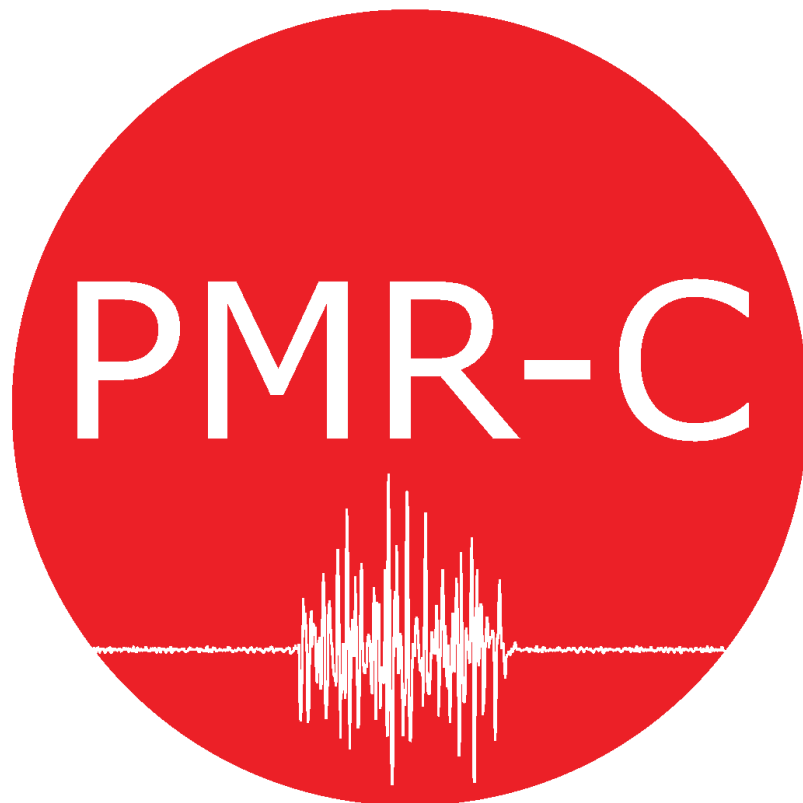


Annual report 2015

**Physical Medicine & Rehabilitation Research –
Copenhagen (PMR-C)**

www.pmrc.dk, [twitter@PhysMed_CPH](https://twitter.com/PhysMed_CPH)



Hvidovre Hospital, University of Copenhagen, DENMARK

1. ABOUT

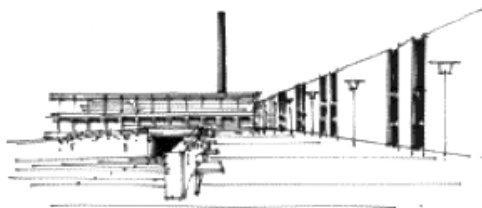
Physical Medicine & Rehabilitation Research – Copenhagen (PMR-C) is a multidisciplinary research program in physical medicine and rehabilitation, based in Copenhagen, Denmark. PMR-C is the research division of the Department of Physical- and Occupational Therapy at Hvidovre Hospital, University of Copenhagen, Denmark. The core of PMR-C is an extensive collaboration between three departments at the hospital: Department of Physical- and Occupational Therapy, Department of Orthopedic Surgery, and Clinical Research Centre. The hospital is well known for a broad clinical research within enhanced recovery after surgery, and the research focus of PMR-C is inspired by this research tradition.

The main research focus of PMR-C is the use of physical medicine to enhance recovery in patients, and to prevent injury or disease. Our approach is clinical, but we also conduct basic research to investigate mechanisms and research to develop new outcome measures.

PMR-C was initiated by Thomas Bandholm, Morten Tange Kristensen and Kristian Thorborg, and was formally established in 2013 in collaboration with Jette Christensen, Head of the Department of Physical- and Occupational Therapy, Peter Gebuhr, Head of the Department of Orthopedic Surgery, and Ove Andersen, Head of Clinical Research Centre, Hvidovre Hospital, University of Copenhagen. These six people form the PMR-C steering committee. Finally, four highly esteemed researchers form an advisory board that advises the steering committee in the management of PMR-C.

2. MAIN ACHIEVEMENTS IN 2015

Firstly, PMR-C held its first PhD course entitled "Clinical Research in Health & Medical Sciences". Secondly, Thomas Bandholm was found qualified at the professor-level with the Department of Clinical Medicine, University of Copenhagen. Thirdly, Kristian Thorborg was part of two consensus processes and statements, one on Groin Pain in Athletes and one on Return-to-Sport after Injury - both published (or to be) in British Journal of Sports Medicine.



3. PEOPLE

Thomas Bandholm: Dr. Bandholm is a senior researcher and head of research at PMR-C, and an Associate Professor with the Department of Clinical Medicine, University of Copenhagen. He is responsible for research in enhanced recovery programs following total hip and knee arthroplasties and acute hospitalization for medical illnesses in older patients at PMR-C. Dr. Bandholm has published more than 60 international peer-reviewed papers since 2006. Curriculum and list of publications can be found at pmrc.dk/people.

Morten Tange Kristensen: Dr. Kristensen is a senior researcher at PMR-C. He is responsible for research in enhanced recovery programs in patients with hip fracture and lower limb amputations at PMR-C. Dr. Kristensen has published 36 peer-reviewed papers since 2005. Curriculum and list of publications can be found at pmrc.dk/people.

