

SUPPLEMENTARY FILE 12: Interacting Group Process – Delphi exercise domain 5. Mixed stakeholder group online Zoom meeting: 23 September 2021

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Agenda



Young Athlete's Hip Research (YAHiR) Collaboration

Towards an international agreement on primary cam morphology research to increase value and reduce waste

#OxfordHip2021

Overall Objectives

The purpose of this consensus is to:

- ascertain level of agreement between experts on taxonomy, terminology, and definitions for primary cam morphology (including imaging outcome measures for research on primary cam morphology)
- work towards agreement on a set of research priorities on conditions affecting the young person's hip (focussing on primary cam morphology and its consequences in athletes)

VERSION: September 2021 (2)

CIHR-IMHA



WEBINAR 10 - WEBINAR REGISTRATION LINK:

https://medsci.zoom.us/webinar/register/WN_m2UedGjiRUuVb5oPJtagRw

22 September consensus discussion - Zoom meeting link:

<https://medsci.zoom.us/j/92697337840?pwd=WEEdMY2pOUkdEZG54M1h3VXhkWDk2UT09>

WEBINAR 11 – WEBINAR 11 REGISTRATION LINK:

https://medsci.zoom.us/webinar/register/WN_mdKVnM7rReaQg-M1QzjSrA

23 September consensus discussion - Zoom meeting link:

<https://medsci.zoom.us/j/97928325865?pwd=S2RNV3N6RHIDa3ZLQkZ5VU45ZDIJQT09>

Objectives – To:	Type of consensus meeting	Date
1. ascertain level of agreement between experts on taxonomy, terminology, and definitions for primary cam morphology (including imaging outcome measures for research on primary cam morphology)	Virtual consensus meeting (Zoom)	22 September 2021 12-4pm BST
2. work towards agreement on a set of research priorities on conditions affecting the young person's hip (focussing on primary cam morphology and its consequences in athletes)	Virtual consensus meeting (Zoom)	23 September 2021 12-4.30pm BST

