

# Annual Symposium

Thursday 25<sup>th</sup> November – Friday 26<sup>th</sup> November 2021

Comwell Borupgaard, Nørrevej 80, 3070 Snekkersten

## Basic and Clinical Research in Musculo-skeletal Sciences (MUSKOS)

Post graduate research program, Faculty of Health and Medical Sciences – Uni of Copenhagen

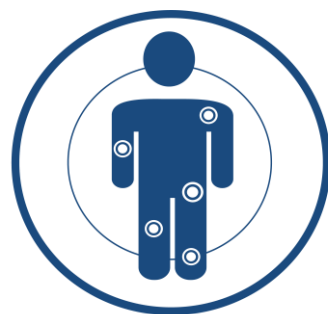
in collaboration with

## Clinical Academic Groups, Greater Copenhagen Health Science Partners (GCHSP)



Physical Activity and Sports in Clinical Medicine (imPAct)

and



**ROAD**

Research in OsteoArthritis Denmark

**Research OsteoArthritis Denmark (ROAD)**

## THURSDAY 25<sup>th</sup> NOVEMBER

09.00 – 09.05

### **Welcome**

(Michael Kjær, MUSKOS, Flemming Dela, imPAct, Anders Troelsen, ROAD)

09.05 – 09.50

### **Key-note lecture:**

Making a whole of the continuum of treatment of osteoarthritis.

Professor Henning Bliddal, University Hospital Bispebjerg Frederiksberg  
Chair: Professor Anders Troelsen and Professor Stine Jacobsen

10.00 – 12.30

### **Free oral presentations from PhD students (MUSKOS)**

Auditorium A	Auditorium B
<p><b>10.00-10.12: Mads Godtfeldt Stemmerik</b> <i>"An exercise challenge system to profile injury biomarkers in Muscular Dystrophies"</i></p> <p><b>10.12-10.24: Ann Damgaard</b> <i>"Regional protein turnover in healthy and overuse-diseased tendon - influence of exercise and growth hormone"</i></p> <p><b>10.24-10.36: Simon Jønck</b> <i>"Exercise-induced cardiac adaptations in rheumatoid arthritis patients during interleukin-6 vs. tumor necrosis factor antibody therapy: a randomized, controlled study (RABEX)"</i></p> <p><b>10.36-10.48: Nanna Scharff Poulsen</b> <i>"Cycle exercise in wheelchair users with muscular dystrophy"</i></p> <p><b>10.48-11.00: Tue Rømer</b> <i>"Balancing training and recovery: The effects of seasonal variations in training load on endurance performance and athletic health across a year"</i></p> <p><b>11.00-11.12: Signe Hulsbæk</b> <i>"Feasibility and preliminary effect of anabolic steroid in addition to strength training and nutritional supplement in rehabilitation of patients with hip fracture: A randomized controlled pilot trial"</i></p> <p><b>11.12-11.24: Ronni Eg Sahl</b> <i>"Prolonged endurance exercise increased anti-inflammatory macrophage content and mitochondrial respiration in adipose tissue in young and old men"</i></p> <p><b>11.24-11.36: Mikkel Holm Hjortshøj Jensen</b> <i>"The Effect of Low-Load Resistance Training with Blood Flow Restriction for Treatment of Chronic Patellar Tendinopathy - A Randomized Clinical Trial"</i></p> <p><b>11.36-11.48: Mikkel Hansen</b> <i>"Validity and reliability of a novel non-exercise method for assessment of maximal oxygen uptake using seismocardiography"</i></p>	<p><b>10.00-10.12: Karina Louise Skov Husted</b> <i>"Biological age- a novel approach to risk stratification"</i></p> <p><b>10.12-10.24: Mads Bloch-Ibenfeldt</b> <i>"The LISA-study: adaptive responses and lasting effects years after the intervention?"</i></p> <p><b>10.24-10.36: Casper Søndebro</b> <i>"Satellite cells and denervation indices of the skeletal muscle of elderly lifelong recreational exercisers"</i></p> <p><b>10.36-10.48: Adam Witten</b> <i>"Terminology and diagnostic criteria used in clinical studies investigating subacromial impingement syndrome: A scoping review"</i></p> <p><b>10.48-11.00: Heidi Tegner</b> <i>"The effect of graded activity and pain education (GAPE): an early post-surgical rehabilitation programme after lumbar spinal fusion - a randomized controlled study"</i></p> <p><b>11.00-11.12: Marie Mostue Naume</b> <i>"Pharmacokinetics and safety of treatment with paracetamol in children and adults with spinal muscular atrophy, a prospective, non-randomized, open-label clinical trial"</i></p> <p><b>11.12-11.24: Anna Døssing</b> <i>"Dual-Energy Computed Tomography for Detection and Characterization of Monosodium Urate, Calcium Pyrophosphate and Hydroxyapatite: A Phantom Study on Diagnostic Performance"</i></p> <p><b>11.24-11.36: Christian Fugl Hansen</b> <i>"Inadequate development and content validity of four frequently used orthopaedic questionnaires: A COSMIN evaluation of the mHHS, HAGOS, IKDC-SKF, KOOS and KNEES-ACL"</i></p>

