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# SPORTING FOOT & ANKLE COVER

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# SPORTING FOOT & ANKLE PREFACE

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The foot and ankle complex is a key region of the body, with multiple pathologies co-existing and large forces being generated and absorbed through this region during almost all sports, coupled with its ability to influence back pain and overall function. Many local structures can generate pain in this region, and to further complicate matters, there are a number of structures that can refer pain into the area.

This course was first established in the UK in 2010, and has so far been taught in number of countries. The course covers a collection of published research articles and ideas, brought together by the teachings of many leading clinicians we have come into contact with over the years. We have drawn from our experiences working with elite athletes through The English Institute of Sport, UK Athletics, England Rugby, Saracens Rugby, British Triathlon and the Intensive Rehabilitation Unit for Team GB, The Olympics and National teams, post graduate studies and numerous clinical courses. Our aim is to piece together a framework for assessing and treating what is a challenging yet rewarding area - **The Sporting Foot & Ankle.**

The aim of the course is to have an over-view of the anatomy, biomechanics and function of the foot and ankle complex, to understand the main pathologies that present in this region. The most important area will be to explore the podiatry historical philosophy that structure governs function, and to challenge this philosophy with the notion that maybe function governs structure. To conclude we will explore optimal techniques through manual and soft tissue therapy, tracing techniques and ultimately how to improve function through exercise. I hope you enjoy **The Sporting Foot & Ankle.**

Regards

James Moore, Andy Walling, Oli Williamson

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# SPORTING FOOT & ANKLE

## TUTOR PROFILE

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### COURSE DEVELOPED BY:

#### **James Moore - Founder & Tutor**

**MPhySt (Manips), MSc Applied Biomechanics, BSc (Hons) Physiotherapy.**

**CSCS, MMACP, MCSP**

James is currently employed by The British Olympic Association (BOA), where he has three roles; Head of Performance for all Olympic Games; manager of The Intensive Rehabilitation Unit (IRU); leading on research to align with the IOC. Concurrently, James is the Sports and Exercise Medicine Director for a private clinic in Harley Street, The Centre for Health & Human Performance (CHHP).

For the XXXII Olympiad Tokyo 2020 James will be The Head of Performance, coordinating & delivering all science and medicine strategies across three main sites. ForThe XXXI Olympiad Rio 2016, James was Deputy Chef de Mission Performance Services for Team GB, where he lead all sports science and sports medicine services in Rio and the Preparation Camp in Belo Horizonte. Team GB created history here, being the first nation to improve their performance at the Olympic Games after previously hosting, and furthermore they had their best ever medal tally in recent times, finishing second. James was Head of Performance for Team GB in the inaugural European Games, Baku 2015.

At the IRU, James leads the team, where their role is to problem solve over any complex cases that are recalcitrant for all Olympic sports, summer or winter, and both Olympians and Paralympian's. In his capacity for the BOA James sits on the strategic board for the Institute of Sport & Exercise Health (ISEH), which is part of the legacy of London 2012 and the National Centre's for Sport & Exercise Medicine (NCSEM). The IOC recently awarded ISEH the honour of being one of nine International Research Centres.

James has previously held positions such as Head of Medical Services at Saracens RFC; Consultant Clinical Lead Physiotherapist to UK Athletics; and Consultant contracted Physiotherapist for the RFU to the Elite Performance Squad; where he worked through two Olympic cycles including London 2012, and helped in the preparation for the Rugby World Cup 2011.

James completed his Bachelors at Kings College London, over 20 years ago now; he qualified as an exercise Physiologist and Certified Strength & Conditioning Specialist (CSCS) in 1998; completed his Masters of Physiotherapy at University of Queensland in 2000; and his Masters of Science (Applied Biomechanics) in 2005 from University of Strathclyde. James has been fascinated by hip mechanics for over 15 years and also loves teaching about lower limb mechanics and injury mechanisms, in particular with a special interest in hamstring injuries and speed development. Recently James has become a PhD candidate at University College London (UCL), under the supervision of Professor Fares Haddad. James will build a mathematical model around the hip to investigate whether muscle force and joint angles have a contribution to function.

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# SPORTING FOOT & ANKLE TUTOR PROFILE

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## Andrew Walling - Founder & Tutor

**BSc (Hons) Physiotherapy, PhD (History), MCSP**

Andy is currently employed by British Athletics and is the Lead Endurance Physiotherapist, working across London, Loughborough and Brighton. Andy has had a passion for athletics for years, covering numerous major competition events; holding camps; and training camps both nationally and internationally. He has been either indirectly or directly involved across two Olympic cycles, Rio 2016 and Tokyo 2020.

Andy spent four and a half years as a senior Physiotherapist for the English Institute of Sport, based at Bisham Abbey, a central NGB hub for Rowing, Hockey, Women's Rugby (7's & 15's) and sprint Canoeing. His primary role was that of lead Physiotherapist to the British Olympic Association's (BOA) Intensive Rehabilitation Unit (IRU). It was here that Andy's passion for ankle foot mechanics was able to flourish developing innovative assessment and treatment options in conjunction with the Strength & Conditioning and Physiology team. The IRU provides care for all summer and winter Olympic sports, with a significant percentage being in foot and ankle injuries.

Andy was an HQ Physiotherapist for Team England at the recent Gold Coast Commonwealth Games 2018. He was Lead Physio for the European Youth Olympic Games in Tbilisi (2016), and he attended the Youth Olympic Games in Nanjing (2014).

