

Motion analysis report for Feet In Focus at 25/01/2013

Personal data:

Mathew Vaughan

**DEMO REPORT, 20 Churchill Way
CF10 2DY Cardiff - United Kingdom**

Birthday: 03/01/1979

Telephone: 02920 644900

Email: info@feetinfocus.com

Other: Left hip total replacement 2011

Primary sport: Running

Secondary sports:

Weight: 80Kg **Size:** 169 cm

Body Mass Index (BMI): 28

moderately overweight

1. Medical History

Pelvic tilt/Pelvic Rotation:

Pelvic rotation right

Static pelvic rotation to the right (anti-clockwise)

The pelvis is tilted 2 cm to the left

The pelvis is tilted 2 cm to the left. A pelvic tilt is commonly caused by a muscle imbalance.

knee:

Medial knee pain right

Cause: The exact diagnosis and cause of medial knee pain is difficult to determine since there are a number of structures which may become injured (e.g. partial/total rupture of the meniscus, articular cartilage damage, inflammation of the tendon attachment). Consequently, accurate diagnosis of the injury is often just as difficult as the rehabilitation. Over-pronation is a common cause, however this is not the case for all patients.

foot:

Plantar fasciitis, Heel spur right

Cause: The plantar fascia helps support the longitudinal arch of the foot. If it is strained it usually becomes inflamed at the aponeurosis. A low or highly mobile longitudinal arch, in addition to twisting (torsion) of the forefoot and rearfoot are commonly associated with the condition. The ossification of the tendon attachment (plantar calcaneal spur) occurs in 3% of those who suffer from plantar fasciitis, and is independent of the symptoms.

2. Static



Assessment of findings foot left

Initial examination established that you have 'high arched' feet.

Additional information left

Left foot is more supinated possibly due to LLD



right

Initial examination established that you have 'flat feet'.

Additional information right

Right foot noticeably flatter than the left.



Static leg axis

A 'neutral' leg axis was determined under static observation.



Flexibility of the upper ankle joint both sides

The deep squat position was achieved with ease, this indicates normal flexibility in your upper ankle joint.

3. Dynamics



Dynamic leg axis both sides

Your leg axis, which is 'normal' when statically analysed, internally rotates during the dynamic mid-stance phase. This causes rotational forces between the tibial plateau and the femoral condyle of the knee.



Pelvis stability

Significant pelvic instability is evident during mid-stance phase over both the right and the left sides. This is caused by a weak gluteal muscles. Strengthening exercises should be carried to address this.



Overcrossing

Both feet are placed along side the body mid-line.



Rotation of the foot about its longitudinal axis left

Normal foot rotation is evident, this means that you stand with your feet in a slight 'V' position.



right

The foot clearly rotates outwards during movement. This causes the heel to pronate.

4. Stride pattern



Initial contact both sides

If the heel makes first contact with the ground during a normal running stride, the individual is categorised as a 'heel striker'.



Stance phase

During the stance phase pronation is evident. Pronation is the normal and necessary inward role of the foot to help attenuate the impact of foot strike.

Additional information left

Left foot is supinating (not rolling inwards enough)

Additional information right

As the two feet function differently due to the difference in the limbs a neutral trainer is advised

Right Moderate overpronation



Toe-off both sides

Toe-off occurs over the hallux (big toe).

5. Recommendation



Shoe recommendation

A neutral trainer (no additional support) is advised as there is asymmetry of the feet (the right rolls inwards while the left rolls outwards due to the right leg being 1.5cm longer than the left) the asymmetry will be corrected with tailor or custom foot support which are known as orthoses.



Orthopedic measures

Pair of prescription made orthoses have been recommended to encourage the left foot to roll inwards to function more efficiently as a shock absorber and to stop the excessive rolling inwards of the right foot. As the right leg is longer than the left a small raise will be attached to the left foot orthotic device.

6. Conclusion



Following your extensive biomechanical assessment and gait analysis our podiatrist has recommended a combination of foot orthotics, specific exercises and has given some recommendations on suitable footwear. Our clinic philosophy is to treat the whole patient which is the reason we issue exercises, trainer advice and orthoses when they are needed, many podiatry clinics just offer orthoses and discharge which can mean ineffective treatment as foot orthoses do not cure all ills.

