

SORC-C

Sports Orthopedic Research Center - Copenhagen



# Annual report 2020

Part of



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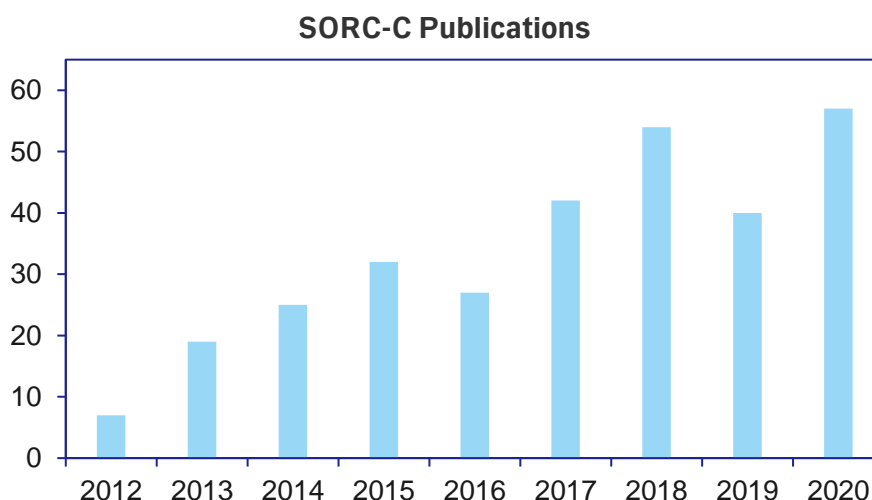


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## Sports Orthopedic Research Center - Copenhagen

Sports Orthopedic Research Center – Copenhagen (SORC-C) is a multidisciplinary research unit at the Orthopedic Department at Amager-Hvidovre University Hospital. The research unit was initiated by Professor Per Hölmich in 2005 at Amager Hospital, creating the foundation for SORC-C that was established together with Professor Kristian Thorborg in 2012. The main focus of SORC-C is centred around prevention and treatment of musculoskeletal problems, and SORC-C is involved in research, education and organizational work at both national and international levels to promote and deliver safe and healthy sport, exercise and physical activity participation for all.



The center focus on prevention and rehabilitation of musculoskeletal problems, with a special focus on optimizing arthroscopic surgery and post-operative rehabilitation, to develop models for “the right treatment for the right patient” and to enhance recovery of patients with musculoskeletal pain and injury. SORC-C includes both clinically based part time researchers as well as full-time researchers within the orthopedic department. SORC-C is part of two clinical academic groups (CAGs) in the research collaboration Copenhagen Health Science Partners at the Capital Region of Denmark and the University of Copenhagen: CAG ROAD (Osteoarthritis) and CAG imPAct (Sports and Physical Activity).

The research unit consists of two clinical professors from the Institute of Clinical Medicine at University of Copenhagen, Per Hölmich and Kristian Thorborg, who are both world renowned experts and specialists within sports orthopedics including surgery, prevention, and treatment. Together with three senior researchers, the two Professors constitute the more experienced part of the research center and this group have the main supervision responsibilities across specialist and academic levels. Currently, SORC-C includes medical doctors, physiotherapists and sports scientists. SORC-C is part of the Copenhagen - International Olympic Committee (IOC) - Research Centre in Injury and Illness Prevention, a collaboration between SORC-C, and Institute for Sports Medicine Copenhagen.

## Main activity and achievements in 2020

In 2020 researchers from SORC-C published 57 peer-reviewed papers, of which 16 are published in journals with an impact factor above 10. In addition, 1 book and 8 book chapters were published in 2020. SORC-C researchers won best abstract/oral presentation at both Scandinavian Sports Medicine Congress and the annual Danish Orthopedic Society meeting in 2020 and won best published paper at the Danish Orthopedic Society meeting as well as best poster at the Scandinavian Sports Medicine Congress. In 2020 SORC-C attracted more than 3.700.000 DKK (500.000 EUR) in funding.

Of high clinical relevance, we have in 2020 published an individualized algorithm for treatment of acute Achilles tendon ruptures, which is being tested in a multicenter RCT. The Danish Achilles Tendon rupture Database that our center host has now exceeded 3000 patients (the largest database with prospectively gathered data concerning Achilles tendon ruptures in the world). Information concerning risk factors and predictors for outcome are being published. A new device aimed at preventing ankle distortions has been evaluated as beneficial in a large RCT (n>500). A large focus on adolescent knee pain in relation to sport and exercise has resulted in several publications and specific treatment algorithms. ACL injuries are still a major problem in sports and several biomechanical studies in this area have been published leading up to an RCT looking at both graft choice as well as the biomechanical implications of these.

In collaboration with IOC Center Aspetar, Qatar research on diagnosis, imaging and a new important treatment algorithm for acute groin injuries have been published. Continued focus on groin injuries in athletes has led to publications on both epidemiology, prevention and further collaboration with the IOC Center in Oslo, Norway and Santry Sport Surgery Clinic in Dublin, Ireland has been ongoing. Research collaborations about proximal hamstring avulsions between the IOC Centers from Amsterdam, Holland, Aspetar, Qatar, London, UK and Copenhagen are still ongoing. Also, a large focus on hip arthroscopy including collaborators from Duke University, USA and La Trobe University, Australia has been ongoing.

Our congress, teaching and lecture activities in 2020 have been high, with courses in sports orthopedic surgery and prevention and treatment of tendon injuries. Further, more than 10 sessions at the Scandinavian Congress in Sports Medicine were held by SORC-C members. Most other lecturing activities have been done online in 2020 due to the pandemic, but still five international key-note presentations have been given in Argentina, Belgium, France, Australia and Denmark.

Again, in 2020 people from SORC-C have been represented in national and international sports medicine and physical therapy associations including three Presidential roles: 1) the Danish Society of Arthroscopic Surgery and Sports Traumatology, 2) Danish Society of Sports Medicine and 3) International Federation of Sports Physical Therapy. Furthermore, several members of SORC-C had board roles in national and international elite sport organs in 2020.

# People

SORC-C consists of two professors, three senior researchers and three research coordinators, seven Ph.D. students and seven pre-Ph.D. students. Six M.Sc. students and seven B.Sc. students were also affiliated with SORC-C in 2020. The people of SORC-C are listed below, and detailed profiles of SORC-C researchers can be found at: <https://www.hvidovrehospital.dk/sorc-c/staff/Pages/default.aspx>

