

## Press release

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### Basic information

Name: Agnes Witt Email: agnben@rm.dk Phone: +45 23391015

Department of: Clinical Medicine

Main supervisor: Hatice Tankisi, Associate professor, MD, PhD

Title of dissertation: Peripheral Nervous System Involvement in Spinal Cord Injury

Date for defence: October 2<sup>nd</sup> 2020 at (time of day): 14:00 Place: Auditorium G206-145, Indgang G, G206, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N

Press release (Danish)

### Involvering af det perifere nervesystem ved rygmarvsskade

Rygmarvsskade forventes ikke at påvirke det perifere nervesystem. Tidligere studier har dog vist neurofysiologiske tegn på involvering af det perifere nervesystem efter rygmarvsskade med konventionelle nerveledningsundersøgelser. Disse forandringer kan dog være forårsaget af inaktivitet. Nye metoder kan muligvis bidrage med mere entydige tegn på påvirkning af det perifere nervesystem og mere viden om patofysiologien. MVRCs er en metode der giver information om muskel membranen. MScanFit MUNE giver et estimat for antallet af fungerende motoriske enheder. 'Tærskel sporing' giver information om membranenpotentialet og ionkanalerne i myeliniserede axoner. I dette ph.d.-projekt undersøger vi, om der sker forandringer i det perifere nervesystem efter en rygmarvsskade, og om der er sammenhæng mellem nerveforandringer og senfølger i form af spasticitet og nervesmerter. Resultaterne er sammenfattet i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Agnes Witt, der forsvare det d. 2/10, 2020

Forsvaret af ph.d.-projektet er offentligt og finder sted den 2/10 kl. 14.00 i auditorium G206-145, Aarhus Universitetshospital, Palle Juul-Jensens Boulevard 99, Aarhus. Titlen på projektet er "Involvering af det perifere nervesystem ved rygmarvsskade". Yderligere oplysninger: Ph.d.-studerende Agnes Witt, e-mail: agnben@rm.dk, tlf. 23391015.

Bedømmelsesudvalg:

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Press release (English)

### Peripheral Nervous System Involvement in Spinal Cord Injury

Spinal cord injury (SCI) is not expected to affect the peripheral nervous system (PNS). However, several researchers have found neurophysiological signs of involvement of the PNS after SCI by conventional nerve conduction studies. However, these changes may be due to inactivity. Novel methods may provide more definite signs of PNS involvement and more information on the pathophysiology. Muscle velocity recovery cycles (MVRCs) provide information on the muscle membrane. Motor unit number estimation (MUNE) methods provide an estimation of functioning motor units. Axonal excitability testing provides information on the membrane potential and ion

channels on the myelinated axon. The aim of this PhD project was to assess the involvement of the PNS after SCI by using conventional and novel neurophysiological methods and examining the correlation of these changes with spasms, spasticity and neuropathic pain. The results are presented in a new PhD project carried out by Agnes Witt, who is defending her dissertation on October the 2<sup>nd</sup> 2020.

The defence is public and takes place on October 2<sup>nd</sup> 2020 at 2 PM in Auditorium G206-145, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, Aarhus. The title of the project is Peripheral Nervous System Involvement in Spinal Cord Injury. For more information, please contact PhD student Agnes Witt, email: agnben@rm.dk, Phone +45 2339 1015.

Assessment committee:

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