The oral presentations are followed by feedback on the presentation technique (30 min)	The oral presentations are followed by feedback on the presentation technique (30 min)
Chairs: Ylva Hellsten and Carl-Johan Boraxbekk	Chairs: Bente Klarlund Pedersen and Niklas Rye Jørgensen
Comments on presentation technique: MA (Rhetoric) Thea Feveile Sejr Hansen (12.00-12.30 without audience)	Comments on presentation technique: MA (Rhetoric) Mads Højlyng (12.00-12.30 without audience)

12.30 – 13.15                      **Lunch**

## **SYMPOSIUM 1 (Auditorium A):**

### **Strength training in sports and in the clinical work**

Chairs: Professor Peter Magnusson and Associate Professor Christian Couppé

- 13.15 – 13.55                      Strength training in sports  
Head of Laboratory Jesper Løvind Andersen, University Hospital  
Bispebjerg Frederiksberg
- 14.00 – 14.40                      Strength training in the clinic: Muscle training of hip fracture  
patients  
Professor Morten Tange Kristensen, University Hospital Bispebjerg  
Frederiksberg

## **SYMPOSIUM 2 (Auditorium B):**

### **Cartilage and Osteoarthritis: Laboratory, animals, humans and imaging**

Chairs: Professor Henning Bliddal and Professor Søren Overgaard

- 13.15 – 13.40                      Advanced imaging in osteoarthritis and sports  
Professor Mikael Boesen, University Hospital Bispebjerg Frederiksberg
- 13.45 – 14.10                      Animal models – how do we choose the right one, and what  
can we learn from them?  
Professor Stine Jacobsen, University of Copenhagen
- 14.15 – 14.40                      Cartilage regional turnover in human osteoarthritis  
Dr Adam Jørgensen, University Hospital Bispebjerg Frederiksberg

## **SYMPOSIUM 3 (Borupgaard Stuen):**

### **How to present scientific results**

Chairs: Abigail Mackey and Carl-Johan Boraxbekk

13.15 – 13.40 Oral presentation of scientific results  
MA (Rhetoric) Thea Feveile Sejr Hansen, University of Copenhagen

13.45 – 14.10 Poster presentation of scientific results  
MA (Rhetoric) Mads Højlyng, Department of Management, CBS

14.45-15.15 **Break (coffee/tea)**

## **SYMPOSIUM 4 (Auditorium A):**

### **Physical activity and chronic disease**

Chairs: Professor Jørn Helge and Professor Vibeke Backer

15.15 – 15.40 Physical training of type 2 diabetes  
Chief Consultant Mathias Ried-Larsen, University Hospital  
Rigshospitalet