Delphi Study Steering Committee	<p>H Paul Dijkstra^{1 2}, Sean Mc Auliffe³, Andreas Serner⁴, Andrea Mosler⁵, Joanne Kemp⁵, Clare L Ardern^{5 6}, Amy Price⁷, Paul Blazey^{8 9}, Sally Hopewell¹⁰, Jason Oke¹¹, Karim M Khan¹², Sion Glyn-Jones¹³, Mike Clarke¹⁴, Trisha Greenhalgh¹⁵</p> <p>Affiliations</p> <p>¹ Department of Medical Education, Aspetar, Qatar Orthopaedic and Sports Medicine Hospital, Doha, Qatar</p> <p>² Department for Continuing Education, University of Oxford, Oxford, UK</p> <p>³ Department of Physical Therapy & Rehabilitation Science, College of Health Sciences, Qatar University, Doha, Qatar</p> <p>⁴ Aspetar Sports Groin Pain Centre, Aspetar Orthopaedic and Sports Medicine Hospital, Doha, Qatar</p> <p>⁵ La Trobe Sport and Exercise Medicine Research Centre, School of Allied Health, Human Services and Sport, La Trobe University, Melbourne, Victoria, Australia</p> <p>⁶ Musculoskeletal and Sports Injury Epidemiology Centre, Department of Health Promotion Science, Sophiahemmet University, Stockholm, Sweden</p> <p>⁷ Stanford Anesthesia, Informatics and Media Lab, Stanford School of Medicine, Department of Anesthesia, Stanford University</p> <p>⁸ Centre for Hip Health and Mobility, University of British Columbia, Vancouver, Canada</p> <p>⁹ Department of Physical Therapy, Faculty of Medicine, University of British Columbia, Vancouver, Canada</p> <p>¹⁰ Centre for Statistics in Medicine, Oxford Clinical Trials Research Unit, Medical Sciences Division, University of Oxford</p> <p>¹¹ NIHR Oxford Biomedical Research Centre, Oxford University Hospitals NHS Foundation Trust</p> <p>¹² Department of Family Practice and School of Kinesiology, University of British Columbia, Vancouver, Canada</p> <p>¹³ Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford</p> <p>¹⁴ Northern Ireland Methodology Hub, Centre for Public Health, Queen's University Belfast, UK</p> <p>¹⁵ Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, UK;</p>
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<p align="center">23 September 2021, 12pm BST - Online consensus meeting</p> <p align="center">Young Athlete's Hip Research (YAHiR) Collaboration consensus meeting to agree on a priority setting for research on conditions affecting the young person's hip (focussing on primary cam morphology in athletes)</p> <p align="center"><i>Towards a more rigorous, inclusive, and evidence-based approach to research on primary cam morphology to increase value and reduce waste</i></p>		
<p>Webinar 11: Young Athlete's Hip Research Collaboration: Prioritising rigorous, inclusive, and evidence-based research on conditions affecting the young person's hip (focussing on primary cam morphology and its consequences in athletes)</p> <p>WEBINAR REGISTRATION LINK: https://medsci.zoom.us/webinar/register/WN_mdKVnM7rReaQg-M1QzjSrA</p> <p>Faculty: Mike Clarke, Stephanie Kliethermes, Trish Greenhalgh, Karim Khan, Clare Ardern, Joanne Kemp, Paul Dijkstra</p> <p>Objectives Following this session participants will be able to:</p> <ol style="list-style-type: none"> 1. Summarise the key elements of study design to investigate how primary cam morphology develops 2. Review measures to avoid selection bias in research on how primary cam morphology develops 3. Discuss examples of high-quality research on how primary cam morphology develops (focussing on how to define, measure and report risk factors) 4. Discuss some of the important questions only qualitative research can answer 		
12.00	Introduction	Clare Ardern, Joanne Kemp and Paul Dijkstra
12.10	What are the best populations to investigate how primary cam morphology develops? (Including top 5 tips to avoid selection bias)	Andrea Mosler
12.25	What is an Individual Participant Data (IPD) Meta-analysis?	Mike Clarke
12.40	Cohort study planning, conducting and data sharing for future IPD meta-analyses – is it possible?	Stephanie Kliethermes
13.00	We should go beyond numbers and meta-analyses; there are important questions that only qualitative research can answer	Trish Greenhalgh
13.25	Short break	
13.30	Summary of the Delphi exercise to agree on a prioritised research agenda for conditions affecting the young person's hip	Paul Dijkstra
13.50	Discussion	All with Siôn Glyn-Jones and Karim Khan
14.30	Break – end of webinar 11	

Online mixed stakeholder group discussion and feedback		
Zoom meeting link: https://medsci.zoom.us/j/97928325865?pwd=S2RNV3N6RHIDa3ZLQkZ5VU45ZDIJQT09		
14.45	<p>Consensus group refining discussion: 4-6 groups of 6-8 individuals representing each of the 6 Delphi Study stakeholder groups)</p> <p><i>Discussion: Delphi exercise domain 1-4 results and areas of tension and dissent</i></p>	<p>Chairs: Paul Dijkstra, Clare Arden and Karim Khan</p> <p>Stakeholder group leads:</p> <p>Group 1: Andrea Mosler and Amy Price Group 2: Joanne Kemp & Sion Glyn-Jones Group 3: Karim Khan & Dawn Richards Group 4: Sean McAuliffe & Eugene McNally Group 5: Paul Blazey & Rich Willy Group 6: Andreas Serner & Mike Clarke</p>
15.30	Break	
15.40	<p>Feedback: 5 min per group</p> <p>Summary and next steps towards effective and efficient implementation:</p> <ul style="list-style-type: none"> • Research collaboration: steering committee, administrative, management, • YAHiR Website: education material (patients & public, clinicians and researchers), templates and • Research funding • YAHiR Collaboration Symposium (22-23 September 2022, Worcester College, Oxford) 	Paul Dijkstra, Clare Arden and Karim Khan
16.30	Closing remarks	Paul Dijkstra

Discussion topics

Primary Cam Morphology Delphi Study
Young Athlete's Hip Research (YAHIR) Collaboration
Improving research quality on primary cam morphology



The **main purpose** of the discussion today is to explore areas of tension and dissent.

