THE WALK3D PATHWAY

IDENTIFY THE ROOT-CAUSE

3D GAIT ANALYSIS

Using the same technology as specialist gait laboratories (and film studios!), infrared cameras accurately measure 3D joint kinematics and automatically identify the risk-factors associated with your condition.

COMPLETE THE PUZZLE

OBJECTIVE MSK EXAM

An integrated assessment of muscular strength, range of motion, alignment and neuromuscular control provides further insight into biomechanical function and other contributing factors.

TARGET THE ISSUES

TREATMENT & REHAB

Correctly identifying the underlying problems is fundamental to developing an effective and long-term treatment protocol. A targeted rehabilitation programme can now be created.

FOLLOW THE EVIDENCE

GAIT RETRAINING

Our real-time technology enables evidence-based gait retraining protocols to be replicated in our clinics if it is appropriate for you.

CELEBRATE THE RESULT

RETURN TO ACTIVITY

HOW WALK3D CAN HELP

Knee Osteoarthritis (OA)

The most common joint disorder, affecting approximately 1 in 5 adults over 45 yrs. Knee OA is classified by pain, functional impairment, decreased quality of life, and high economic cost. There is a higher prevelance in females, obese individuals, those who wear inappropriate footwear, and those with varus knee alignment. Severe cases result in a total knee replacement.

1. IDENTIFIES RISK FACTORS

BIOMECHANICS: POWER PLANE

- ↓ Pelvic tilt
- ↓ Knee flexion (peak)
- ↑ Knee flexion at foot-strike
- ↓ Walking speed
- ↓ Stride length
- ↑ Step width

BIOMECHANICS: CONTROL

- ↓ Knee abduction (peak)
- ↓ Hip adduction (peak)
- ↓ Hip internal rotation (peak)

BIOMECHANICS: FOOT & ANKLE

- ↓ & ↑ Foot progression angle
- ↓ Ankle dorsiflexion (peak)

ALIGNMENT

- ↑ Varus knee alignment

MUSCLE STRENGTH & FUNCTION

- ↓ Hip abductors
- ↓ Hamstrings
- ↓ Quadriceps
- ↓ Gluteal muscles

MUSCLE IMBALANCE & INFLEXIBILITY

- ↓ Knee flexion (quadriceps)
- ↓ Hip internal rotation
- ↓ Knee extension (hamstrings)
- ↓ Ankle dorsiflexion

2. TARGETS TREATMENT

- Gait retraining
- Muscle strengthening
- Footwear recommendations
- Improving muscle imbalances and range
- Orthotic intervention
- Weight loss & patient education

3. FACILITATES GAIT RETRAINING

- Optimise step-width and stride-length for pain mangement
- Increase pelvic mobility and hip extension
- Optimise knee flexion throughout gait
- Toe-ing in and Toe-ing out to reduce pain when walking
- Trunk leaning and medial thrust gait adaptations to reduce pain.

ABOUT RUN3D

We are an Oxford University spin-out company, dedicated to bringing the latest advances in running injury research to clinicians and runners.

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OUR CLINICS

Run3D is available through our expert clinical partners. Visit run3d.co.uk to find your nearest provider.

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