15.45 – 16.10 Physical activity and chronic obstructive pulmonary disease  
Associate professor Ronan Berg, University Hospital Rigshospitalet

16.15 – 16.40 Physical activity and visceral/cardiac obesity  
Postdoc Regitze Højgaard Christensen, University Hospital  
Rigshospitalet

## **SYMPOSIUM 5 (Auditorium B):**

### **The king of Osteoarthritis – the knee joint: Contemporary management strategies**

Chairs: Professor Anders Troelsen and Professor Søren Skou

15.15 – 15.40 The evidence for current first-line treatments initiated by the  
General Practitioner (GP)  
Postdoc Anne Møller, University of Copenhagen

15.45 – 16.10 The evidence for current surgical management  
Associate Professor Henrik Schrøder, University Hospital Næstved

16.15 – 16.40 Principles of fast-track arthroplasty surgery and the evidence  
for safety and efficacy  
Associate Professor Kirill Gromov, University Hospital Hvidovre

16.40 - 17.00 Meeting for MUSKOS PhD students in Aud. B

17.00 - 18.30

## Poster presentation in Aud. A

(2 min (2 slides) without questions for each poster)

Posters from all other researchers than MUSKOS PhD students.

Afterwards poster walk with questions (including drinks)

Chairs: Flemming Dela and Peter Magnusson

<p><b>1. Adam Kositsky</b> <i>"Regional in vitro human patellar tendon tensile mechanical properties and in situ near infrared spectroscopy prediction"</i></p> <p><b>2. Anders Karlsen</b> <i>"Deep proteome analysis of human musculo-tendinous unit revealed novel markers for myotendinous junction"</i></p> <p><b>3. Camilla Andersen</b> <i>"Integrin <math>\alpha 10\beta 1</math>-Selected Mesenchymal Stem Cells Home to Cartilage Defects in The Rabbit Knee after Intra-Articular Injection"</i></p> <p><b>4. Christian Høgsbjerg</b> <i>"A proteomics and Immunohistochemical analysis of the myotendinous junction of single human myofibers"</i></p> <p><b>5. Elisabeth Bandak</b> <i>"Musculoskeletal function in anterior cruciate ligament reconstructed individuals with and without knee pain"</i></p> <p><b>6. Emilie Ahmt Petersen</b> <i>"The effect of a 3-day dietary intervention on maximal fat oxidation and skeletal muscle gene expression in moderately trained men"</i></p> <p><b>7. Iben Elmerdahl Rasmussen</b> <i>"Fidelity, tolerability, and safety of high intensity training in patients surviving COVID-19"</i></p> <p><b>8. Ida Bager Christensen</b> <i>"Dissolvent difficulties for respiratory characterization of PBMCs - Dissolvents affect PBMC cell count and subsequent respiratory analysis prominently"</i></p> <p><b>9. Ida Blom</b> <i>"The effect of high intensity interval training on epigenetic changes in skeletal muscle of young and older individuals"</i></p> <p><b>10. Jakob Agergaard</b> <i>"Does the distribution pattern of daily dietary protein intake influence amino acid utilization and muscle protein synthesis?"