We will not pursue further 'consensus' or vote on the 'no consensus' statements following the 2 Delphi Rounds.

Today's rich, organic, and variable - depending on the individual group - discussions will inform the Delphi Study 'story' (mainly the discussion section of the paper) and highlight areas for further deliberation/research.

Primary Cam Morphology Delphi Study
Young Athlete's Hip Research (YAHIR) Collaboration
Improving research quality on primary cam morphology



Research Priorities

Conditions affecting the young person's hip (focusing on primary cam morphology (PCM) in athletes)

We already prioritised prospective cohort studies on **PCM aetiology and prognosis**. How can we facilitate authentic **collaboration** on large multi-centre studies using similar methods to allow data-sharing? What are the challenges?

What are the risks/benefits of **screening**?
Should we only screen for PCM as part of prospective research?

What will facilitate athlete/participant **compliance** in long-term follow up studies?

How can we ensure **load management studies** (cohort studies/RCTs) during growth are feasible?

What resources are required to make load management studies during growth feasible? Who should be involved in the conduct of such studies? How early should recruitment begin? When should the study end? What other aspects must researchers consider?

Primary Cam Morphology Delphi Study
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Research Priorities

Conditions affecting the young person's hip (focusing on primary cam morphology (PCM) in athletes)

What are the critical elements of effective physiotherapy/rehab for patients with **FAI syndrome**?

What information/data does one need to be sure of the elements of best practice physiotherapy?
What information is lacking and what needs to happen to obtain that information/those data?

"As an elite athlete, worries about **Return to Sport (RTS)** (which was my living) caused major anxiety for me so this is important".

What are the challenges with studying RTS? (elite & recreational athletes)

Qualitative research: What **types of questions** should we prioritise? What are the barriers to doing high quality qualitative research?

What do we want to know from patients/athletes/parents/coaches?

"Research on how diagnosis; rehab; return to sport impacted the **mental health** of young athletes (and others)"

Primary Cam Morphology Delphi Study
Young Athlete's Hip Research (YAHIR) Collaboration
Improving research quality on primary cam morphology



Stakeholder Group discussion facilitators

Group 1: Dr Andrea Mosler & Dr Amy Price

How can we ensure **load management studies** (cohort studies/RCTs) during growth are feasible?

What resources are required to make load management studies during growth feasible? Who should be involved in the conduct of such studies? How early should recruitment begin? When should the study end?
What other aspects must researchers consider?

Qualitative research: What **types of questions** should we prioritise? What are the barriers to doing high quality qualitative research?

What do we want to know from patients/athletes/parents/coaches?

"Research on how diagnosis; rehab; return to sport impacted the **mental health** of young athletes (and others)"

Primary Cam Morphology Delphi Study
Young Athlete's Hip Research (YAHIR) Collaboration
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Stakeholder Group discussion facilitators

Group 2: Ass Prof Joanne Kemp & Prof Sion Glyn-Jones

We already prioritised prospective cohort studies on **PCM aetiology and prognosis**.
How can we facilitate authentic **collaboration** on large multi-centre studies using similar methods to allow data-sharing? What are the challenges?

What are the critical elements of effective physiotherapy/rehab for patients with **FAI syndrome**?

What information/data does one need to be sure of the elements of best practice physiotherapy?
What information is lacking and what needs to happen to obtain that information/those data?

