

International Movement Screening and Interventions Group (IMSIG) Update December 2020

Activities of the IMSIG during 2020 were largely suspended during the Covid-19 pandemic due to research being restricted and members focussing on their teaching and clinical commitments.

1. Membership

We have over 75 members representing 12 countries: Australia, Canada, Germany, Ireland, Italy, Japan, New Zealand, Poland, South Africa, Sweden, UK and USA. Due to the General Data Protection Regulation (GDPR), our active membership reduced from over 100, as consent for us to contact them was not received from all previous members. If you were a member and see this update on the website, or are unsure if your name is still on the database, please contact Charlotte McKnight-Burton (see below). New members are always welcome.

2. How the IMSIG operates

A Core Group meets periodically via teleconference to review the IMSIG goals and achievements. Task Groups also meet to work on specific topics and their outcomes are summarised in these updates, which are circulated to members and posted on the IMSIG website. Workshops are held on relevant themes and have specific goals. Details of Core Group and Task Group members, and workshop summaries can be found on the IMSIG website. Maria Stokes co-ordinates activities, assisted by Paul Muckelt (Southampton, UK). Charlotte McKnight-Burton (Bath, UK) provides administrative support (see contact details at end of document).

3. IMSIG Infographic

The Core Group and patient representatives produced an infographic in September 2020, illustrating the purpose and function of the IMSIG (Appendix 1; also posted on the website).

4. Task Groups

There are four active task groups and two new groups forming. Publications are produced from collaborations formed within the IMSIG task groups:

4.1. Literature & terminology group

The task group, led by Jackie Whittaker, aims to gain more consistency in terminology between studies on movement screening in the literature. The group developed the definitions of movement screening on the IMSIG website. The group also published a systematic review, which supports the move to using movement screening tools for injury pattern recognition rather than injury risk prediction:

Whittaker JL, Booyesen N, de la Motte S, Dennett L, Lewis CL, Wilson D, McKay C, Warner M, Padua D, Emery CA, Stokes M. Predicting sport and occupation lower extremity injury risk through movement quality screening: A systematic review. *British Journal of Sports Medicine* 2017;51:580–585.

The group will review and update the terminology but no other tasks are in progress at present.

4.2 Military Group – UK & USA

This group is led by Sarah de la Motte (USA) and Jo Fallowfield (UK) and projects include:

a) Movement Quality Studies using Hip and Lower Limb Movement Screen (H&LLMS) and Exercise Programmes

The H&LLMS and exercise programme (developed by Nadine Booyesen for her PhD on young footballers) have been modified for use in the military. Studies are at various stages in different cohorts, with some involving biomechanical assessment to further validate and understand the mechanisms of movement patterns. The first paper describing the H&LLMS and its reliability has been published:

Booyesen N, Wilson DA, Lewis CL, Warner MB, Gimpel M, Mottram S, Comerford M, Stokes M. Assessing movement quality using the hip and lower limb movement screen: development, reliability and potential applications. *Journal of Musculoskeletal Research* 2019; 22(3 & 4): 1950008

b) Scoping Survey of Movement Screening in the Military

A survey (led by Sarah de la Motte) is scoping the use of movement screening tools across the military to determine types and purpose of screening used (ongoing).

4.3 Biomechanics Group

The group, led by Martin Warner (Southampton) has published a systematic review:

Warner NB, Wilson DA, Herrington L, Dixon S, Power C, Jones R, Heller MO, Carden P, Lewis CL.

A systematic review of the discriminating biomechanical parameters during the single leg squat.

Physical Therapy in Sport 2019; 37:62-63

4.4 Football Group

A Football Workshop was held at Manchester Institute for Health & Performance in (hosted by Richard Jones) on 21st February 2019. Notes are posted on the IMSIG website. A project on movement quality in women's football, as part of Paul Muckelt's PhD, will begin in 2021 when research is permitted to resume.

New Task Groups – yet to become active

a) Interventions to Improve Movement Quality

The group will provide oversight of projects developing exercise interventions to improve movement quality to prevent injury and progression of traumatic injury to osteoarthritis.

b) Microgravity Group

The focus will be on musculoskeletal health of astronauts/pilots, in relation to quality of movement control and functional performance. Maria Stokes and Paul Muckelt will activate this group in 2021, having received expressions of interest.

If you are interested in joining a Task Group, please contact Charlotte McKnight-Burton.

5. Communication - Centre for SEOAVA website

The main means of communication for the group is through the public area on the Centre for Sport, Exercise and Osteoarthritis Research Versus Arthritis website (see link below). Alerts about any activities, such as workshops, are emailed to all members on the database.

6. Priorities for 2021

The Core Group will meet to discuss the priorities for 2021.

Contact details:

Administrator – Charlotte McKnight-Burton – email: centre-seoa@nottingham.ac.uk

Link to IMSIG Website:

<http://www.sportsarthritisresearchuk.org/international-movement-screening-and-interventions-group-imsig/imsig.aspx>

Appendix 1 IMSIG Infographic

International Movement Screening and Interventions Group (IMSIG)



THE IMSIG: WHAT DO WE DO?

Develop movement screening tools to understand how a person uses their body:
 1. assess movement quality
 2. assess physical performance
 3. identify painful movement

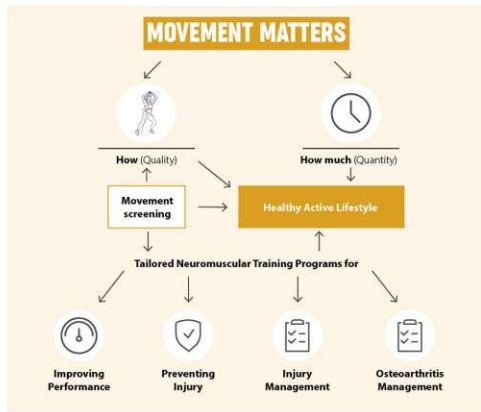
Evaluate the association between movement screening tools, injury risk and movement quality to inform injury prevention exercise programs

Investigate **mechanisms of movement** to develop **exercise programs** to prevent injury and osteoarthritis

Work with people of all ages and abilities, recreational exercisers, amateur athletes, elite athletes and various occupations, e.g. fire fighters, military, astronauts.

Target young people to start injury prevention as early as possible by promoting **warm-up exercises** in youth sport

Who We Are
 A network of movement practitioners and scientists, working together across the globe.



MOVEMENT QUALITY
 What We Know

High quality movement is symmetric, efficient, and well-controlled

Good control of muscles indicates good movement quality and is healthy for joints

Good joint alignment indicates good movement quality and is healthy for joints

Neuromuscular training can **decrease injury** by up to 30%

OSTEOARTHRITIS (OA)
 Why Does Movement Quality Matter?

1. Osteoarthritis is the single **most common cause** of disability in older adults
2. Moderate physical activity is associated with a **decreased risk** of injury
3. Exercise is **as effective as** pain killers for people with OA