## Head of research

Per Hölmich

*Professor, DMSc., Medical Doctor*

## Research lead

Kristian Thorborg

*Professor, Ph.D., Physiotherapist*

## Senior researchers

Otto Kraemer

*Medical Doctor*

Kristoffer Weisskirchner Barfod

*Ass. Professor, Ph.D., Medical Doctor*

Anders Ploug Boesen

*Ph.D., Medical Doctor*

## Senior Clinical Coordinator (Industry Lead)

Kasper Krommes

*MSc., Physiotherapist*

## Clinical Research Coordinators

Mathias Fabricius Nielsen

*MSc., Physiotherapist*

Laura Krohn

*MSc., Physiotherapist*

## Doctor of Philosophy (Ph.D.) students (enrolled)

Adam Witten

*Medical Doctor*

Allan Cramer

*Medical student*

Kristine Bramsen Haugaard

*Medical Doctor*

Maria Swennergren Hansen

*MSc., Physiotherapist*

Louise Hindsø

*Medical Doctor*

Lasse Ishøi

*MSc. Sports and exercise science,  
Physiotherapist*

## **Doctor of Philosophy (Ph.D.) students (preparing)**

Catarina Malmberg  
*Medical Doctor*

Charlotte Anker-Petersen  
*MSc., Physiotherapist*

Christian Asmus Peter Asmussen  
*Medical Doctor*

Kasper Krommes  
*MSc., Physiotherapist*

Niels Christian Kaldau  
*Medical Doctor*

Sally Oppendieck Andersen  
*MSc. Sports and exercise science*

Merete Brink Speedtsberg  
*MSc. Sports and exercise science*

Mathias Fabricius Nielsen  
*MSc., Physiotherapist*

Niclas Eusturoy  
*Medical Doctor*

## **Master of Science (M.Sc.) students**

Camilla Josefine Richter  
*Physiotherapist*

Karen Mikkelsen  
*Medical student*

Mathias Fabricius Nielsen  
*Physiotherapist*

Kristine Rask Andreasen  
*Medical student*

Allan Cramer  
*Medical Student*

Anders Brøgger Overgård  
*Medical Student*

## **Bachelor of science (B.Sc.) students**

Asger Møller Nielsen  
*Physiotherapy student*

Johanne Rose Conrad  
*Physiotherapy student*

Jesper Dyhr  
*Physiotherapy student*

Thomas Vibberstoff  
*Physiotherapy student*

Marie Ørum Guldbrandt  
*Physiotherapy student*

Malthe Schmücker  
*Medical student*

Ebrahim Rahdi  
*Medical student*

# SORC-C



Sports Orthopedic Research Center - Copenhagen

REGION

## **Publications, Prizes & Invited presentations**



# Publications

In 2020 researchers from SORC-C published 57 peer-reviewed papers, 1 book and 8 book chapters. All peer-reviewed papers, books and book chapters are listed below.

## Peer-reviewed papers

- 1: **Hansen MS**, Kristensen MT, Budolfson T, Ellegaard K, **Hölmich P**, **Barfod KW**. Reliability of the Copenhagen Achilles length measure (CALM) on patients with an Achilles tendon rupture. *Knee Surg Sports Traumatol Arthrosc.* 2020 Jan;28(1):281-290. doi: 10.1007/s00167-019-05672-3. Epub 2019 Aug 20. PMID:31432242.
- 2: **Barfod KW**, **Hansen MS**, **Hölmich P**, Kristensen MT, Troelsen A. Efficacy of early controlled motion of the ankle compared with immobilisation in non-operative treatment of patients with an acute Achilles tendon rupture: an assessor- blinded, randomised controlled trial. *Br J Sports Med.* 2020 Jun;54(12):719-724. doi: 10.1136/bjsports-2019-100709. Epub 2019 Oct 9. PMID: 31597624.
- 3: Wollin M, **Thorborg K**, Drew M, Pizzari T. A novel hamstring strain injury prevention system: post-match strength testing for secondary prevention in football. *Br J Sports Med.* 2020 May;54(9):498-499. doi: 10.1136/bjsports-2019-100707. Epub 2019 Oct 19. PMID: 31630091.
- 4: Kemp JL, Risberg MA, Mosler A, Harris-Hayes M, Serner A, Moksnes H, Bloom N, Crossley KM, Gojanovic B, Hunt MA, **Ishøi L**, Mathieu N, Mayes S, Scholes MJ, Gimpel M, Friedman D, Ageberg E, Agricola R, Casartelli NC, Diamond LE, Dijkstra HP, Di Stasi S, Drew M, Freke M, Griffin D, Heerey J, **Hölmich P**, Impellizzeri FM, Jones DM, Kassarian A, Khan KM, King MG, Lawrenson PR, Leunig M, Lewis CL, Warholm KM, Reiman MP, Semciw A, **Thorborg K**, van Klij P, Wörner T, Bizzini M. Physiotherapist-led treatment for young to middle-aged active adults with hip- related pain: consensus recommendations from the International Hip-related Pain Research Network, Zurich 2018. *Br J Sports Med.* 2020 May;54(9):504-511. doi: 10.1136/bjsports-2019-101458. Epub 2019 Nov 15. PMID: 31732651.
- 5: Wörner T, **Thorborg K**, Eek F. High prevalence of hip and groin problems in professional ice hockey players, regardless of playing position. *Knee Surg Sports Traumatol Arthrosc.* 2020 Jul;28(7):2302-2308. doi: 10.1007/s00167-019-05787-7. Epub 2019 Nov 16. PMID: 31734706; PMCID: PMC7347705.

- 6: Mosler AB, Kemp J, King M, Lawrenson PR, Semciw A, Freke M, Jones DM, Casartelli NC, Wörner T, **Ishøi L**, Ageberg E, Diamond LE, Hunt MA, Di Stasi S, Reiman MP, Drew M, Friedman D, **Thorborg K**, Leunig M, Bizzini M, Khan KM, Crossley KM, Agricola R, Bloom N, Dijkstra HP, Griffin D, Gojanovic B, Harris-Hayes M, Heerey JJ, **Hölmich P**, Impellizzeri FM, Kassarian A, Warholm KM, Mayes S, Moksnes H, Risberg MA, Scholes MJ, Serner A, van Klij P, Lewis CL. Standardised measurement of physical capacity in young and middle-aged active adults with hip-related pain: recommendations from the first International Hip-related Pain Research Network (IHiPRN) meeting, Zurich, 2018. *Br J Sports Med.* 2020 Jun;54(12):702-710. doi: 10.1136/bjsports-2019-101457. Epub 2019 Dec 19. PMID: 31857334.
- 7: Esteve E, Clausen MB, Rathleff MS, Vicens-Bordas J, Casals M, Palahi-Alcàcer A, **Hölmich P**, **Thorborg K**. Prevalence and severity of groin problems in Spanish football: A prospective study beyond the time-loss approach. *Scand J Med Sci Sports.* 2020 May;30(5):914-921. doi: 10.1111/sms.13615. Epub 2020 Jan 5. PMID: 31849116.
- 8: Rathleff MS, Winiarski L, **Krommes K**, Graven-Nielsen T, **Hölmich P**, Olesen JL, Holden S, **Thorborg K**. Pain, Sports Participation, and Physical Function in Adolescents With Patellofemoral Pain and Osgood-Schlatter Disease: A Matched Cross-sectional Study. *J Orthop Sports Phys Ther.* 2020 Mar;50(3):149-157. doi: 10.2519/jospt.2020.8770. Epub 2020 Jan 6. PMID: 31905093.
- 9: Dippmann C, Albrecht-Olsen P, Boesen M, Chrintz H, **Hölmich P**, Jakobsen SS, Jørgensen U, Konradsen L, **Kraemer O**, Lund B, Maagaard N, Mygind-Klavsen B, Overgaard S, Ovesen O, Stürup J, Søballe K, Warming T, Winther N, Krogsgaard M. [Younger patients with hip joint pain]. *Ugeskr Laeger.* 2020 Jan 6;182(2):V06180432. Danish. PMID: 31928620.
- 10: **Ishøi L**, **Krommes K**, Husted RS, Juhl CB, **Thorborg K**. Diagnosis, prevention and treatment of common lower extremity muscle injuries in sport - grading the evidence: a statement paper commissioned by the Danish Society of Sports Physical Therapy (DSSF). *Br J Sports Med.* 2020 May;54(9):528-537. doi: 10.1136/bjsports-2019-101228. Epub 2020 Jan 14. PMID: 31937579; PMCID: PMC721292
- 11: Reiman MP, Agricola R, Kemp JL, Heerey JJ, Weir A, van Klij P, Kassarian A, Mosler AB, Ageberg E, **Hölmich P**, Warholm KM, Griffin D, Mayes S, Khan KM, Crossley KM, Bizzini M, Bloom N, Casartelli NC, Diamond LE, Di Stasi S, Drew M, Friedman DJ, Freke M, Gojanovic B, Glyn-Jones S, Harris-Hayes M, Hunt MA, Impellizzeri FM, **Ishøi L**, Jones DM, King MG, Lawrenson PR, Leunig M, Lewis CL, Mathieu N, Moksnes H, Risberg MA, Scholes MJ, Semciw AI, Serner A, **Thorborg K**, Wörner T, Dijkstra HP. Consensus recommendations on the classification, definition and diagnostic criteria of hip-related pain in young and middle-aged active adults from the International Hip-related Pain Research Network, Zurich 2018. *Br J Sports Med.* 2020 Jun;54(11):631-641. doi: 10.1136/bjsports-2019-101453. Epub 2020 Jan 20. PMID: 31959678.