Primary Cam Morphology Delphi Study
Young Athlete's Hip Research (YAHIR) Collaboration
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Stakeholder Group discussion facilitators

Group 3: Prof Karim Khan & Dr Dawn Richards

Qualitative research: What **types of questions** should we prioritise? What are the barriers to doing high quality qualitative research?

What do we want to know from patients/athletes/parents/coaches?

*"Research on how diagnosis; rehab; return to sport impacted the **mental health** of young athletes (and others)"*

We already prioritised prospective cohort studies on **PCM aetiology and prognosis**.
How can we facilitate authentic **collaboration** on large multi-centre studies using similar methods to allow data-sharing? What are the challenges?

Primary Cam Morphology Delphi Study
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Stakeholder Group discussion facilitators

Group 4: Dr Sean McAuliffe & Dr Eugene McNally

"As an elite athlete, worries about **Return to Sport (RTS)** (which was my living) caused major anxiety for me so this is important".

What are the challenges with studying RTS? (elite & recreational athletes)

What are the risks/benefits of **screening**?

Should we only screen for PCM as part of prospective research?

What will facilitate athlete/participant **compliance** in long-term follow up studies?

Primary Cam Morphology Delphi Study
Young Athlete's Hip Research (YAHIR) Collaboration
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Stakeholder Group discussion facilitators

Group 5: Mr Paul Blazey & Ass Prof Rich Willy

What are the risks/benefits of **screening**?

Should we only screen for PCM as part of prospective research?

What will facilitate athlete/participant **compliance** in long-term follow up studies?

What are the critical elements of effective physiotherapy/rehab for patients with **FAI syndrome**?

What information/data does one need to be sure of the elements of best practice physiotherapy?

What information is lacking and what needs to happen to obtain that information/those data?

Primary Cam Morphology Delphi Study
Young Athlete's Hip Research (YAHIR) Collaboration
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Stakeholder Group discussion facilitators

Group 6: Dr Andreas Serner & Prof Mike Clarke

We already prioritised prospective cohort studies on **PCM aetiology and prognosis**. How can we facilitate authentic **collaboration** on large multi-centre studies using similar methods to allow data-sharing? What are the challenges?

How can we ensure **load management studies** (cohort studies/RCTs) during growth are feasible?
What resources are required to make load management studies during growth feasible? Who should be involved in the conduct of such studies? How early should recruitment begin? When should the study end?
What other aspects must researchers consider?

Results

Research priorities – Delphi domain 5

Box 1 Interacting Group Process : mixed stakeholder group research priority discussion topics and results

Topic 1 – authentic collaboration: We already prioritised prospective cohort studies on primary cam morphology aetiology and prognosis. How can we facilitate authentic collaboration on large multi-centre studies using similar methods to allow data-sharing? What are the challenges?

While prospective cohort studies on primary cam morphology aetiology and prognosis are already prioritised, authentic collaboration on large multi-centre studies using similar methods to allow data-sharing should *'involve patient and the public in everything'*, focus on *'agreeing a standard set of variables'* (outcomes, interventions, assessments), and *'ask very specific questions'* using *'clear methods'*. Discussion groups raised 6 challenges to authentic collaboration (with possible solutions for some). First, authorship position, when publishing results, is often contested. Second, it is difficult to getting started with data sharing—larger/established research groups should lead. Third, early career researchers, especially from low and middle-income countries or resource poor settings, are sometimes not taken seriously enough. Fourth, equitable approach to funding division, although important, is difficult, especially dividing financial support across countries. Fifth, standardising of processes can be difficult for lower income countries or institutions. Last, funders should target grants to collaborative projects.

Topic 2 – screening and compliance: What are the risks/ benefits of screening? Should we only screen for primary cam morphology as part of prospective research? What will facilitate athlete/ participant compliance in long-term follow up studies?

