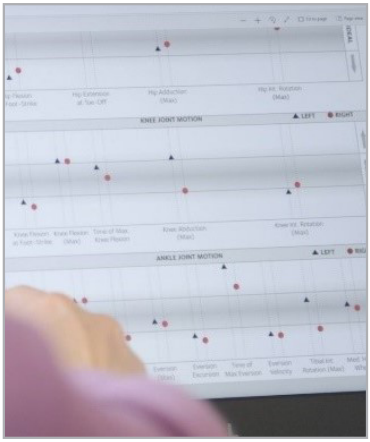
Your clinician might do recordings in different shoes or at different speeds.

04 (Gait and MSK appointment only)

Musculoskeletal Testing

Your clinician will carry-out a series of objective clinical tests to quantify your musculoskeletal function.

By combining the results of your gait analysis and musculoskeletal tests, your clinician is able to understand how and why your body is moving the way it is and deliver a data-driven approach to your treatment plan.



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Report Interpretation

Run3D captures a lot of data about your gait and biomechanics. Your clinician needs to review your report, taking into account your history, and use the information to create your treatment plan.

Your interpretation might take place on the same day as your gait analysis or you might be called back for a review appointment.

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Recommendations

The advice that will be given to you after your Run3D assessment will be individual to you, and dependent on your presentation and the results of the analysis.

Here are some of the things your clinician might suggest: exercise rehabilitation, physiotherapy, gait retraining, footwear or orthotics, onward referral.

CONTACT US

FOR FURTHER DETAILS & WHERE TO FIND US

run3d.co.uk

What are people saying about us?

'Run3D identified the root-cause of my injury, now I'm armed with the tools to rectify it' Jo Pavey, Team GB

'My Run3D assessment was one of the most valuable two hours of my career to data' Luke McKenzie, 6 x Ironman Champion

'The Best Gait Analysis' Runner's World Magazine

'After 30 mins, Run3D has identified the problem and told me what is causing it - that's the first step to putting it right.' Triathlon 220

'For anyone serious staying injury free and enjoying running for life, I'd highly recommend a session with Run3D.' Fiona Bugler, Journalist

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