- 12: Serner A, Weir A, Tol JL, **Thorborg K**, Lanzinger S, Otten R, **Hölmich P**. Return to Sport After Criteria-Based Rehabilitation of Acute Adductor Injuries in Male Athletes: A Prospective Cohort Study. *Orthop J Sports Med.* 2020 Jan 29;8(1):2325967119897247. doi: 10.1177/2325967119897247. PMID: 32064292; PMCID: PMC6990618.
- 13: Larsen RT, Hessner AL, **Ishøi L**, Langberg H, Christensen J. Injuries in Novice Participants during an Eight-Week Start up CrossFit Program-A Prospective Cohort Study. *Sports (Basel).* 2020 Feb 13;8(2):21. doi: 10.3390/sports8020021. PMID: 32069804; PMCID: PMC7077206.
- 14: Impellizzeri FM, Jones DM, Griffin D, Harris-Hayes M, **Thorborg K**, Crossley KM, Reiman MP, Scholes MJ, Ageberg E, Agricola R, Bizzini M, Bloom N, Casartelli NC, Diamond LE, Dijkstra HP, Di Stasi S, Drew M, Friedman DJ, Freke M, Gojanovic B, Heerey JJ, **Hölmich P**, Hunt MA, **Ishøi L**, Kassarjian A, King M, Lawrenson PR, Leunig M, Lewis CL, Warholm KM, Mayes S, Moksnes H, Mosler AB, Risberg MA, Semciw A, Serner A, van Klij P, Wörner T, Kemp J. Patient-reported outcome measures for hip-related pain: a review of the available evidence and a consensus statement from the International Hip-related Pain Research Network, Zurich 2018. *Br J Sports Med.* 2020 Jul;54(14):848-857. doi: 10.1136/bjsports-2019-101456. Epub 2020 Feb 17. PMID: 32066573.
- 15: Serner A, Weir A, Tol JL, **Thorborg K**, Yamashiro E, Guermazi A, Roemer FW, **Hölmich P**. Associations Between Initial Clinical Examination and Imaging Findings and Return-to-Sport in Male Athletes With Acute Adductor Injuries: A Prospective Cohort Study. *Am J Sports Med.* 2020 Apr;48(5):1151-1159. doi: 10.1177/0363546520908610. Epub 2020 Mar 17. PMID: 32182099.
- 16: Vicens-Bordas J, Esteve E, Fort-Vanmeerhaeghe A, Clausen MB, Bandholm T, Opar D, Shield A, **Thorborg K**. ECCENTRIC HAMSTRING STRENGTH IS ASSOCIATED WITH AGE AND DURATION OF PREVIOUS SEASON HAMSTRING INJURY IN MALE SOCCER PLAYERS. *Int J Sports Phys Ther.* 2020 Apr;15(2):246-253. PMID: 32269858; PMCID: PMC7134347.
- 17: **Thorborg K**. Critically appraised paper: Arthroscopic hip surgery was superior to physiotherapy and activity modification in patients with femoroacetabular impingement [commentary]. *J Physiother.* 2020 Apr;66(2):130. doi: 10.1016/j.jphys.2020.02.010. Epub 2020 Apr 11. PMID: 32291216.
- 18: Rathleff MS, Winiarski L, **Krommes K**, Graven-Nielsen T, **Hölmich P**, Olesen JL, Holden S, **Thorborg K**. Activity Modification and Knee Strengthening for Osgood- Schlatter Disease: A Prospective Cohort Study. *Orthop J Sports Med.* 2020 Apr 6;8(4):2325967120911106. doi: 10.1177/2325967120911106. PMID: 32284945; PMCID: PMC7137138.

- 19: **Hansen MS**, Nilsson Helander K, Karlsson J, **Barfod KW**. Performance of the Achilles Tendon Total Rupture Score Over Time in a Large National Database: Development of an Instruction Manual for Accurate Use. *Am J Sports Med.* 2020 May;48(6):1423-1429. doi: 10.1177/0363546520912222. Epub 2020 Apr 7. PMID: 32255669.
- 20: **Ishøi L, Krommes K**, Husted RS, Juhl CB, Virgile A, **Thorborg K**. Infographic. Diagnosis, prevention and treatment of common lower extremity muscle injuries in sport-grading the evidence: a statement paper commissioned by the Danish Society of Sports Physical Therapy (DSSF). *Br J Sports Med.* 2020 Sep;54(18):1116-1117. doi: 10.1136/bjsports-2020-102119. Epub 2020 Apr 7. PMID: 32265217.
- 21: **Thorborg K, Ishøi L, Krommes K**. Strong and stringent hamstring strain science: trials and error! *Br J Sports Med.* 2020 Sep;54(18):1069-1070. doi: 10.1136/bjsports-2020-102213. Epub 2020 Apr 23. PMID: 32327485.
- 22: **Barfod KW**, Nielsen EG, Olsen BH, Vinicoff PG, Troelsen A, **Hölmich P**. Risk of Deep Vein Thrombosis After Acute Achilles Tendon Rupture: A Secondary Analysis of a Randomized Controlled Trial Comparing Early Controlled Motion of the Ankle Versus Immobilization. *Orthop J Sports Med.* 2020 Apr 28;8(4):2325967120915909. doi: 10.1177/2325967120915909. PMID: 32426409; PMCID: PMC7222258.
- 23: **Cramer A**, Jacobsen NC, **Hansen MS**, Sandholdt H, **Hölmich P, Barfod KW**. Outcome after acute Achilles tendon rupture is not negatively affected by female sex and age over 65 years. *Knee Surg Sports Traumatol Arthrosc.* 2020 Dec;28(12):3994-4002. doi: 10.1007/s00167-020-06003-7. Epub 2020 Apr 29. PMID: 32350575.
- 24: Holden S, Rathleff MS, **Thorborg K, Hölmich P**, Graven-Nielsen T. Mechanistic pain profiling in young adolescents with patellofemoral pain before and after treatment: a prospective cohort study. *Pain.* 2020 May;161(5):1065-1071. doi: 10.1097/j.pain.0000000000001796. PMID: 31939769.
- 25: **Hansen MS**, Vestermark MT, **Hölmich P**, Kristensen MT, **Barfod KW**. Individualized treatment for acute Achilles tendon rupture based on the Copenhagen Achilles Rupture Treatment Algorithm (CARTA): a study protocol for a multicenter randomized controlled trial. *Trials.* 2020 May 12;21(1):399. doi: 10.1186/s13063-020-04332-z. PMID: 32398120; PMCID: PMC7218535.
- 26: **Boesen AP**, Boesen MI, Hansen R, **Barfod KW**, Lenskjold A, Malliaras P, Langberg H. Effect of Platelet-Rich Plasma on Nonsurgically Treated Acute Achilles Tendon Ruptures: A Randomized, Double-Blinded Prospective Study. *Am J Sports Med.* 2020 Jul;48(9):2268-2276. doi: 10.1177/0363546520922541. Epub 2020 Jun 2. PMID: 32485112.