The panel agreed that primary cam morphology screening as part of research to inform our knowledge *'is fine, but screening as part of routine clinical practice is likely not fine, and may lead to over-medicalisation'*. Risks of screening for primary cam morphology include *'overtreatment in a condition that we know is often asymptomatic'*—*'Why should we screen for a condition that we've already agreed is a "normal physiological response"?'* A biostatistician panel member commented on the importance of the World Health Organisation's Wilson-Junger criteria to inform whether screening is appropriate or not. The panel recommended that screening in younger cohorts (8 to 18y) should *'be carefully managed from an ethical perspective and it would need to be informed by qualitative studies of the potential nocebo impact of any diagnostic labelling. Further, advising younger individuals that they should limit participation in certain sports based on screening results lacks support'*. Screening *'does offer the potential to offer preventative support at an earlier stage to a small percentage of those with CAM who go on to develop significant hip problems later in life'*. Stakeholder groups discussed factors that will facilitate athlete/ participant compliance in long-term follow up studies: (1) involve stakeholders in study designs; (2) focus on language – *'let's figure out how to keep your hip healthy'*; (3) address a large qualitative research void with respect to compliance in prevention/cohort studies; (4) recruit full teams not individuals; (5) demonstrate [to athletes, coaches and managers] that performance improves—focus on performance development over hip health to get better buy-in from athletes, coaches, and parents; (6) foster wider organisational buy-in and involve policy-makers in priority setting; (7) consider how much is asked from participants—balance how much

we measure to reduce the burden; (8) create a core outcome set for these areas to support streamlined research studies and participant burden.

Topic 3 – load management studies: How can we ensure load management studies (cohort studies/RCTs) during growth are feasible? What resources are required to make load management studies during growth feasible? Who should be involved in the conduct of such studies? How early should recruitment begin? When should the study end? What other aspects must researchers consider?

While it is important to involve ‘methodology experts’ (e.g., study design and training-load monitoring) and the target group in the development of any research, load management studies on primary cam morphology development during growth may not be the right priority for new research. Patient buy-in is likely to be low—*‘elite sports children may be unwilling to reduce participation in their preferred sport’* and more attention needs to be given to context: *‘optimal study designs may not be generalisable to suboptimal context’*.

Topic 4 – Critical elements of physiotherapy/ rehabilitation: What are the critical elements of effective physiotherapy/ rehab for patients with FAI syndrome? What information/ data does one need to be sure of the elements of best practice physiotherapy? What information is lacking and what needs to happen to obtain that information/ those data?

Discussing critical elements of effective physiotherapy/ rehabilitation (‘best practice physiotherapy’) for patients with FAI syndrome, stakeholder groups emphasised a *‘holistic approach to rehabilitation’* that uses the *‘same language’*; *‘deals with patient expectations, especially time: life-long’*; *‘addresses fear of movement’*; *‘modifies what the patient do’*, and *‘considers who the advocate for the athlete/patient should be’*. While warning *‘not to focus on cam morphology as a problem’*, stakeholder groups recommended *‘treatment programs need to be at least 6 months in duration’*, *‘exercise interventions should be the foundation, with potential room for manual therapy’*, and the field *‘needs individual participant data (IPD) studies with subgroup analysis to inform this [best practice physiotherapy], as much of the therapy approaches that ‘work’ has been mixed methods so likely needs to be teased out as to which factors offer the greatest benefit’*.

Topic 5 – Return to sport (RTS):

‘As an elite athlete, worries about Return to Sport (RTS) (which was my living) caused major anxiety for me so this is important’.

What are the challenges with studying RTS? (elite & recreational athletes) Based on an elite athlete panellist’s earlier comment that ‘worries about return to sport (RTS) caused major anxiety’ as ‘it was their living’, stakeholder groups discussed challenges associated with studying RTS.