</i></p> <p><b>11. Jasmin Bagge</b> <i>"Microfragmentation for processing stem cells from abdominal adipose tissue is a promising method when compared to standard enzymatic digestion for the treatment of osteoarthritis"</i></p> <p><b>12. Jonas Jalili Pedersen</b> <i>"Increased fat fraction reflects muscle degeneration in patients with skeletal muscle sodium channel disorders"</i></p> <p><b>13. Juan Corral Pérez</b> <i>"Gait Speed is associated with Plasma Total Antioxidant Capacity among Older Adults"</i></p> <p><b>14. Kasper Holst Axelsen</b> <i>"Clinical differences between ocular and generalized Myasthenia Gravis"</i></p>	<p><b>15. Laura Nørager Jacobsen</b> <i>"Contractile properties and fat replacement of muscles in patients with Myotonia Congenita"</i></p> <p><b>16. Lauri Stenroth</b> <i>"Patient-reported outcomes or functional performance do not identify patients with impaired knee joint function after ACL reconstruction"</i></p> <p><b>17. Linda Denz</b> <i>"Changes at the Myotendinous Junctions in the First Weeks of Life of IGF-1 treated Prematurely Born Pigs"</i></p> <p><b>18. Louise Bundgaard</b> <i>"A COMPREHENSIVE AND QUANTIFIABLE INSIGHT INTO THE PROTEOMES OF ARTICULAR CARTILAGE AND SUBCHONDRAL BONE"</i></p> <p><b>19. Maja Risager Nielsen</b> <i>"Whole body metabolism in children before and after treatment of CNS tumor"</i></p> <p><b>20. Marie Walters</b> <i>"Changes in expression of miRNA in synovial fluid during disease progression in an equine model of experimental osteoarthritis"</i></p> <p><b>21. Marius Henriksen</b> <i>"Exercise and education vs. saline injections for knee osteoarthritis: A randomized controlled trial"</i></p> <p><b>22. Mathias Fabricius Nielsen</b> <i>"A high number of positive pain provocation tests in patients with longstanding groin pain - what does it tell us?"</i></p> <p><b>23. Rebecca Kjær Andersen</b> <i>"Clinical comparison of seronegative and seropositive patients diagnosed with myasthenia gravis"</i></p> <p><b>24. Sofie Vinther Skriver</b> <i>"Plasma lactate responses during and after submaximal handgrip exercise are not diagnostically helpful in mitochondrial myopathy"</i></p> <p><b>25. Sonia Ortega Gómez</b> <i>"Is fitness a protective factor for depressive symptoms in both normal weight and overweight/obese depressed adults? Results from Sonrie Study"</i></p> <p><b>26. Vera Graungaard Schelde</b> <i>"Exercise training of COVID-19 survivors"</i></p> <p><b>27. Williane Oliveira Bernardes Valentino</b> <i>"How sensitive are knee joint cartilage mechanics outcomes estimated using finite element modeling to uncertainty in kinematic and kinetic boundary conditions?"</i></p> <p><b>28. Yoshifumi Tsuchiya</b> <i>"Impact on myogenic progression by mechanical loading of three-dimensional tendon constructs"</i></p>
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19.00

