

## Press release

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### Basic information

Name: Stine Thorhauge Bak Email: [stb@biomed.au.dk](mailto:stb@biomed.au.dk) Phone: +45 28724114

Department of: Biomedicine

Main supervisor: Anders Lade Nielsen

Title of dissertation: An intergenerational epigenetic study of the association between paternal low-grade chronic inflammation and offspring phenotype

Date for defence: 19/6-2020 at (time of day): 1 p.m. Place: Due to COVID-19 the defence will be held as a web defence via Zoom

Press release (Danish)

**Eksperimentielle undersøgelser af hvordan fædres overvægt påvirker den næste generation**

Studier på både mennesker og dyr har påvist at svær overvægt hos fædre forud for undfangelsen kan påvirke barnets helbred og øge risikoen for udvikling af eksempelvis overvægt, sukkersyge og autisme. Ved svær overvægt ses ofte en lav grad af kronisk inflammation i kroppen. Denne tilstand kan potentielt påvirke sædcellerne og herved være årsag til at fædres overvægt har konsekvenser for den næste generation. Dette belyses i et nyt ph.d.-projekt fra Aarhus Universitet, Health.

I ph.d.-projektet er prækliniske studier med mus blevet kombineret med en systematisk gennemgang af eksisterende litteratur for at klarlægge inflammationstilstandens rolle i påvirkningen af den næste generation. Resultaterne viser at et anti-inflammatorisk medikament tildels kan modvirke effekten af overvægt hos hanmus på ungerne metabolisme samt adfærd, men også at eksperimentielle forhold har stor indflydelse på konsekvenserne af fædres overvægt. Projektet er gennemført af Stine Thorhauge Bak, der forsvare det d. 19 juni 2020.

PhD-projektet har titlen "An intergenerational epigenetic study of the association between paternal low-grade chronic inflammation and offspring phenotype". Forsvaret er offentligt og finder sted den 19/06 2020 kl. 13, men på grund af covid-19 situationen kan forsvaret kun tilgås virtuelt. Link til den virtuelle begivenhed samt yderligere oplysninger kan opnås ved at kontakte ph.d.-studerende Stine Thorhauge Bak, e-mail: [stb@biomed.au.dk](mailto:stb@biomed.au.dk), tlf. +45 28724114.

Bedømmelsesudvalg:

Adjunkt Søren Egedal Degn (formand)

Institut for Biomedicin, Aarhus Universitet, Danmark

Senior lecturer Anita Øst

Institutionen för Biomedicinska och Kliniska Betenskaper, Linköping Universitet, Sverige.

Professor Romain Barrès

Novo Nordisk Foundation Center for Basic Metabolic Research, Københavns Universitet, Danmark.

Press release (English)

**Experimental investigations of how paternal obesity affects the next generation**

Both human and animal studies have shown that paternal obesity prior to conception affects the health of the offspring by increasing the risk of developing obesity, diabetes and autism. Obesity is

associated with a state of low-grade chronic inflammation. This state could potentially affect the sperm cells and hereby mediate the detrimental effects of paternal obesity on the following generation. This is evaluated in a new ph.d. project from Aarhus University, Health.

In this ph.d.-project, pre-clinical studies using mice were combined with a systematic literature review to determine the role of low-grade chronic inflammation. The results showed that an anti-inflammatory drug could partly counteract the effects of obesity in male mouse on the offsprings metabolism and behavior. The results also highlighted a great influence of experimental conditions on the consequences of paternal obesity. The project was carried out by Stine Thorhauge Bak, who is defending her dissertation on June 19, 2020.

The title of the project is "An intergenerational epigenetic study of the association between paternal low-grade chronic inflammation and offspring phenotype". The defence is public and will be held as a web defence due to COVID-19 on June 19 2020 at 1 p.m. To receive a link to the virtual event or for more information, please contact PhD student Stine Thorhauge Bak, email: stb@biomed.au.dk, Phone +45 28724114.

Assessment committee:

Assistant professor Søren Egedal Degn (chairman and moderator of the defence)  
Department of Biomedicine, Aarhus University, Denmark

Senior lecturer Anita Øst  
Department of Clinical and Experimental Medicine, Linköping University, Sweden

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