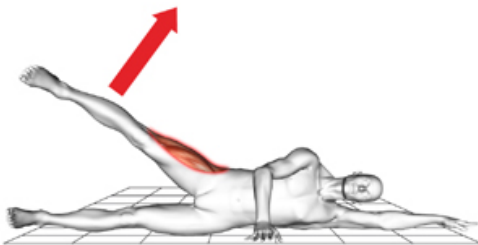
Personal exercise plan for Mathew Vaughan Kindly recommended by Feet In Focus at 25/01/2013

The basics about strengthening

Strong, fatigue resistant, trained muscles will help protect against injury and optimise running efficiency, speed and technique. The following exercises are recommended specifically for you as they address areas of weakness. Ensure you follow these guidelines:

1. Complete 3-4 sets of each dynamic exercise, with 15-25 repetitions in each set. Complete each static exercise 3-4 times, holding each position for 10-30 seconds. Ideally you should do strength training 3-4 times a week.
2. Take care to perform each exercise correctly.
3. Breathe deeply and regularly as you perform each exercise.
4. Hold you head up.
5. Always perform the exercises slowly and in a controlled manner.
6. This is a program for healthy individuals. Please consult a medical professional if you have any doubts about your cardiovascular or physical health before starting

Thigh Abductors



Start position: Lie down on your side with the leg nearest the floor slightly bent.

Execution: Lie on your side. Now raise the upper leg as far as is comfortably possible. Then gently lower the upper leg until it is resting on the lower leg again. Repeat the movement sequence.

Triceps surae (calf muscle)

Start position: Stand on the entire foot.

Execution: Go on up on to your tip-toes by tensing your calf musculature. Then relax and stand on your whole foot.

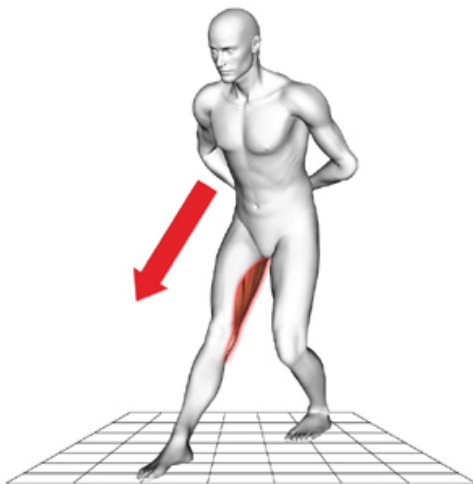


The basics about stretching

specific muscle tightness is one of the leading causes of injury amongst runners. Stretching effectively relieves muscle tightness, helping attain muscle balance and synergy. Consequently it is imperative to stretch regularly and properly:

1. Only stretch when you are warm, e.g. after your run or other form of cardiovascular exercise.
2. Get in to the correct position and push until you feel tension in the muscle you are stretching. However, don't try to increase flexibility too quickly by forcing yourself. Stretch no further than the muscles will go without pain.
3. Hold the stretch for up to 40 seconds. Repeat each stretch 3 times, alternating sides.
4. Breathe deeply and regularly while you are stretching. Try to keep your core stable at all times

Warning: Avoid stretching painful muscles/tendons!



Hamstrings (large muscle group on the dorsal aspect of the thigh)

Start position: Stand with one foot just in front of the other. Bend the back knee keeping the front knee straight.

Execution: Now bend forward at the hips. You should feel the stretch along the posterior aspect of the upper leg.

Avoid: Do not place your feet too far apart. Keep your back straight.



Shoe recommendation after computer analysis from 25/01/2013
for Mathew Vaughan created by:

Feet In Focus

These running shoes offer the correct balance between cushioning and support for a neutral runner, such as yourself.

- | | | | |
|-----|---|-----|--|
| ★★★ | Optimal stability and cushioning for you. | ★★☆ | This shoe offers your foot good stability, the cushioning properties acceptable. |
| ★★☆ | Optimal stability and good cushioning for you. | ★★☆ | The stability of this shoe is insufficient, the cushioning properties are perfect for you. |
| ★★☆ | This shoe will provide good stability and cushioning for you. | ★★☆ | This shoe is both insufficiently cushioned and stabilised for you. |

Model	Suitability	Width	Application
Asics GEL KINSEI 2	★★★		Training
Asics GEL-NIMBUS 10	★★★		Training
Saucony PROGRID Triumph 6	★★★		Training
Adidas adistar ride	★★★		Training
New Balance MR 993	★★★		Training