**Dinner** (including PhD CUP and Quiz)

Chairs: Jørn Helge and Michael Kjær

## **FRIDAY 26<sup>th</sup> NOVEMBER**

08.00 – 08.45

**Key-note lecture:**

Glucose metabolism in skeletal muscle during and after exercise

Professor Jørgen Wojtaszewski, University of Copenhagen

Chairs: Professor Flemming Dela and Professor Michael Kjær

08.50- 11.10

**Free oral presentations from PhD students**

<b>Auditorium A</b>	<b>Auditorium B</b>
<p><b>08.50-09.02: Allan Cramer</b> <i>"Genetic contribution to the etiology of Achilles tendon rupture. A Danish nationwide register study of twins"</i></p> <p><b>09.02-09.14: Rikke Høffner</b> <i>"Delayed loading following repair of ruptured Achilles tendon - a randomized controlled trial"</i></p> <p><b>09.14-09.26: Maria Hansen</b> <i>"Cellular adaptations to training in patients with type 2 diabetes"</i></p> <p><b>09.26-09.38: Malte Schmäcker</b> <i>"The effects of dietary nitrate on O2 kinetics and mitochondrial function in elderly and patients with type 2 diabetes"</i></p> <p><b>09.38-09.50: Arthur Ingersen</b> <i>"The effect of frequent noradrenaline exposure on beta-cell function in patients with type 2 diabetes"</i></p> <p><b>09.50-10.02: Kristine Bramsen Hugaard</b> <i>"The epidemiology of acute acromioclavicular dislocations in an urban population. A prospective cohort study investigating the capital region of Denmark"</i></p> <p><b>10.02-10.14: Alexander Kamp Sonne</b> <i>"Identifying Myosin secondary dysfunction in the presence of RyR1 mutations with relation to congenital myopathies"</i></p> <p><b>10.14-10.26: Elise Melhedegaard Thomsen</b> <i>"Myosin super relaxed state in skeletal muscle from vertebrate species"</i></p>	<p><b>08.50-09.02: Lasse Kindler Harris</b> <i>"Minimal Important Change, Patients Acceptable Symptom State, and Treatment Failure for the Oxford Knee Score in patients undergoing Unicompartmental Knee Replacement: Interpretation threshold values at 3-, 12-, and 24 months follow-up"</i></p> <p><b>09.02-09.14: Signe Brinch</b> <i>"Can AI detect trochlear dysplasia on lateral radiographs? - A protocol"</i></p> <p><b>09.14-09.26: Simon Majormoen Bruhn</b> <i>"Do patients receive guideline-adherent core treatments for knee osteoarthritis during the first six months after consulting an orthopaedic surgeon? - Preliminary results from a cohort study"</i></p> <p><b>09.26-09.38: Kasper Krommes</b> <i>"Inter-tester reliability of an ultrasound protocol for Knee-Apophysitis performed by novice operators"</i></p> <p><b>09.38-09.50: Rudi Neergaard Hansen</b> <i>"Do patients with patellofemoral pain exhibit elevated bone metabolic activity in the patellofemoral joint?"</i></p> <p><b>09.50-10.02: Elisabeth Marie Ginnerup Læbo</b> <i>"The association between illness perception and two-year changes in knee pain among elderly Danes: a cohort study"</i></p>
<p>The oral presentations are followed by feedback on the presentation technique (30 min)</p>	<p>The oral presentations are followed by feedback on the presentation technique (30 min)</p>
<p>Chairs: Peter Schwarz and Jesper Løvind Andersen</p>	<p>Chairs: Søren Overgaard and Michael Kjær</p>
<p>Comments on presentation technique: MA (Rhetoric) Thea Feveile Sejr Hansen (10.40-11.10 without audience)</p>	<p>Comments on presentation technique: MA (Rhetoric) Mads Højlyng (10.40-11.10 without audience)</p>

11.10 – 11.20

**Coffee/tea break**

## **SYMPOSIUM 6 (Auditorium A):**

### **Exercise and early interventions in the prevention and treatment of knee osteoarthritis**

Chairs: Postdoc Anne Møller and Professor Michael Boesen

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|---------------|---|
| 11.20 – 11.45 | Intraarticular pain treatment<br>Associate professor Susan Weng Larsen, University of Copenhagen                                  |
| 11.45 – 12.10 | Exercise as medicine in knee osteoarthritis<br>Professor Søren Skou, University of Southern Denmark                               |
| 12.15 – 12.40 | Is there a need for postoperative rehabilitation?<br>Forskningsfysioterapeut Troels Mark-Christensen, Bornholms<br>Regionskommune |

## **SYMPOSIUM 7 (Auditorium B):**

### **Ischemia in skeletal muscle: Friend or enemy? Effects and mechanisms of blood-flow restricted exercise (BFRE) in sports and clinical practice**

Chair: Professor Peter Magnusson and Professor Ylva Hellsten

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| 11.20 – 11.45 | Introduction & background<br>Professor Per Aagaard, University of Southern Denmark   |
| 11.45 – 12.10 | Myocellular effects and mechanisms of adaption with BFRE<br>Postdoc Jakob L. Nielsen, University of Southern Denmark                                     |
| 12.10 – 12.40 | Myocellular and remote tissue effects of BFRE with special emphasis on extracellular vesicles<br>Associate Professor Kristian Vissing, Aarhus University |
| 12.45 – 13.15 | <b>Lunch</b> (MUSKOS board meets separately in room M6)  |