- 27: Gögenur I, **Hölmich P**. [Betydningen af COVID-19 i forbindelse med kirurgi]. *Ugeskr Laeger*. 2020 Jun 8;182(24):V205029. Danish. PMID: 32515338.
- 28: Vicens-Bordas J, Esteve E, Fort-Vanmeerhaeghe A, Casals M, Bandholm T, **Ishøi L**, Opar D, Shield A, **Thorborg K**. Performance changes during the off-season period in football players - Effects of age and previous hamstring injury. *J Sports Sci*. 2020 Nov;38(21):2489-2499. doi: 10.1080/02640414.2020.1792160. Epub 2020 Jul 13. PMID: 32658565.
- 29: Wörner T, **Thorborg K**, Webster KE, Stålman A, Eek F. Psychological readiness is related to return to sport following hip arthroscopy and can be assessed by the Hip-Return to Sport after Injury scale (Hip-RSI). *Knee Surg Sports Traumatol Arthrosc*. 2020 Jul 22. doi: 10.1007/s00167-020-06157-4. Epub ahead of print. PMID: 32699920.
- 30: Lysdal FG, Bandholm T, Tolstrup JS, Clausen MB, Mann S, Petersen PB, Grønlykke TB, Kersting UG, Delahunt E, **Thorborg K**. Does the Spraino low-friction shoe patch prevent lateral ankle sprain injury in indoor sports? A pilot randomised controlled trial with 510 participants with previous ankle injuries. *Br J Sports Med*. 2020 Aug 12:bjsports-2019-101767. doi:10.1136/bjsports-2019-101767. Epub ahead of print. PMID: 32796016.
- 31: **Hansen MS**, Kristensen MT, **Hölmich P**, **Barfod KW**. The Achilles Tendon Length Measure and the Achilles Tendon Resting Angle show acceptable construct validity using the Copenhagen Achilles Length Measure as gold standard. *Foot Ankle Surg*. 2020 Aug 25:S1268-7731(20)30175-2. doi: 10.1016/j.fas.2020.08.004. Epub ahead of print. PMID: 32873503.
- 32: Reiman MP, Agricola R, Kemp JL, Heerey JJ, Weir A, van Klij P, Kassarjian A, Mosler AB, Ageberg E, **Hölmich P**, Warholm KM, Griffin D, Mayes S, Khan KM, Crossley KM, Bizzini M, Bloom N, Casartelli NC, Diamond LE, Di Stasi S, Drew M, Friedman DJ, Freke M, Glyn-Jones S, Gojanovic B, Harris-Hayes M, Hunt MA, Impellizzeri FM, **Ishøi L**, Jones DM, King MG, Lawrenson PR, Leunig M, Lewis CL, Mathieu N, Moksnes H, Risberg MA, Scholes MJ, Semciw AI, Serner A, **Thorborg K**, Virgile A, Wörner T, Dijkstra HP. Infographic. Consensus recommendations on the classification, definition and diagnostic criteria of hip-related pain in young and middle-aged active adults from the International Hip-related Pain Research Network, Zurich 2018. *Br J Sports Med*. 2020 Aug 31:bjsports-2020-102219. doi: 10.1136/bjsports-2020-102219. Epub ahead of print. PMID: 32868314.
- 33: **Thorborg K**, **Hölmich P**. Use of Sports Hernia to Describe Groin Pain in Athletes. *JAMA Surg*. 2020 Sep 1;155(9):895. doi: 10.1001/jamasurg.2020.1759. PMID: 32520338.
- 34: Husted RS, Juhl C, Troelsen A, **Thorborg K**, Kalleose T, Rathleff MS, Bandholm T. The relationship between prescribed pre-operative knee-extensor exercise dosage and effect on knee-extensor strength prior to and following total knee arthroplasty: a systematic review and meta-regression analysis of randomized controlled trials. *Osteoarthritis Cartilage*. 2020 Nov;28(11):1412-1426. doi: 10.1016/j.joca.2020.08.011. Epub 2020 Sep 2. PMID: 32890744.

- 35: Gundtoft PH, Attrup ML, Kristensen AK, Vobbe JW, Sørensen L, **Hölmich P**. Diabetes mellitus affects the prognosis of frozen shoulder. *Dan Med J*. 2020 Sep 8;67(10):A02200071. PMID: 33046203.
- 36: Jakobsen FV, Eysturoy NH, **Barfod KW**. [Sunflower oil is efficient for removing bitumen in asphalt burn of head and hands]. *Ugeskr Laeger*. 2020 Sep 14;182(38):V04200294. Danish. PMID: 33000744.
- 37: **Thorborg K, Krohn L**, Bandholm T, Jacobsen JS, Rathleff MS, Klakk H, Kotila K. 'More Walk and Less Talk': Changing gender bias in sports medicine. *Br J Sports Med*. 2020 Dec;54(23):1380-1381. doi: 10.1136/bjsports-2020-102966. Epub 2020 Sep 23. PMID: 32967851.
- 38: **Ishøi L, Nielsen MF, Hölmich P, Thorborg K**. Can't See the Right Forest Plot for the Wrong Trees! *Arthroscopy*. 2020 Nov;36(11):2787-2789. doi: 10.1016/j.arthro.2020.07.046. Epub 2020 Sep 24. PMID: 32979499.
- 39: Wörner T, **Thorborg K**, Eek F. Hip and groin problems in the previous season are associated with impaired function in the beginning of the new season among professional female ice hockey players - a cross sectional study. *Int J Sports Phys Ther*. 2020 Oct;15(5):763-769. doi: 10.26603/ijsp20200763. PMID: 33110695; PMCID: PMC7575147.
- 40: Carmont MR, Brorsson A, **Barfod KW**, Ginder L, Littlehales J, Karlsson J, Nilsson-Helander K. The reliability, reproducibility and utilization of the radiographic Achilles Tendon Loading Angle in the management of Achilles Tendon rupture. *Foot Ankle Surg*. 2020 Oct 3:S1268-7731(20)30213-7. doi: 10.1016/j.fas.2020.09.013. Epub ahead of print. PMID: 33059973.
- 41: DeLang MD, Garrison JC, Hannon JP, McGovern RP, Christoforetti J, **Thorborg K**. Short and long lever adductor squeeze strength values in 100 elite youth soccer players: Does age and previous groin pain matter? *Phys Ther Sport*. 2020 Nov;46:243-248. doi: 10.1016/j.ptsp.2020.10.001. Epub 2020 Oct 6. PMID: 33049480.
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- 47: Materne O, Chamari K, Farooq A, Weir A, **Hölmich P**, Bahr R, Greig M, McNaughton LR. Injury incidence and burden in a youth elite football academy: a four-season prospective study of 551 players aged from under 9 to under 19 years. *Br J Sports Med.* 2020 Nov 16;bjsports-2020-102859. doi: 10.1136/bjsports-2020-102859. Epub ahead of print. PMID: 33199359.
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- 54: **Ishøi L, Nielsen MF, Hölmich P, Thorborg K**. Now you see it - Now you don't: A letter to the editor concerning "Surgery is no more effective than conservative treatment for femoroacetabular impingement syndrome: Systematic review and meta-analysis of randomized controlled trials". *Clin Rehabil*. 2020 Dec 21:269215520981695. doi: 10.1177/0269215520981695. Epub ahead of print. PMID: 33342271.
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## Books and book chapters