Andy is a consultant for the Centre for Health & Human Performance specialising in lower limb injuries and endurance running. Andy previously worked in private practice and the NHS. He is a qualified Athletics coach and has coached athletes to national titles and regular Great Britain representation. Andy qualified with a first-class Physiotherapy degree from Salford University, after having a previous academic career in History where he gained a PhD from the University of Wales, Bangor.

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# SPORTING FOOT & ANKLE TUTOR PROFILE

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## **Oliver Williamson - Founder & Tutor**

**MSc (PR) Physiotherapy, BSc (Hons) Sports & Exercise Science, MA Business Studies  
MCSP**

Oli is currently employed by The English Institute of Sport (EIS), but is full-time seconded to British Triathlon, where he is responsible for the world class podium athletes. He is based out of the Leeds Triathlon Centre, but travels with the world class performance program to all major competitions and international events.

Oli has been around Olympic sport and the Olympic cycles since 2011, having worked with sports like British Diving; British Athletics; and British Weightlifting. When combined with his experience in British triathlon, it gives him an excellent skill set for dealing with endurance sports, aesthetic sports, and power sports, where movement control and execution of sports specific movements is critical. Through the demands of these sports he has noticed how important the ankle-foot complex is and what an impact it can have on execution of movement.

Oli was an NGB Physiotherapist for Team England at the recent Gold Coast Commonwealth Games 2018. As well as being at the inaugural European Games, Baku 2015, as a major multi-sport Games with British Triathlon. Oli has also held positions with Leeds Carnegie and Bradford & Bingley RFC, which has exposed him to trauma and significant pathology in the ankle-foot complex. Oli has been a consultant at the Centre for Health & Human Performance, as well as working privately in the north Leeds area for a number of years; therefore understands the challenges faced by both the independent private clinician as well as those working in the high performance setting.

Finally, Oli's diverse academic background lends a completely different perspective and critical thinking view point to clinical problem solving and treatment / management solutions.

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# SPORTING FOOT & ANKLE

## COURSE OBJECTIVES

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### Course Objectives

#### Day 1

A clear understanding of the different pathologies that can present in the Ankle-foot complex

A clear process to differentially diagnose.

A clear process to assess and analyse gait.

A clear understanding of the structural contribution to pain, pathology and movement.

#### Day 2

A clear understanding of the role of the shank and ankle-foot complex in running and sporting movements.

A clear understanding of the role of muscle function in movement and its contribution to pathology and rehabilitation.

A clear process in clinical reasoning for interventions in gait, and pathology, between strapping, manual therapy and exercise.

### Session Objectives - Day 1

#### Anatomy

An overview of the functional anatomy of the shank and ankle-foot complex.

A clear process for surface palpation

#### Pathologies

An overview of all the pathologies of the ankle-foot complex.

A process to differentially diagnose

#### Structure governs function

An overview of how structural alignment influences movement and function

An understanding of how structural morphology can influence and cause pathology in the lower limb.

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# SPORTING FOOT & ANKLE COURSE OBJECTIVES

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## Session Objectives - Day 2

### Gait & Running

How does muscle function and movement change as an athlete transitions from walking to running.

What are the adaptations needed at joints and muscles to function during running.

What are the key movement qualities needed in sport at the ankle-foot complex during sporting challenges.

### Function governs structure

An understanding of the converse argument over structure governs functions.

A clear understanding of how function can compensate and control the structural components of movement.

### Abdominal related treatment & rehabilitation

How to manage Hip flexion related pain.

How to load the abdominals into a sport specific movement.

What are the different surgical considerations

### Practical interventions

Demonstration of different treatment techniques. from strapping, manual therapy, and exercise interventions.

A process to understand each intervention's impact on gait and pathology.

A clinical reasoning process to help decision making in when to choose each intervention.

# SPORTING FOOT & ANKLE COURSE OUTLINE

## Day 1

Time	Description
09.00-09.15	<b>Introduction &amp; Gait Obs</b>
09.15-10.00	<b>Lecture - Anatomy</b>
10.00-10.45	<b>Practical - Palpation &amp; Orientation</b>
10.45-11.00	<b>Morning Break</b>
11.00-12.00	<b>Lecture - Key Pathologies</b>
12.00-12.30	<b>Practical - Achilles Assessment</b>
12.30-13.30	<b>Lunch</b>
13.30-14.30	<b>Practical - Pathology Assessment</b>
14.30-15.30	<b>Lecture - Structure Governs Function</b>
15.30-15.45	<b>Afternoon Break</b>
15.45-17.00	<b>Practical - Structural Assessment</b>

## Day2

09.00-09.45	<b>Lecture - Gait &amp; Running</b>
09.45-10.45	<b>Practical - Manual Therapy &amp; Articular Strapping</b>
10.45-11.00	<b>Morning Break</b>
11.00-12.00	<b>Lecture - Function Governs Structure</b>
12.00-13.00	<b>Practical - Muscle Functional Assessment &amp; Strapping</b>
13.00-14.00	<b>Lunch</b>
14.00-14.30	<b>Practical - Intervening in Gait - a problem solving approach</b>
14.30-14.45	<b>Lecture - Key Rehabilitation Principles</b>
14.45-15.30	<b>Practical - Exercise Therapy &amp; loading strategies</b>
15.30-15.45	<b>Afternoon Break</b>
15.45-17.00	<b>Practical - Proprioception; dynamic mobility &amp; RTR</b>

### Notes to participants:

The course has a strong practical component so please **bring shorts**.

You will be required to assess and treat your fellow participants ankle & foot region, but also observe their whole lower limb, so please make sure you are **appropriately attired**.

There is a large **exercise** component to the course, so if you have any limitations please let the Tutor know.

There will be **manual therapy, strapping & STT** aspect to the course so if you have any concerns please notify the Tutor