

## Press release

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### Basic information

Name: Martin Byskov Kinnerup

Email: M3Kinnerup@clin.au.dk Phone: 28405383

Department of: Clinical Medicine

Main supervisor: David J. Brooks

Title of dissertation: Noradrenergic mechanisms in motor and non-motor symptoms of Parkinson's disease

Date for defence: 15.10.2021 at (time of day): 14.00-16.00 Place: Konference G206-124, Indg. G, G206

Press release (Danish)

Ph.d.-forsvar: Martin Byskov Kinnerup

Nyt ph.d.-projekt fra Aarhus Universitet studerer noradrenalins rolle på motoriske og ikke-motoriske symptomer i Parkinsons sygdom. Projektet er gennemført af Martin Byskov Kinnerup, der forsvarede det d. 15/10/2021.

Parkinsons sygdom er karakteriseret af misfoldet  $\alpha$ -synuklein, der klumper sig sammen og danner Lewy-legemer, hvilket leder til celledysfunktion og -død. Lewy legemerne ophobes i noradrenerge kerner i hjernestammen forud for dopaminerge neuroner i midthjernen. Det tidlige tab af noradrenerge neuroner kan være underliggende årsag eller medvirkende faktor til motor symptomer og tidlige ikke-motoriske symptomer i patienter med Parkinsons sygdom.

I den aktuelle afhandling undersøges motoriske og ikke motoriske symptomer og de tidlige ændringer i noradrenalin med kliniske undersøgelser PET-scanninger, respektivt. Formålet er at afklare om de tidlige ændringer af noradrenalin påvirker de motoriske og ikke motoriske symptomer. Afhandlingen viser at Parkinsons sygdom patienter med rystelser (tremor) har et mere intakt noradrenerg system.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 15/10 kl. 14 i Konference G206-124, Indg. G, G206, Aarhus Universitetshospital, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. Forsvaret kan også følges online. Tag en google chrome browser og skriv adressen <https://aarhusuniversity.zoom.us/j/63116338132>. Titlen på projektet er "Noradrenergic mechanisms in motor and non-motor symptoms of Parkinson's disease". Yderligere oplysninger: Ph.d.-studerende Martin Byskov Kinnerup, e-mail: M3Kinnerup@clin.au.dk, tlf. 28405383.

Bedømmelsesudvalg:

Associate Professor Erik L. Johnsen - chairman of the committee and moderator of the defence  
Neurology, Aarhus University Hospital, Denmark

Professor Daniela Berg

Christian-Albrechts-Universität zu Kiel und Universitätsklinikum Schleswig-Holstein, Germany

Professor Per Svenningsson

Karolinska Institutet, Department of Clinical Neuroscience, Sweden

Press release (English)

PhD Defense: Martin Byskov Kinnerup

New PhD project from Aarhus University investigates the potential role of noradrenaline in motor and non-motor symptoms in Parkinson's disease. The project was carried out by Martin Byskov Kinnerup, who is defending his dissertation on 15/10/2021.

Parkinson's disease is characterized by the aggregation of misfolded  $\alpha$ -synuclein, which aggregates and leads to neuronal dysfunction and death.  $\alpha$ -synuclein aggregates may affect brainstem noradrenergic nuclei prior to midbrain dopaminergic nuclei in some patients. The early loss or dysfunction of noradrenaline neurons may play a role in motor symptoms and early non-motor symptoms in Parkinson's disease.

In the present thesis motor and non-motor symptoms and the early changes in noradrenaline is assessed with clinical assessments and PET-imaging. The aim of the thesis is to elucidate the role of noradrenaline in motor and non-motor symptoms. The thesis shows that Parkinson's disease patients with rest tremor have a higher preservation of noradrenaline neurons.

The defence is public and takes place on 15 October 2021 at 2 p.m. CET in Conference room G206-124, Indg. G, G206, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. The defence will be available online. Take a Google Chrome browser and write the address <https://aarhusuniversity.zoom.us/j/63116338132>. The title of the project is "Noradrenergic mechanisms in motor and non-motor symptoms of Parkinson's disease". For more information, please contact PhD student Martin Byskov Kinnerup, email: M3Kinnerup@clin.au.dk, Phone +45 28405383.

Assessment committee:

Associate Professor Erik L. Johnsen - chairman of the committee and moderator of the defence  
Neurology, Aarhus University Hospital, Denmark

Professor Daniela Berg

Christian-Albrechts-Universität zu Kiel und Universitätsklinikum Schleswig-Holstein, Germany

Professor Per Svenningsson

Karolinska Institutet, Department of Clinical Neuroscience, Sweden

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