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- van der Horst N., **Thorborg K.**, Opar D. (2020) Hamstring Injury Prevention and Implementation. In: **Thorborg K.**, Opar D., Shield A. (eds) Prevention and Rehabilitation of Hamstring Injuries. Springer, Cham. [https://doi.org/10.1007/978-3-030-31638-9\\_6](https://doi.org/10.1007/978-3-030-31638-9_6).
- Reurink G., de Vos RJ., Purdam C., Pollock N., Hamilton B., **Thorborg K.** (2020) Diagnosis and Prognosis of Hamstring Injury. In: **Thorborg K.**, Opar D., Shield A. (eds) Prevention and Rehabilitation of Hamstring Injuries. Springer, Cham. [https://doi.org/10.1007/978-3-030-31638-9\\_7](https://doi.org/10.1007/978-3-030-31638-9_7).
- Hamilton B., Pollock N., Reurink G., de Vos RJ., Purdam C., **Thorborg K.** (2020) Muscle Injury Classification and Grading Systems. In: **Thorborg K.**, Opar D., Shield A. (eds) Prevention and Rehabilitation of Hamstring Injuries. Springer, Cham. [https://doi.org/10.1007/978-3-030-31638-9\\_8](https://doi.org/10.1007/978-3-030-31638-9_8).
- Schmitt B., Wollin M., Tyler T., Whiteley R., **Thorborg K.** (2020) Clinical Assessment of Hamstring Injury and Function. In: **Thorborg K.**, Opar D., Shield A. (eds) Prevention and Rehabilitation of Hamstring Injuries. Springer, Cham. [https://doi.org/10.1007/978-3-030-31638-9\\_9](https://doi.org/10.1007/978-3-030-31638-9_9).
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- Wollin M., Pollock N., **Thorborg K.** (2020) Return to Sport After Hamstring Injuries. In: **Thorborg K.**, Opar D., Shield A. (eds) Prevention and Rehabilitation of Hamstring Injuries. Springer, Cham. [https://doi.org/10.1007/978-3-030-31638-9\\_11](https://doi.org/10.1007/978-3-030-31638-9_11).
- de Vos RJ., Reurink G., van der Made A.D., Kerkhoffs G.M., Purdam C., **Thorborg K.** (2020) When Hamstring Injury Rehabilitation Fails. In: **Thorborg K.**, Opar D., Shield A. (eds) Prevention and Rehabilitation of Hamstring Injuries. Springer, Cham. [https://doi.org/10.1007/978-3-030-31638-9\\_13](https://doi.org/10.1007/978-3-030-31638-9_13).
- Martínez JM., Calderón AO., **Thorborg K.**, San Juan EL. (2020) Clinical neuromusculoskeletal pain syndromes of the hip-groin. In: Girbés EL. and Cubas CL. (eds) Pattern Recognition of Clinical Syndromes related to Neuromusculoskeletal Pain Disorders. Zérapi. ISBN: 978849391874

## Clinical guidelines and protocols

- Ishøi L. Clinical Statement on femoroacetabular impingement syndrome and labrum injuries for Danish Society of Sports Physical Therapy (DSSF), published in Danish at <https://www.sportsfysioterapi.dk/fagligt/fagligt-katalog/hofte-2013-2020/femoroacetabular-impingementlabrumskade-2020/>
- Krommes K. Contributor to Updating guidance for reporting systematic reviews: development of the PRISMA 2020 statement. Page M, McKenzie J, Bossuyt P, Boutron I, Hoffmann T, Mulrow C, Shamseer L, Tetzlaff J, Moher D. Journal of Clinical Epidemiology. doi.org/10.1016/j.jclinepi.2021.02.003

In 2020, SORC-C collaborated with physiotherapists and doctors at Amager-Hvidovre Hospital to produce 15 post-operative rehabilitation protocols based upon best practice. <https://www.hvidovrehospital.dk/sorc-c/rehabilitation-protocols/Pages/default.aspx>

- Rehabilitation protocol 1: Bankart Surgery
- Rehabilitation protocol 2: Rotatorcuff reinsertion
- Rehabilitation protocol 3: Rotatorcuff reinsertion with subscapularis insertion
- Rehabilitation protocol 4: Femoroacetabular impingement
- Rehabilitation protocol 5: ACL reconstruction
- Rehabilitation protocol 6: ACL reconstruction with meniscus repair, standard
- Rehabilitation protocol 7: ACL reconstruction with meniscus repair, restrictive
- Rehabilitation protocol 8: Meniscus repair, standard
- Rehabilitation protocol 9: Meniscus repair, restrictive
- Rehabilitation protocol 10: Eminentia avulsion fracture in children
- Rehabilitation protocol 11: Medial patellofemoral ligament reconstruction
- Rehabilitation protocol 12: Elmslie Trillat operation
- Rehabilitation protocol 13: Steadman, Femorotibial joint
- Rehabilitation protocol 14: Steadman, Patellofemoral joint
- Rehabilitation protocol 15: Gluteus Medius reinsertion.

## Prizes

In 2020, SORC-C was part of winning five 1. Prizes for scientific work and contributions.