Kristian Thorborg: Dr. Thorborg is a senior researcher at PMR-C and an Associate Professor with the Department of Clinical Medicine, University of Copenhagen. He is responsible for sports medicine research at PMR-C. Dr. Thorborg has published more than 70 peer-reviewed papers since 2004. Curriculum and list of publications can be found at pmrc.dk/people.

Visiting researchers

Ernesto Esteve, PT, MSc: Mr. Esteve (ESP) was a research fellow with PMR-C for 3 months from March to May, 2015.

Completed theses

Ann Christine Bodilsen: PhD thesis, University of Copenhagen. Main affiliation PMR-C and Optimized Senior Patient Program (Optimed). Project title: Simple physical performance measures in the assessment of acutely admitted older medical patients: Studies of feasibility, reliability, and predictive ability (Thomas Bandholm, main supervisor).

Ilija Ban: PhD thesis, University of Copenhagen. Main affiliation: Clinical Orthopaedic Research Hvidovre (CORH). Project title: Midshaft Clavicle Fractures: Critical assessment of the Constant Score and aspects of clavicular nonunion (Morten Tange Kristensen, principal co-supervisor).

Kasper Krommes: MSc thesis, University of Southern Denmark. Main affiliation: PMR-C. Project title: Investigating strength training exercises specific for rehabilitation and prevention in terms of muscle activity and angular velocity: A cross-sectional study (Kristian Thorborg, main supervisor).

Postdocs

Ann Christine Bodilsen: Dr. Bodilsen is a Postdoc at PMR-C and co-affiliated with Optimized Senior Patient Programme (Optimed). Her Post Doc deals with cross-continuum optimization of physical activity in relation to an acute hospital admission in older medical patients.

Henrik Sander Pyndt: Dr. Pyndt is a Postdoc at PMR-C. His Post Doc deals with mechanisms underlying inhibition of the quadriceps muscle shortly after total knee arthroplasty.

Derek Curtis: Dr. Curtis is a Postdoc at PMR-C and co-affiliated with the Gait Analysis Laboratory, Department of Orthopedic Surgery, Hvidovre Hospital. His Post Doc deals with measuring and treating postural control deficits of the trunk and head in children with brain damage.

PhD-students

Lise Kronborg: Ms. Kronborg is a PhD-student at PMR-C and enrolled at the University of Copenhagen. Her PhD deals with in-hospital exercise to enhance recovery following a hip fracture (Morten Tange Kristensen, faculty supervisor, Thomas Bandholm co-supervisor).

Mette Merete Pedersen: Ms. Pedersen is a PhD-student at PMR-C, co-affiliated with Optimized Senior Patient Programme (Optimed), and enrolled at the University of Copenhagen. Her PhD deals with exercise to prevent functional decline following acute hospitalization for a medical illness in older patients (Thomas Bandholm, main supervisor).

Dorte Melgaard: Ms. Melgaard is a PhD-student at Center for Clinical Research, Vendsyssel Hospital, Department of Clinical Medicine, Aalborg University, co-affiliated with PMR-C, and enrolled at University of Aalborg,. Her PhD focuses on how a therapeutic intervention can optimize the treatment of patients with community-acquired pneumonia (Morten Tange Kristensen co-supervisor).

Helle Gybel Juul-Larsen: Ms. Juul-Larsen is a PhD-student with Optimized Senior Patient Programme (Optimed), co-affiliated with PMR-C, and enrolled at the University of Copenhagen. Her PhD deals with multimorbidity-grouping based on disease patterns to optimizing disease management programs for older patients with several chronic diseases (Thomas Bandholm, co-supervisor).

Christian Wied: Mr. Wied is a PhD-student at Clinical Orthopedic Research Hvidovre (CORH), Department of Orthopedic Surgery, Copenhagen University Hospital, Hvidovre, co-affiliated with PMR-C, and enrolled at the University of Copenhagen,. His PhD deals with examination of peri-operative bleeding and effect of blood-sparing interventions in patients with lower extremity amputations (Morten Tange Kristensen, principal co-supervisor).

Mikkel Beck Clausen: Mr. Clausen is a PhD-student with SORC-C, co-affiliated with PMR-C, and enrolled at the University of Copenhagen. His PhD deals with Rehabilitation of impairments in patients with subacromial impingement (Kristian Thorborg, main supervisor).

Martin Wollin: Mr. Wollin is a PhD-student at La Trobe University, Melbourne, Victoria, Australia, and co-affiliated with SORC-C and PMR-C. His PhD deals with Athlete monitoring, including: hamstring and hip strength profiles, injury and training load in elite youth football (Kristian Thorborg, co-supervisor).

Tobias Wörner: Mr. Wörner is a PhD-student at Lund University, Sweden, and co-affiliated with SORC-C and PMR-C. His PhD deals with current rehabilitation practice in Scandinavia and outcome after hip arthroscopy (Kristian Thorborg, co-supervisor).

Neil Light: Mr. Light is a PhD-student at Chichester University, England, and co-affiliated with SORC-C and PMR-C. His PhD deals with groin injury in English elite youth football (Kristian Thorborg, co-supervisor).