A patient-clinician panel member commented on their *‘lived experience as a patient with FAI/labral tear’*, emphasising that *‘all healthcare providers have to be on the same page when it comes to expectations and treatments’*. This is key as patients *‘struggle with learning how to ultimately “keep their hip happy”’*. This panel member emphasised three RTS aspects: (1) the importance of *‘working with a strength and conditioning coach who helped me really get over the fear that loading my hip would make it worse’*; (2) working *‘with a sports psychologist to work*

through catastrophizing thoughts I had about my hip imaging results', and (3) 'identifying all lifestyle factors and training factors that will impact the hip: frequency of sport/ running, duration, intensity, sleeping, nutrition, strength training. This is hard for patients to work through'. Stakeholder groups commented on 6 additional 'factors that may influence RTS: (1) Athlete expectations: what has the athlete been told about their condition and their potential prognosis by a health care practitioner. Does the athlete expect or feel that X intervention is the "only way" to allow them to return to sport? Are we honest with athletes about the potential that they may not return to their previous playing levels due to the current status of their injury/pain/hip? (2) Quality of intervention: we still don't have a "best practice" method/guide for hip interventions in CAM and FAI. The treatment that an athlete receives, surgical or non-surgical, may have a large influence on them returning to sport; (3) Stage of career: as indicated in an earlier comment – considering the stage of the athlete's career may influence RTS. Older athlete towards the end of their career may not "want to return to sport" to preserve long term health and QOL; (4) Sport type: individual vs team. Knowledge of an individual's sport may have a large influence on their RTS. Often team sport athletes may be able to gradually RTS or have their load managed. In individual sports this may not be possible and there may be more pressure to RTS when they are not necessarily ready; (5) Contract status: in professional athletes an athlete's contract status or endorsements may influence their RTS timeframe; (6) Support structures: the support structures and expertise available may influence an athlete's RTS.'

While there's a 'need for clarity around the definition of "return to sport" – as return to sport is often very different than return to performance', stakeholder groups warned that 'the current binary ("yes or no") method of outlining RTS may not be fit for purpose'. They suggested the possibility of 'a sliding scale or some type of Likert Scale that assesses athletes confidence/ happiness with playing status pre/ post intervention.'

Finally, stakeholder groups emphasised 'the need for qualitative research in the area to ascertain players perspectives about RTS'.

Topic 6 – qualitative research: Qualitative research: What types of questions should we prioritise? What are the barriers to doing high quality qualitative research? What do we want to know from patients/ athletes/ parents/ coaches?

Research statement proposed by PPI group member: 'Research on how diagnosis; rehab; return to sport impacted the mental health of young athletes (and others)'

The importance of qualitative research was spotlighted by a patient-panellist's Delphi round 1 recommendation to add a research priority statement 'on how diagnosis, rehab, return to sport impacted the mental health of young athletes (and others)'. Stakeholder groups emphasised 'considering all the aspects in anything that is labelled and how the label may impact growth and bias later'. Differentiating between primary and secondary cam morphology is therefore important 'as an aid for better definition and intervention as the science evolves'. It is 'super important in this population to understand a patient's journey from diagnosis through treatment'. Athlete-patients are interested in what primary cam morphology and/ or FAI syndrome means for their hip 'long term' – 'can we rehab or is surgery required?'; 'How it will impact my career, life, both and do I need it fixed or not?'. Stakeholder groups suggested researchers should 'embed what is important to patients or those with the morphology', 'work in co-production' on 'experience videos', and 'frameworks, maybe starting with safeguarding or prevention'. In addition, stakeholder groups recommended 'peer focus groups with young people, explaining the science and giving them the problems to "solve for science" along with scenarios, risk communication, discuss pre-emptive or interventional screening and explain differences noting prostate-, breast-, lung screenings and costs'. The groups highlighted involving parents and coaches as 'it's difficult

for athlete-patients to rest/commit to physiotherapy especially when being pushed by parents/coaches '. It is also difficult to motivate patient-athletes to continue with exercise-based rehabilitation after 3-4 months especially with '*regional differences between effective physio/rehab/surgery*' and systems, for example '*pay for service and how that affects treatment decisions*'.