- **Best orthopedic publication of the year 2020 at the Danish Orthopedic Society meeting 2020.**  
**Barfod KW, Hansen MS, Hölmich P**, Kristensen MT, Troelsen A. Efficacy of early controlled motion of the ankle compared with immobilisation in non-operative treatment of patients with an acute Achilles tendon rupture: an assessor- blinded, randomised controlled trial. Br J Sports Med. 2020 Jun;54(12):719-724. doi: 10.1136/bjsports-2019-100709. Epub 2019 Oct 9. PMID: 31597624.
- **Best abstract/oral presentation at the Danish Orthopedic Society meeting 2020**  
Clausen MB, **Hölmich P**, Rathleff M, Bandholm T, Christensen KB, Zebis MK, **Thorborg K**. Effectiveness of prescribing a large additional dosage of shoulder muscle strengthening exercise in the non-operative care for subacromial impingement (SExSI-Trial).
- **Best abstract/oral presentation at the Scandinavian Sports Medicine Congress 2020.**  
Clausen MB, **Hölmich P**, Rathleff M, Bandholm T, Christensen KB, Zebis MK, **Thorborg K**. Effectiveness of prescribing a large additional dosage of shoulder muscle strengthening exercise in the non-operative care for subacromial impingement (SExSI-Trial).
- **Best poster at the Scandinavian Sports Medicine Congress 2020.**  
**Nielsen MF**, Pihl K, Fristed J, Thorlund JB. Prevalence of self-reported knee instability among meniscal tear patients with and without concomitant ACL injury.
- **Best international paper at the Biannual 26<sup>th</sup> congress of the Japanese Society of Biomechanics.**  
Lysdal FG, Bandholm T, Tolstrup JS, Clausen MB, Mann S, Petersen PB, Grønlykke TB, Kersting UG, Delahunt E, **Thorborg K**. Does the Spraino low-friction shoe patch prevent lateral ankle sprain injury in indoor sports? A pilot randomised controlled trial with 510 participants with previous ankle injuries. Br J Sports Med. 2020 Aug 12;bjsports-2019-101767. doi:10.1136/bjsports-2019-101767. Epub ahead of print. PMID: 32796016.

# Invited presentations

In 2020 people from SORC-C were invited to do 12 presentations and 4 podcasts.

## Scientific congress presentations

- Ishøi L. Workshop. Acute muscle injuries: The Danish Society of Sports Physical Therapy (DSSF) 2019 clinical guidance catalogue. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Krommes K. Workshop. Acute muscle injuries: The Danish Society of Sports Physical Therapy (DSSF) 2019 clinical guidance catalogue. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Ishøi L. Presentation: Update on conservative and surgical management of FAI in athletes. 2020 International Sports Medicine Conference. Ireland. Virtual webinar conference organized by UPMC.
- Hölmich P. Presentation: Update on conservative and surgical management of FAI in athletes. 2020 International Sports Medicine Conference. Ireland. Virtual webinar conference organized by UPMC.
- Hölmich P. Keynote. Groin pain in athletes can be diagnosed, treated and prevented. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Hölmich P. Presentation. Proximal hamstring ruptures – Introducing an International database. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Thorborg K. Keynote. Hamstring injury prevention and treatment. Argentina Sports Physical Therapy Congress 2020.
- Thorborg K. Keynote. Management of groin and hamstring injury in football. Belgian Sports Medicine Congress 2020.
- Hölmich P. Keynote. Diagnosis and terminology of AGP in athletes. Kinesport symposium 2020, Paris, France.
- Thorborg K. Keynote. The management of groin pain in athletes. La Trobe Sports Medicine Research Showcases 2020.
- Hölmich P. Presentation: Classification, research and conservative treatment of groin disorders, Mehiläinen Sports Hospital Virtual Expert Congress, Helsinki, Finland.
- Hölmich P. Sports Orthopedics. Medical Society Copenhagen, Copenhagen, Denmark.

## Podcasts

- Ishøi L. & Krommes K. Clinical guidance catalogue for acute muscle injuries in sports. The Danish Society of Sports Physical Therapy (DSSF) podcast.
- Thorborg K. Prevention and rehabilitation of Hamstring injuries. Pacey Performance Podcast.
- Thorborg K. Pearls of Performance Podcast: Leadership in Sports Medicine series.
- Hölmich P. #77 - Artrose. Ugeskriftets videnskab. Ugeskriftet for læger (Danish Medical Journal).

# SORC-C

Sports Orthopedic Research Center - Copenhagen



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## **Academic, Editorial & Board work**

## Academic supervision, teaching and assessment

Academic supervision is a highly valued core competency of SORC-C, as the unit aims to facilitate education of young and aspiring researchers interested in optimizing and enhancing the pre- and post-operative rehabilitation and recovery of patients seen in an arthroscopic surgery clinical setting. Teaching activities are important for SORC-C, as they act as a possibility for the researchers to evolve their teaching skills, disseminate and promote their research as well as increase the awareness of SORC-C.

### Defended theses

In 2020, researchers from SORC-C provided supervision for 11 defended theses.

#### Ph.D. Theses

- Julie S. Jacobsen. Muscle-tendon pain and outcome of hip-preserving surgery in patients with hip dysplasia. Aarhus University. Co-supervisor: Kristian Thorborg.
- Ernest Esteve. Groin problems in male football – beyond the time loss approach. Girona University. Main supervisor: Kristian Thorborg. Co-supervisor: Per Hölmich.

#### MSc. theses

- Camilla Josefine Richter. Are patient-reported outcomes after hip arthroscopy associated with hip morphology and cartilage status in patients with Femoro-Acetabular Impingement Syndrome (FAIS)? - A national registry study with 5 years follow-up. University of Copenhagen. Main supervisor: Kristian Thorborg.
- Anders Brøgger Overgaard. Calf Muscles Volume and Tendon Elongation Assessed using Magnetic Resonance Imaging after Acute Achilles Tendon Rupture. A Randomized Controlled Trial investigating the Copenhagen Achilles Rupture Treatment Algorithm (*CARTA*). University of Copenhagen. Main supervisor: Kristoffer W. Barfod.
- Karen Mikkelsen. Ultrasonographic measurements of subacromial structures in patients with subacromial pain demonstrate moderate to good interrater reliability when performed by novice sonographers. University of Copenhagen. Main supervisor: Kristoffer W. Barfod.
- Allan Cramer. Comorbidities do not negatively affect change in Achilles tendon Total Rupture Score from baseline to follow-up after Acute Achilles tendon rupture. A registry study from the Danish Achilles tendon Database. University of Copenhagen. Main supervisor: Kristoffer W. Barfod.
- Kristine Rask Andreasen. The heel-rise work test overestimates the performed work with 22-24 % after an Achilles tendon rupture. A validity study using a motion caption system as gold standard. University of Copenhagen. Main supervisor: Kristoffer W. Barfod.

## B.Sc. theses

- Johanne Rose Conrad. Changes in self-reported hip and groin function and changes in muscle-tendon pain around the hip for patients with Femoroacetabular Impingement Syndrome, as well as possible correlation between these: A retrospective cohort study including 89 patients before and one year after hip arthroscopy. University College Copenhagen. Supervisor: Lasse Ishøi.
- Marie Ørum Guldbrandt. How many surgical patients report Patient Acceptable Symptom State (PASS) 12-24 months after hip arthroscopy? A cross-sectional study including PASS cut-off values for HAGOS and IHOT-33. University College Copenhagen. Supervisor: Lasse Ishøi.
- Malte Schmücker. Quadriceps tendon and hamstring tendon autografts for anterior cruciate ligament reconstruction yield equally high rates of graft failure and revision surgery at two years follow up. A registry study with review of medical records of 475 patients. University of Copenhagen. Main supervisor: Kristoffer W. Barfod.
- Ebrahim Rahdi. Operativ versus konservativ behandling af akut akillessene ruptur. Et registerstudie fra Dansk Akillessenedatabase. University of Copenhagen. Main supervisor: Kristoffer W. Barfod.

## Course activities

In 2020, researchers from SORC-C have led 3 academic and speciality courses.