Research Assistants

Rasmus Skov Husted: Mr. Husted is a research assistant with PMR-C and Clinical Orthopaedic Research Hvidovre (CORH). His project deals with coordinated conservative and surgical care of patients with end-stage knee osteoarthritis.

Kasper Krommes: Mr. Krommes is a research assistant with PMR-C and Sports Orthopaedic Research Center – Copenhagen (SORC-C). His projects deal with knee pain in adolescents and hamstring injuries in footballers.

MSc-students

Maria Svennergren Hansen: Ms. Svennergren Hansen is an MSc-student at PMR-C and enrolled at Lund University, Sweden. Her MSc deals with development and validation of a novel Achilles tendon length measurement for patients following acute Achilles tendon rupture (Morten Tange Kristensen, faculty supervisor).

Signe Hulsbæk: Ms. Hulsbæk is an MSc-student at Koege Hospital, co-affiliated with PMR-C, and enrolled at the University of Copenhagen. Her MSC deals with validation of the de Morton Mobility Index (DEMMI) in patients with hip fracture during acute hospitalization (Morten Tange Kristensen, faculty supervisor).

4. ADVISORY BOARD

The PMR-C is proud to have an advisory board of highly esteemed researchers to advise the management of PMR-C. The members of the PMR-C advisory board are listed below. Their biographies can be found at pmrc.dk/advisory-board/

Per Hölmich, Professor, Dr Med Sci

Professor Hölmich is Head of Sports Orthopaedic Research Center – Copenhagen (SORC-C), Amager-Hvidovre Hospital, University of Copenhagen, Copenhagen, Denmark.

Henrik Kehlet, Professor, Dr Med Sci

Professor Kehlet is Head of The Lundbeck Foundation Centre for Fast-Track Hip and Knee Arthroplasty and Section of Surgical Pathophysiology, Rigshospitalet, Copenhagen, Denmark.

Michael Kjær, Professor, Dr Med Sci

Professor Kjær is Head of Institute of Sports Medicine – Copenhagen, Bispebjerg Hospital, Copenhagen, Denmark.

Jens Bo Nielsen, Professor, Dr Med Sci

Professor Nielsen is Head of Neural Control of Movement – Copenhagen, University of Copenhagen, Copenhagen, Denmark.

5. PUBLICATIONS

People from PMR-C published 36 papers in 2015. Thank you to all our collaborators.

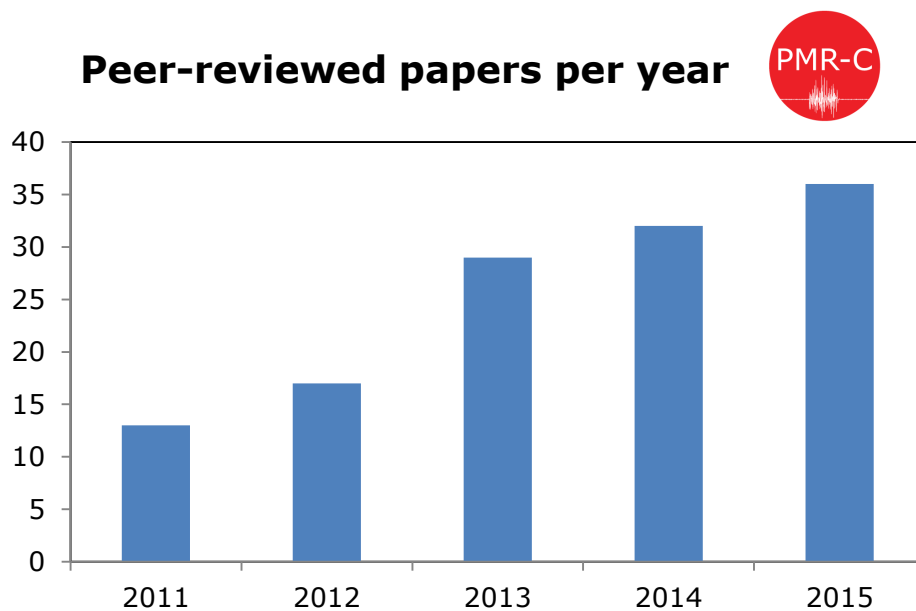


Figure 1: Trend in peer-reviewed papers. Status per January 1st, 2016.

Published peer-review papers

Thorborg K, Krommes K, Esteve E, Clausen MB, Bartels EM, Rathleff MS (2015). High Risk of Bias and Low Transparency in "How Effective are F-MARC Injury Prevention Programs for Soccer Players? A Systematic Review and Meta-Analysis" A Letter to the Editor. *Sports Med* (Epub ahead of print).

Light N and Thorborg K (2015). The precision and torque production of common hip adductor squeeze tests used in elite football. *J Sci Med Sports* (Epub ahead of print).

Couppé C, Svensson RB, Kongsgaard M, Kovanen V, Grosset JF, Snorgaard O, Bencke J, Larsen JO, Bandholm T, Christensen TM, Boesen A, Helmark IC, Aagaard P, Kjær M, Magnusson SP (2015). Human Achilles tendon glycation and function in diabetes. *J Appl Physiol* (Epub ahead of print).

Rathleff MS, Richter C, Brushøj C, Bencke J, Bandholm T, Hölmich P, Thorborg K (2015). Custom-Made Foot Orthoses Decrease Medial Foot Loading During Drop Jump in Individuals With Patellofemoral Pain. *Clin J Sports Med* (Epub ahead of print).

Zebis MK, Andersen LL, Brandt M, Myklebust G, Bencke J, Lauridsen HB, Bandholm T, Thorborg K, Hölmich P, Aagaard P (2015). Effects of evidence-based prevention training on neuromuscular and biomechanical risk factors for ACL injury in adolescent female athletes: a randomised controlled trial. *Br J Sports Med* (Epub ahead of print).

Thorborg K, Rathleff MS, Petersen P, Branci S, Holmich P (2015). Prevalence and severity of hip and groin pain in sub-elite male football: a cross-sectional cohort study of 695 players. *Scand J Med Sci Sports* (Epub ahead of print).

Mikkelsen EK, Jakobsen TL, Holsgaard-Larsen A, Andersen LL, Bandholm T (2015). Strength training to contraction failure increases voluntary activation of the quadriceps muscle shortly following total knee arthroplasty: A cross sectional study. *Am J Phys Med Rehabil* (Epub ahead of print).

Rafn BS, Tang L, Nielsen MP, Branci S, Hölmich P, Thorborg K (2015). Hip Strength Testing of Soccer Players With Long-Standing Hip and Groin Pain: What are the Clinical Implications of Pain During Testing? *Clin J Sport Med* (Epub ahead of print).

Clausen MB, Tang L, Zebis MK, Krstrup P, Hölmich P, Wedderkopp N, Andersen LL, Christensen KB, Møller M, Thorborg K (2015). Self-reported previous knee injury and low knee function increase knee injury risk in adolescent female football. *Scand J Med Sci Sports* (Epub ahead of print).

Thorborg K, Bandholm T, Zebis MK, Andersen LL, Hölmich P (2015). Large strengthening effect of a hip-flexor training program: a randomized controlled trial. *Knee Surg Sports Traumatol Arthrosc* (Epub ahead of print).

Kristensen MT, Holm G, Gebuhr P (2015). Difficult to predict early failure after major lower-extremity amputations. *Dan Med J* 62: A5172.

Pedersen MMP, Petersen J, Bean J, Damkjaer L, Juul-Larsen HG, Andersen O, Beyer N, Bandholm T (2015). Feasibility of progressive sit-to-stand training among older hospitalized patients. *PeerJ* 17: e1500.

Willert CB, Holmich LR, Thorborg K (2015). Developing and validating of patient-reported questionnaires - part 2. *Ugeskr Laeger* 12;177(42).

Willert CB, Holmich LR, Thorborg K (2015). Developing and validating of patient-reported questionnaires - part 1. *Ugeskr Laeger* 12;177(42).

Faber MMF, Andersen MH, Sevel C, Thorborg K, Bandholm T, Rathleff M (2015). The majority are not performing home-exercises correctly two weeks after their initial instruction: an assessor-blinded study. *PeerJ* 3: e1102.

Rathleff MS, Vicenzino B, Middelkoop M, Graven-Nielsen T, van Linschoten R, Hölmich P, Thorborg K (2015). Patellofemoral Pain in Adolescence and Adulthood: Same Same, but Different? *Sports Med* 45: 1489-1495.

Wied C, Kristensen MT, Tengberg PT, Holm G, Krasheninnikoff M, Troelsen A (2015). Patients in need for major lower extremity amputations are a challenge. *Ugeskr Laeger* 177: pii: V10140540.

McGirr K, Haring SI, Kennedy TSR, Pedersen MFS, Hirata RP, Thorborg K, Bandholm T, Rathleff MS (2015). An elastic exercise band mounted with a Bandcizer can differentiate between commonly prescribed home exercises for the shoulder. *Int J Sports Phys Ther* 10: 1-9.

Weir A, Brukner P, Delahunt E, Ekstrand J, Griffin D, Khan KM, Lovell G, Meyers WC, Muschaweck U, Orchard J, Paajanen H, Philippon M, Reboul G, Robinson P, Schache AG, Schilders E, Serner A, Silvers H, Thorborg K, Tyler T, Verrall G, de Vos RJ, Vuckovic Z, Hölmich P (2015). Doha agreement meeting on terminology and definitions in groin pain in athletes. *Br J Sports Med* 49: 768-774.

Delahunt E, Thorborg K, Khan KM, Robinson P, Hölmich P, Weir A (2015). Minimum reporting standards for clinical research on groin pain in athletes. *Br J Sports Med* 49: 775-781.

Bahr R, Thorborg K, Ekstrand J (2015). Evidence-based hamstring injury prevention is not adopted by the majority of Champions League or Norwegian Premier League football teams: the Nordic Hamstring survey. *Br J Sports Med* 49: 1466-1471.

Serner A, Tol JL, Jomaah N, Weir A, Whiteley R, Thorborg K, Robinson M, Hölmich P (2015). Diagnosis of Acute Groin Injuries: A Prospective Study of 110 Athletes. *Am J Sports Med* 43: 1857-1864.

Curtis DJ, Hansen L, Luun M, Løberg R, Woollacott M, Saavedra S, Sonne-Holm S, Berggreen S, Bencke J (2015). Measuring Postural Sway in Sitting: A New Segmental Approach. *J Mot Behav* 47: 427-435.