- Thorborg K. 6 weeks of course leading, tutoring, and lecturing. Course: Physical activity. Master of Science in Health Science. University of Copenhagen
- Ishøi L and Thorborg K. 6 weeks of course leading, tutoring, and lecturing. Course: Rehabilitation of tendon injuries. Master of Science in Physiotherapy. University of Southern Denmark.
- Kaldau NC. 1 week of course leading and lecturing. Sports traumatology and orthopedics. Specialty course. Danish Orthopedic Society (DOS).



## Academic assessment

In 2020, researchers from SORC-C also provided academic assessment for several academic positions and theses.

### Academic positions

- Hölmich P. Assessment for Clinical Associate Professor position, University of Copenhagen, Denmark.
- Hölmich P. Assessment for Clinical Professor position, University of Copenhagen, Denmark.
- Hölmich P. Assessment for Clinical Associate Professor position, University of Copenhagen, Denmark.

### Ph.D. Theses

- Hölmich P. Assessment of thesis, University of Copenhagen, Denmark.
- Hölmich P. Assessment of thesis, University of Gothenburg, Sweden.
- Hölmich P. Assessment of thesis assessment, University of Copenhagen, Denmark.
- Thorborg K. Chair of Assessment Committee, University of Copenhagen, Denmark.
- Barfod KW. Chair of Assessment Committee, University of Copenhagen, Denmark.
- Thorborg K. Assessment of thesis, University of Wollongong, Australia.
- Barfod KW. Assessment of thesis, University of Aalborg, Denmark.

### MSc. Theses

- Thorborg K. Assessment of thesis, University of Copenhagen, Denmark.

### BSc. Theses

- Krommes K. Assessment of 16 students including B.Sc. theses, University College Copenhagen, Denmark and University College Roskilde, Denmark.

## Editorial work

Editorial work is considered an important opportunity for the SORC-C researchers to contribute to the scientific community and evolve their critical thinking skills. In 2020, researchers from SORC-C were part of 10 editorial boards and contributed to the scientific community by reviewing papers in more than 15 international scientific journals and acting as chairmen for 12 scientific presentation sessions. All contributions by SORC-C researchers are listed below.

### Editorial boards

- Thorborg K. Deputy Editor. British Journal of Sports Medicine.
- Thorborg K. International Associate Editor. International Journal of Sports Physical Therapy.
- Thorborg K. Associate Editor. Annals of Joint.
- Ishøi L. Associate Editor. BMS Sports Science, Medicine and Rehabilitation.
- Ishøi L. Review Editor. Frontiers in Sports and Active Living.
- Ishøj L. Editorial board (reviewer). International Journal of Sports Physical Therapy.
- Kaldau NC. Editorial board member. International Journal of Racket Sports Science.
- Hölmich P. Orthopedic Editor. Ugeskrift for læger (Danish Medical Journal).
- Hölmich P. Editorial board. Bone and Joint 360.
- Hölmich P. Editorial board. Journal of Hip Preservation Surgery.

### Editor – Special Journal Issues

- Thorborg K. Danish Sports Physical Therapy Association Issue. British Journal of Sports Medicine. December 2020 – Volume 54 – 23.
- Hölmich P. Tema: Artrose. Ugeskrift for læger (Danish Medical Journal) nr. 20A/2020.  
Oktober 20

## Reviewer work

- Thorborg K. Reviewer for Scandinavian Journal of Medicine and Science in Sports and British Journal of Sports Medicine.
- Hölmich P. Reviewer for American Journal of Sports Medicine, Journal of Hip Preservation Surgery and Knee Surgery, Sports Traumatology and Arthroscopy.
- Krommes K. Reviewer for Scandinavian Journal of Medicine and Science in Sports, International Journal of Sports Physiology and Performance, Physical Therapy in Sport, Medicine and Science in Sports and Exercise.
- Ishøi L. Reviewer for Journal of Sports Science, Sports Medicine, BMJ Open Sport & Exercise Medicine, Journal of Sport Rehabilitation, International Journal of Sports Physiology and Performance, Physical Therapy in Sport, Journal of Sport and Health Science, British Journal of Sports Medicine.
- Barfod KW. Reviewer for Scandinavian Journal of Medicine and Science in Sports, British Journal of Sports Medicine, American Journal of Sports Medicine, Ugeskrift for læger (Danish Medical Journal), Expert Opinion on Pharmacotherapy, Medicines, Knee Surgery, Sports Traumatology and Arthroscopy.
- Kraemer O. Reviewer for Ugeskrift for læger (Danish Medical Journal), The Physician and Sportsmedicine.
- Kaldau NC. Reviewer for International Journal of Racket Sports and Ugeskrift for læger (Danish Medical Journal).

## Scientific congress moderator work

- Ishøi L. Chairman. Workshop: Van der Made A. Clinical examination of injuries to hamstrings. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Barfod KW. Chairman. The Johannes Lindhard lecture. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Barfod KW. Chairman. Session: Cartilage health in sports. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Barfod KW. Chairman. Session: Treatment of medial osteoarthritis in the athletic knee. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Barfod KW. Chairman. Session: To repair or reconstruct the ACL. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark.
- Thorborg K. Chairman. Keynote: Per Hölmich. Groin pain in athletes can be diagnosed, treated and prevented. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark
- Thorborg K. Chairman. Workshop: Enda King. Functional rehabilitation of the lower limb after athletic injury. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark
- Thorborg K. Chairman. Workshop: Richard Norris. Clinical examination of the knee. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark
- Boesen A. Chairman. Session: Acromio-clavicular dislocation in overhead athletes – how should we treat it. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark
- Boesen A. Chairmen. Session: Any place for surgery in tendon and muscle overuse injuries? Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark
- Hölmich P. Chairmen. Session: Any place for surgery in tendon and muscle overuse injuries? Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark
- Hölmich P. Chairman. Session: Proximal hamstring ruptures – Introducing an International database. Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark
- Hölmich P. Chairman. Presentation: Roald Bahr. The Norwegian Olympic & Paralympic Screening and Monitoring Program – what is it, why do we do it and does it help Norway win medals? Scandinavian Sports Medicine Congress 2020. Copenhagen, Denmark

## Board and committee work

In 2020, researchers from SORC-C were part of 23 boards and committees, and thus playing an important part in advising national and international sports and health federations, national health initiatives and organizing and executing congresses. All boards and contributing SORC-C researchers are listed below.

### Board leadership roles

- Hölmich P. President of the Danish Society of Arthroscopic Surgery and Sports Traumatology (SAKS).
- Barfod KW. President of the Danish Society of Sports Medicine (DIMS).
- Thorborg K. President of the International Federation of Sports Physical Therapy (IFSPT).

### Advisory boards & committees

- Hölmich P. Member of the Medical Committee for the Danish Football Association (DBU).
- Thorborg K. Member of the Medical Committee for the Danish Football Association (DBU).
- Hölmich P. Member of the Governance and Development Committee for the Danish Football Association (DBU).
- Thorborg K. Board member. Advisory board for the IOC Diploma course in Sports Physical Therapies.
- Hölmich P. Co-Chair of IOC Sports Medicine Copenhagen: Center for Injury Prevention and Protection of Athlete Health.
- Thorborg K. Steering committee member. IOC Sports Medicine Copenhagen: Center for Injury Prevention and Protection of Athlete Health.
- Hölmich P. Steering committee member. Clinical Academic Group: Research OsteoArthritis Denmark (ROAD). Greater Copenhagen Health Science Partners.
- Hölmich P. Steering committee and expert group for the UEFA Soccer Doctor Education Programme.
- Hölmich P. Chair of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) Hip, Thigh, and Groin Committee.