Ariza-Vega P, Kristensen MT, Martín-Martín L, Jiménez-Moleón JJ (2015). Predictors of long term mortality in older people with hip fracture. *Arch Phys Med Rehabil* 96: 1215-1221.

Reiman MP, Thorborg K (2015). Femoroacetabular impingement surgery: are we moving too fast and too far beyond the evidence? *Br J Sports Med* 49: 782-784.

Kronborg L, Bandholm T, Kehlet H, Kristensen MT (2015). Municipality-based physical rehabilitation after acute hip fracture surgery in Denmark. *Dan Med J* 62: A5023.

Bodilsen C, Juul-Larsen HG, Petersen J, Beyer N, Andersen O, Bandholm T (2015). Feasibility and inter-tester reliability of physical performance measures in acutely admitted older medical patients. *PLoS One* 10: e0118248.

Harsten A, Bandholm T, Kehlet H, Toksvig-Larsen S (2015). Tourniquet versus no tourniquet on knee-extension strength early after fast-track total knee arthroplasty: a randomized controlled trial. *Knee* 22: 126-130.

Thorborg K, Tijssen M, Babets B, Bartels EM, Roos EM, Kemp J, Crossley KM, Hölmich P (2015). Patient-reported outcome (PRO) questionnaires for young-aged to middle-aged adults with hip and groin disability: a systematic review of the clinimetric evidence. *Br J Sports Med* 49: 812.

Esteve E, Rathleff MS, Bagur-Calafat C, Urrútia G, Thorborg K (2015). Prevention of groin injuries in sports: a systematic review with meta-analysis of randomised controlled trials. *Br J Sports Med* 49: 785-791.

Rathleff MS, Thorborg K (2015). "Load me up, Scotty": mechanotherapy for plantar fasciopathy (formerly known as plantar fasciitis). *Br J Sports Med* 49: 638-639.

Rathleff MS, Thorborg K, Rode LA, McGirr K, Sørensen AS, Bøggild A, Bandholm T (2015). Adherence to commonly prescribed, home-based strength training exercises for the lower extremity can be objectively monitored using the Bandcizer. *J Strength Cond Res* 29: 627-636.

Branci S, Thorborg K, Bech BH, Boesen M, Magnussen E, Court-Payen M, Nielsen MB, Hölmich P (2015). The Copenhagen Standardised MRI protocol to assess the pubic symphysis and adductor regions of athletes: outline and intratester and intertester reliability. *Br J Sports Med* 49: 692-699.

Branci S, Thorborg K, Bech BH, Boesen M, Nielsen MB, Hölmich P (2015). MRI findings in soccer players with long-standing adductor-related groin pain and asymptomatic controls. *Br J Sports Med* 49: 681-691.

Curtis DJ, Butler P, Saavedra S, Bencke J, Kallemose T, Sonne-Holm S, Woollacott M (2015). The central role of trunk control in the gross motor function of children with cerebral palsy: a retrospective cross-sectional study. *Dev Med Child Neurol* 57: 351-357.

Reiman MP, Goode AP, Cook CE, Hölmich P, Thorborg K (2015). Diagnostic accuracy of clinical tests for the diagnosis of hip femoroacetabular impingement/labral tear: a systematic review with meta-analysis. *Br J Sports Med* 49: 811.

Book Chapters

Hölmich P and Thorborg K. Injuries in the Pelvis, Groin, Hip and Thigh. In Nuclear Medicine and Radiological Imaging in Sports Injuries. (eds) Glaudemans A; Dirckx R, Gielen J , Zwerver J 2015. Springer, Berlin Heidelberg.

6. RESEARCH GRANTS

With PMR-C acting as main or co-applicant, we received a total of 3,118,000 DKK (419,440 Euro) in 2015 from a variety of funding bodies. Thank you very much for the support. The funding bodies included:

The Capital Region, strategic funds: Coordinated conservative and surgical care of patients with end-stage knee osteoarthritis: a pragmatic approach. Main applicant: Thomas Bandholm, enclosed CV from PMR-C: Kristian Thorborg (1,500,000 DKK).

Danish Regions: Rehabilitation of impairments in patients with subacromial impingement syndrome: A pragmatic approach. Main applicant: Mikkel Beck Clausen, co-applicant: Kristian Thorborg (716,000 DKK).

The Capital Region, cross-continuum funds: Coordinated conservative and surgical of patients with end-stage knee osteoarthritis: a pragmatic approach. Main applicant: Thomas Bandholm, enclosed CV from PMR-C: Kristian Thorborg (500,000 DKK).

The Danish Physical Therapist Organization: Pelvic floor muscle exercise therapy to reduce fecal incontinence. Main applicant: Anja Ussing, enclosed CV from PMR-C supervisor: Thomas Bandholm (62,000 DKK).

The Research Foundation for Amager-Hvidovre Hospital: Pelvic floor muscle exercise therapy to reduce fecal incontinence. Main applicant: Anja Ussing, enclosed CV from PMR-C supervisor: Thomas Bandholm (90,000 DKK).

The Danish Physical Therapist Organization: Identification of older patients at risk of adverse health events following acute hospitalization. Main applicant: Christine Bodilsen, enclosed CV from PMR-C supervisor: Thomas Bandholm (50,000 DKK).

Danish Association of Rheumatism: Home-based rehabilitation following a total hip arthroplasty: do patients follow the exercise prescription and does it improve recovery as intended? Main applicant: Lone Ramer Mikkelsen, enclosed CVs from PMR-C: Thomas Bandholm and Kristian Thorborg (75,000 DKK).

Region Midt: Home-based rehabilitation following a total hip arthroplasty: do patients follow the exercise prescription and does it improve recovery as intended? Main applicant: Lone Ramer Mikkelsen, enclosed CVs from PMR-C: Thomas Bandholm and Kristian Thorborg (75,000 DKK).

Danish Association of Rheumatism: Rehabilitation of impairments in patients with subacromial impingement syndrome: A pragmatic approach. Main applicant: Mikkel Beck Clausen, co-applicant: Kristian Thorborg (50,000 DKK).

7. INVITED LECTURES

Annual symposium of the PhD-graduate program: Basic and Clinical Research in Musculoskeletal and Oral Sciences (MUSCOS) 2015, University of Copenhagen, Snekkersten, Denmark. Title: Trial protocol and registration (Thomas Bandholm).

Rapid recovery after total knee and hip replacements expert meeting 2015, Copenhagen, Denmark. Title: Traditions in rehabilitation after THA and TKA (Thomas Bandholm).

Annual research day 2015, Hvidovre Hospital, Copenhagen, Denmark. Title: Rehabilitation after acute hip fracture surgery (Morten Tange Kristensen and Lise Kronborg).

Internal seminar at The George Institute of Global Health 2015, Sydney, Australia. Title: Rehabilitation after hip fracture surgery in Denmark (Lise Kronborg).

Hip and groin day 2015, Arthro Clinic, Stockholm, Sweden. Title: Athletic hip and groin pain – Injury mechanism, rehabilitation and prevention (Kristian Thorborg).

Hip and groin day 2015, Arthro Clinic, Stockholm, Sweden. Title: Athletic hip and groin pain – Outcome evaluation (Kristian Thorborg).

Danish Sports Medicine Congress 2015, Copenhagen, Denmark. Title: Non-acute groin injuries in football: Terminology and clinical findings (Kristian Thorborg).

Swedish Sports Medicine Congress 2015, Linköping, Sweden. Title: Chronic groin pain in football (Kristian Thorborg).

1st World Congress in Sports Physiotherapy 2015, Bern, Switzerland. Title: Patient-reported questionnaires in return-to-play (Kristian Thorborg).

1st World Congress in Sports Physiotherapy 2015, Bern, Switzerland. Title: Return to play after groin injury (Kristian Thorborg).

Sports Surgery Clinic Santry 2015, Dublin, Ireland. Title: Hamstring and groin injury prevention and treatment (Kristian Thorborg).

The Olympic Athlete Symposium 2015, Copenhagen, Denmark. Title: Exercise as an effective modality in sports injury prevention (Kristian Thorborg).

1st Copenhagen Hamstring Symposium 2015, Copenhagen, Denmark. Title: Hamstring injury prevention: Adherence and attitudes (Kristian Thorborg).

1st Copenhagen Hamstring Symposium 2015, Copenhagen, Denmark. Title: Hamstring injury prevention: Hamstrin exercise specificity (Kasper Krommes).

Football Medicine Strategies for Player Care Congress 2015, London, England. Title: Can we prevent hamstring injuries? (Kristian Thorborg).

Muscle Tech Network Congress 2015, Barcelona, Spain. Title: Conservative treatment of groin pain in football (Kristian Thorborg).

8. MAIN TEACHING AND COURSE ACTIVITIES

3 days of course leading, tutoring, and lecturing. PhD-course: Clinical Research in Health & Medical Sciences, PhD-program: Basic and Clinical Research in Musculoskeletal and Oral Sciences (MUSCOS), University of Copenhagen (Kristian Thorborg and Thomas Bandholm).

6 weeks of course leading, tutoring, and lecturing. MSc-course: Physical activity. Cand.Scient.San., University of Copenhagen (Kristian Thorborg).

6 weeks of tutoring and lecturing. MSc-course: Physical activity. Cand.Scient.San., University of Copenhagen (Thomas Bandholm).

4 weeks of course leading and lecturing. MSc-course: Rehabilitation of muscle and tendon injuries. Cand.Scient.Phys., University of Southern Denmark and Society of Sports Physical Therapists (Kristian Thorborg).

4 weeks of course leading and lecturing. MSc-course: Course: Analysis of movement and muscle function. Cand.Scient.Phys., University of Southern Denmark and Society of Sports Physical Therapists (Kristian Thorborg).

4 days of course leading and teaching. Post-graduate PT-course: Exercise in clinical practice. Danish Physical Therapist Organization (Thomas Bandholm).

1 day of lecturing. Post-graduate MD-course (Level I, sports medicine diploma). Danish Sports Medicine Society. Topic: Hip and groin (Kristian Thorborg).

8 lectures. Pre-graduate PT-course: Anatomy and Physiology -level, Zanzibar College of Health Sciences. Topic: Structures and functions of the neuro-musculoskeletal system (Lise Kronborg).

Single lecture. MSc-course: Physical activity. Cand.Scient.San., University of Copenhagen. Topic: Basic exercise physiology (Thomas Bandholm).