- Hölmich P. Advisory board for Physical Medicine and Rehabilitation – Copenhagen (PMR-C).
- Hölmich P. Member of The Post-Graduate Research School Program: ‘Basic and Clinical Research in Musculoskeletal and Oral Sciences’ at University of Copenhagen.
- Hölmich P. Steering committee member. Clinical Academic Group: Research, ImPAct (Sports and Physical Activity). Greater Copenhagen Health Science Partners.
- Kaldau NC. Steering committee member. Danish Society of Sports Medicine (DIMS).
- Hugaard KB. Steering committee member. Danish Society of Sports Medicine (DIMS).
- Thorborg K. External committee member. Danish Society of Sports Medicine (DIMS).
- Barfod KW. Scientific committee member. Danish Orthopedic Society (DOS).
- Barfod KW. The Achilles Tendon Study Group (ATSG). European Society of Sports Traumatology, Knee Surgery & Arthroscopy (ESSKA).
- Kraemer O. Steering committee member. Danish Hip Arthroscopy Registry (DHAR).
- Hölmich P. Steering committee member. Danish Hip Arthroscopy Registry (DHAR).
- Anker-Petersen C. Board member. Dance Science Denmark.

## Congress boards & committees

- Thorborg K. Scientific board member. Scandinavian Sports Medicine Congress (#SPORTSKONGRES) 2020. Copenhagen, Denmark.
- Hölmich P. Scientific board member. Scandinavian Sports Medicine Congress (#SPORTSKONGRES) 2020. Copenhagen, Denmark.
- Krohn L. Organizing committee member. Scandinavian Sports Medicine Congress (#SPORTSKONGRES) 2020. Copenhagen, Denmark.
- Nielsen M.F. Organizing committee member. Scandinavian Sports Medicine Congress (#SPORTSKONGRES) 2020. Copenhagen, Denmark.
- Thorborg K. Scientific chair. 4th World Congress of Sports Physiotherapy 2022. Nyborg, Denmark
- Krohn L. Organizing committee member. 4th World Congress of Sports Physiotherapy 2022. Nyborg, Denmark
- Barfod KW. Scientific committee member. 19th Congress of the European Society of Sports Traumatology, Knee Surgery & Arthroscopy (ESSKA)
- Hölmich P. Program and scientific committee member. 13<sup>th</sup> Biennial International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) Congress.

# SORC-C



Sports Orthopedic Research Center - Copenhagen

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## Research Grants



## Research Grants

From searched grants with SORC-C as main, co-applicant or named collaborator, we have in 2020 from a variety of funding bodies attracted a total amount of 3.747.762 DKK (503.986 EUR). The funding bodies include:

- Trygfonden. Move the hip. Main applicant: Julie Jakobsen, co-applicant: Kristian Thorborg (991.682 DKK / 133.348 EUR).
- The Faroese Research Council: The Faroese Knee Project. Main applicant: Nicklas Eysturoy, co-applicant: Kristoffer Barfod. (667.000 DKK / 89.000 EUR).
- The Association of Danish Physiotherapists' Fund for Research, Education and Practice Development (Praksisfonden): Non-operative treatment of femoroacetabular syndrome: a prognostic study. Main applicant: Lasse Ishøi, co-applicant: Kristian Thorborg and Per Holmich (400.000 DKK / 53.786 EUR).
- The health fund (Helsefonden): Keeping young people physically active and in sports - managing growth pain. Main applicant: Kasper Krommes, co-applicant: Kristian Thorborg and Per Holmich (350.000 DKK / 47.063 EUR).
- The Research Foundation (strategic funds), Amager and Hvidovre Hospital: Non-operative treatment of femoroacetabular syndrome: a prognostic study. Main applicant: Lasse Ishøi, co-applicant: Kristian Thorborg and Per Holmich (225.000 DKK / 30.255 EUR).
- Købmand Ferdinand Sallings Mindefond: Keeping young people physically active and in sports - managing growth pain. Main applicant: Kasper Krommes, co-applicant: Kristian Thorborg and Per Holmich (219.480 DKK / 29.513 EUR).
- The Research Foundation (HVH - frie fondsmidler), Amager and Hvidovre Hospital: Non-operative treatment of femoroacetabular syndrome: a prognostic study. Main applicant: Lasse Ishøi, co-applicant: Kristian Thorborg and Per Holmich (170.000 DKK / 22.859 EUR).
- The Research Foundation (HVH - frie fondsmidler), Amager and Hvidovre Hospital: Keeping young people physically active and in sports - managing growth pain. Main applicant: Kasper Krommes, co-applicant: Kristian Thorborg and Per Holmich (100.000 DKK / 13.446 EUR).
- The Research Foundation (HVH - frie fondsmidler), Amager and Hvidovre Hospital: Non-operative treatment of femoroacetabular syndrome: a prognostic study. Main applicant: Lasse Ishøi, co-applicant: Kristian Thorborg and Per Holmich (100.000 DKK / 13.446 EUR).
- Aase and Ejnar Danielsens fund. Move the hip. Main applicant: Julie Jakobsen, co-applicant: Kristian Thorborg (100.000 DKK / 13.446 EUR).
- The Society for Sport Physiotherapy (Dansk selskab for sports fysioterapi): Evidence based injury prevention in football – is it implemented in practice? Main applicant: Elisabeth Bandak, co-applicant: Kristian Thorborg (100.000 DKK / 13.446 EUR).

- The Research Foundation (HVH - professional bachelors), Amager and Hvidovre Hospital: Pain mechanisms and psychological factors in patients with chronic groin pain. Main applicant: Mathias Fabricius Nielsen, co-applicant: Kristian Thorborg and Per Hölmich (90.000 DKK / 12.102 EUR).
- Danish Physiotherapists' research fund. Move the hip. Main applicant: Julie Jakobsen, co-applicant: Kristian Thorborg (80.000 DKK / 10.757 EUR).
- FL Schmidt A/S Donation Fund. Keeping young people physically active and in sports - managing growth pain. Main applicant: Kasper Krommes, co-applicant: Kristian Thorborg and Per Holmich (50.000 DKK / 6.723 EUR).
- Frimodt-Heineke fonden. Keeping young people physically active and in sports - managing growth pain. Main applicant: Kasper Krommes, co-applicant: Kristian Thorborg and Per Holmich (50.000 DKK / 6.723 EUR).
- Danish Physiotherapists' research fund. Keeping young people physically active and in sports - managing growth pain. Main applicant: Kasper Krommes, co-applicant: Kristian Thorborg and Per Holmich (36.600 DKK / 4.921 EUR).
- The Society for Sport Physiotherapy (Dansk selskab for sports fysioterapi): Pain mechanisms and psychological factors in patients with chronic groin pain. Main applicant: Mathias Fabricius Nielsen (12.000 DKK / 1.614 EUR).
- The Society for Sport Physiotherapy (Dansk selskab for sports fysioterapi): Keeping young people physically active and in sports - managing growth pain. Main applicant: Kasper Krommes, co-applicant: Kristian Thorborg and Per Holmich (6.000 DKK / 807 EUR).

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