Single lecture. PhD-course: Exercise physiology in basic and applied research, Bispebjerg-Frederiksberg Hospital. PhD-program: Basic and Clinical Research in Musculoskeletal and Oral Sciences (MUSCOS), University of Copenhagen. Topic: Trial protocol and registration (Thomas Bandholm).

Single lecture. BSc-course: Biomechanics and Motor Control, University of Copenhagen. Topic Clinical exercise physiology and motor control (Thomas Bandholm).

Single lecture. MSc-course: Physical activity. Cand.Scient.San., University of Copenhagen. Topic: The "sick" joint – Arthrosis and arthritis (Kristian Thorborg).

Single lecture. MSc-course: Physical activity. Cand.Scient.San., University of Copenhagen. Topic: Problem-based learning (Kristian Thorborg).

2 lectures. Post-graduate PT-course: Exercise in clinical practice, Copenhagen. Danish Physical Therapist Organization. Topic: Rehabilitation after hip fracture (Morten Tange Kristensen).

2 lectures. Residence Course: Tests of functional performance in the geriatric patient. Post-graduate MD level, Gentofte Hospital, Danish Health and Medicines Authority. (Christine Bodilsen).

2 lectures. Post-graduate PT-course: Osteoporosis and orthogeriatrics. Norwegian Physical Therapist Organization. Topic: Multimodal programs and rehabilitation after hip fracture (Morten Tange Kristensen).

9. SYMPOSIA, SEMINARS, AND WORKSHOPS

PMR-C was the organizer or co-organizer of the following in 2015:

Symposium: 3rd PMR-C research symposium

The symposium marked the third year of PMR-C and was held at the Metropolitan University College in Copenhagen in collaboration with Optimized Senior Patient Program (Optimed), Clinical Research Centre, Amager-Hvidovre Hospital. Around 500 people attended the symposium entitled "The older patient" (Morten Tange Kristensen, Thomas Bandholm, and Kristian Thorborg).

Symposium: The Olympic athlete

The symposium marked the official opening of IOC Sports Medicine Copenhagen: Research Centre for Injury Prevention and Protection of Athlete Health. Invited speakers included: Professor Lars Engebretsen (NO), Professor Per Hölmich (DK), Professor Peter Magnusson (DK), Professor Michael Krogsgaard, Associate Professor Kristian Thorborg (PMR-C), Associate Professor Lars Pedersen (DK), and Senior Consultant Hanne Rasmussen (DK) (Thomas Bandholm).

Seminar: The 1st Copenhagen Hamstring Seminar

The seminar was part of the scientific activities of IOC Sports Medicine Copenhagen. The seminar was a collaborative effort between PMR-C, Sports Orthopedic Research Center – Copenhagen (SORC-C), and Metropolitan University College. Invited speakers included: Dr. David Opar (AUS), MSc Ryan Timmins (AUS), MSc Steven Duhig (AUS), Dr. Mette Zebis (DK), Dr. Jesper Petersen (DK), MSc Kasper Krommes (PMR-C), and Associate Professor Kristian Thorborg (PMR-C) (Kristian Thorborg).

Symposium: Inhibition of knee muscles due to joint pathology or surgery – mechanisms and treatment perspectives

The symposium was part of the annual national sports medicine congress in Copenhagen, Denmark. Invited speakers included: Dr. Ingrid Eitzen (NO), Professor Peter McNair (NZ), and Dr. Thomas Linding Jakobsen (DK) (Thomas Bandholm).

Symposium: Trial protocols and research dissemination

The symposium was part of the annual symposium of the PhD-graduate program: Basic and Clinical Research in Musculoskeletal and Oral Sciences (MUSCOS), University of Copenhagen, Snekersten, Denmark. Invited speakers included: Professor Marius Henriksen (DK), Professor Robin Christensen (DK), and Associate Professor Thomas Bandholm (PMR-C) (Thomas Bandholm and Kristian Thorborg).

Symposium: Simple exercise-based for geriatric patients

The symposium was part of the Danish Physical Therapist Organization's congress held every 3rd year, Odense, Denmark. Invited speakers included: Associate Professor Jonathan Bean (US), Associate Professor Morten Tange Kristensen (PMR-C), and MSc Mette Merete Pedersen (PMR-C) (Morten Tange Kristensen and Thomas Bandholm).

Symposium: Hip and groin pain in young physically active individuals

The symposium was part of the Danish Physical Therapist Organization's congress held every 3rd year, Odense, Denmark. Invited speakers included: Associate Professor Per Hölmich (DK), Dr. Sonia Branci (DK), MSc Julie Jacobsen (DK), and Associate Professor Kristian Thorborg (PMR-C) (Kristian Thorborg).

Workshop: Hip and groin pain in young physically active individuals

The Workshop was part of the Danish Physical Therapist Organization's congress held every 3rd year, Odense, Denmark. Invited speakers included: MSc Julie Jacobsen (DK) and Associate Professor Kristian Thorborg (PMR-C) (Kristian Thorborg).

Symposium "Diagnostics and treatment of intra-articular hip injury"

The symposium was part of the annual national sports medicine congress in Copenhagen, Denmark. Invited speakers included: Dr. Michael Sansone (SWE), Dr. Rintje Agricola (NL), MD Otto Kraemer (DK), and Associate Professor Michael Reiman (US) (Kristian Thorborg).

Symposium: Groin injuries in football

The symposium was part of the annual national sports medicine congress in Copenhagen, Denmark. Invited speakers included: Professor Per Hölmich (DK), MSc. Andreas Serner (DK), and Associate Professor Kristian Thorborg (PMR-C) (Kristian Thorborg).

Workshop: Diagnosis of intraarticular hip problems – how to approach this in a clinical setting?

The symposium was part of the annual national sports medicine congress in Copenhagen, Denmark. Invited speaker: Associate Professor Michael Reiman (US) (Kristian Thorborg).

Workshop: Clinical Evidence and Guidance for “Tennis elbow” regarding diagnosis, prevention, and treatment.

The symposium was part of the annual national sports medicine congress in Copenhagen, Denmark. Invited Speaker: MSc Lina Ingelsrud (DK) (Kristian Thorborg).

Workshop: Simple exercise-based interventions for geriatric patients

The workshop was part of the Danish Physical Therapist Organization’s congress held every 3rd year, Odense, Denmark. Invited speakers included: MSc Lise Kronborg (PMR-C), Physical Therapist Jan Overgaard (DK), and MSc Mette Merete Pedersen (PMR-C) (Mette Merete Pedersen).

Workshop: Progressive strength training after hip fracture

The workshop was part of the Australian Physiotherapy Association Connect Congress, Gold Coast, Australia. Invited speaker: MSc Lise Kronborg (PMR-C) (Lise Kronborg).

Workshop: Chronic groin pain

The workshop was part of the Swedish Sports Medicine Congress 2015, Linköping, Sweden (Kristian Thorborg).

Workshop: Groin pain -physical exploration and practical rehabilitation and program design

The workshop was part of the Muscle Tech Network Congress 2015, Barcelona, Spain. (Kristian Thorborg)

10. CONGRESSES

PMR-C helped organize the following congresses in 2015:

Danish Sports Medicine Congress 2015. Chairman of the scientific committee: Kristian Thorborg.

Danish Sports Medicine Congress 2015. Scientific board member: Thomas Bandholm.

11. ACADEMIC EVALUATION

Editorial board work: British Journal of Sports Medicine, World Journal of Orthopedics, and PLoS One (Kristian Thorborg, Morten Tange Kristensen, Thomas Bandholm).

Evaluation committee member: Associate Professorship in Clinical Research, University of Southern Denmark, Odense Denmark (Thomas Bandholm).

Evaluation committee member: PhD thesis, Australian Catholic University, Victoria, Melbourne, Australia (Kristian Thorborg).

Evaluation committee member: MSc thesis, Queensland University of Technology, Queensland, Australia (Kristian Thorborg).

Evaluation committee member: MSc thesis, University College Dublin, Dublin, Ireland (Kristian Thorborg).

External reviews of PhD-progress during enrolment: University of Copenhagen (Morten Tange Kristensen and Thomas Bandholm).

12. ADVISORY OR OTHER BOARD-WORK

Board member, Board for the PhD-graduate program: Basic and Clinical Research in Musculoskeletal and Oral Sciences (MUSCOS), University of Copenhagen (Thomas Bandholm).

Board member, Board for the development of multidisciplinary regional clinical practice guidelines for the management of persons with major lower limb amputations. A collaboration between four hospitals from the Capital Region of Denmark (Morten Tange Kristensen).

Board member, Board for the national multidisciplinary register for the management of patients with fragility fractures of the hip in Denmark (Morten Tange Kristensen).

Board member, Board of research, Amager-Hvidovre Hospital (Thomas Bandholm).

Executive committee member, Board of research, Amager-Hvidovre Hospital (Thomas Bandholm).

Board Member, Research committee for the International Federation in Sports Physical Therapy (Kristian Thorborg).

Evaluation committee member, the Johannes Lindhart Prize and the Ove Bøje Prize. Danish Societies for Sports Medicine and Danish Sports Physiotherapists (Kristian Thorborg).

Advisory board member, IOC Diploma in Sports Physical Therapies (Kristian Thorborg)

Steering committee member, IOC Sports Medicine Copenhagen: Research Centre for Injury Prevention and Protection of Athlete Health (Thomas Bandholm and Kristian Thorborg).

Steering committee member, Clinical evidence and guidance in sports physiotherapy-catalogues. Danish Society for Sports Physiotherapists (Thomas Bandholm and Kristian Thorborg)

Board member, Board for education and courses offered under the Danish Society for Sports Physiotherapists. Responsible for implementation of new educational structure for Danish Sports Physiotherapists from 2013 (40 ECTS) (Kristian Thorborg).

Board member, Board for the development of Clinical Practice Guidelines for the physical therapy-management of persons with fragility fracture of the hip. A collaboration between the Academy of Geriatric Physical Therapy and the Orthopaedic Section of the American Physical Therapy Association (Morten Tange Kristensen).

Working group member, Working group for the development of a National Clinical Guideline for exercise and nutrition in frail older adults. The Danish Health Authority, Copenhagen, Denmark (Mette Merete Pedersen).

Secretariat member, Secretariat for the development of a National Clinical Guideline for exercise and nutrition in frail older adults. The Danish Health Authority, Copenhagen, Denmark (Ann Christine Bodilsen).