



# Travel Grant Report Form (report date: March 30, 2023)

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## Name and origin of applicants

Thomas Möller MD PhD, Consultant pediatric cardiologist  
Head of pediatric heart transplantation program at the Department of Paediatric Cardiology  
Division of Paediatric and Adolescent Medicine, Oslo University Hospital, Oslo, Norway  
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## Purpose granted

Observership for the pediatric heart transplant team from Oslo at the Stollery Children's Hospital in Edmonton, Alberta/Canada. Three defined programs were hosting the observership by invitation from director and ass.prof. Simon Urschel:

- Pediatric Heart Function & Cardiomyopathy Service
- Pediatric Heart Transplant Program
- Pediatric Ventricular Assist Device (VAD) Program.

The purpose of the observership was:

- To compare and improve heart transplantation practice in Oslo by learning from a larger and strongly academic pediatric heart transplant and VAD program
- To study pediatric VAD protocols and practice before the pending introduction of a similar program in Norway (Berlin Heart EXCOR)

Team members from the Dep. of Paediatric Cardiology at Oslo University Hospital participating in the Observership were:

1. Thomas Möller MD PhD (pediatric cardiologist)
2. Jakob Klčovansky MD (pediatric cardiologist)
3. Cecilia Størmer Folgerø RN / nurse specialist (transplant nurse)

## Amount granted

DKK 18.500,- (Grant approval at board meeting March 17, 2022)

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## Time and place of visit

March 6-10, 2023

### **Stollery Children' Hospital / Alberta health Services**

Heart failure, heart transplant and mechanical support program

Edmonton, Alberta

Canada

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## Report

Dr. Thomas Möller, Dr. Jakob Klčovansky and Cecilia Størmer Folgerø had the opportunity to participate in clinical round, management and research discussions, heart function and transplant clinics and team discussion about inpatient management including children on ventricular assist devices. Every day during our visit, we participated in inpatient rounds on the pediatric cardiology ward, the pediatric cardiac intensive care unit (PCICU) and the neonatal intensive care unit (NICU). In the afternoon, we accompanied the heart function specialists in their outpatient clinics. The spectrum of patients we became involved in and participate in management discussions included (among others): a severely ill neonate with dilated cardiomyopathy listed for HTx, a child listed for LTx with severe right heart failure and challenging mechanical support, a patient on long-term mechanical support with Berlin Heart EXCOR BiVAD with a new driver unit and treated with the specific North-American anti-thrombotic VAD protocol with bivalirudin, and challenging young heart Tx patients with multi-morbidities.

During parts of our visiting days, our team split up for individual parts of our observership and discussions with our Canadian hosts about program management and leadership, research lab / cytology innovation / future of personalized immunosuppression, new directions in pediatric VAD management, how to start and maintain a pediatric VAD program, etc. The following members from the hosting hospital gave us the opportunity for individual in-depth meetings:

- Simon Urschel (director pediatric heart failure/Tx program)
- Jennifer Conway (pediatric VAD program)
- Holger Buchholz (director adult/pediatric VAD program)
- Michael Khoury (pediatric heart failure/Tx program)
- Prof. Lori West (transplant immunology, pediatric heart failure/Tx program)
- Lisa Hornberger (director pediatric cardiology)
- Transplant coordinators and nurses
- PCICU intensivists

Dr Thomas Möller was invited by the hosting institution to giving a lecture during a special seminar at the Alberta Transplant Institute. The topic for the lecture was “Pediatric Heart Transplantation in Norway and in the Nordic Countries”. A recording of the seminar and lecture is available on YouTube (<https://www.youtube.com/watch?v=2Zb-cribv54&t=38s> ).

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## Evaluation

The team visit and observership was carried out as planned, but it was severely delayed by travel restrictions and institutional restrictions against visitors at the hosting hospital due to the Covid pandemic. Hence, our team was happy to finally be able to travel to Canada early in March -23. With support from another travel grant approved by the Lasseliten fond / The Norwegian Association for Children with Congenital Heart Disease, we were able to invite the entire pediatric heart transplant team from Oslo. One member of our team, Dr Aslak Kristoffersen, is currently heart transplant and VAD fellow at Stollery Children's Hospital, and therefore this visit also served as follow-up visit on his progress in subspecialized education.

The observership gave us the opportunity to explore how a high volume pediatric HTx center is built and driven, which is necessarily very different from our Nordic experience and smaller centre size. The other big difference is the massive availability of staff and supporting functions in the North-American health system. By being part of this, we achieved a kind of critical distance to our own medical environment, identifying both strengths and weaknesses of our system. Our team had daily long discussions about our observations and how to apply them to improve our own patient management and work flow.

Another major part of the Observership was to compare protocols and practice from our Norwegian centre to one of the world's leading academic centres within pediatric heart transplant. Happily, but maybe not unexpectedly, we found the differences in our practice not too distinctive as far as transplant medicine is concerned. In terms of practical follow-up protocols, the differences in rejection surveillance were clear and not surprising. The frequency of surveillance biopsies in Edmonton was significantly lower than practiced by our centre or any of the other Nordic centres. This reflects an ongoing discussion in the Scandiatransplant Pediatric Heart and Lung Group about the need to follow an international trend towards less invasive rejection surveillance. As a direct consequence from the impressions and discussions in Edmonton, we have introduced a change in our institutional policy towards a reduction in surveillance biopsies and towards a strengthening of non-invasive tools, far and foremost better echocardiography monitoring.

Finally, an important yield from our visit in Edmonton was the opportunity to have exclusive time together with an internationally renowned VAD specialist, Holger Buchholz, who previously had been an international consultant for start-up and maintenance of pediatric VAD programs. We received many clear recommendations what to strive for and what to avoid when planning to start a VAD program. Oslo is the only pediatric HTx centre in Scandiatransplant without experience with the Berlin Heart EXCOR system. During our visit, we gained important insights in which end we would have to start in case the political decision is made in the future to build a Norwegian pediatric VAD program.

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**Alberta Health  
Services**

**Simon Urschel, MD**

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Thursday, March 9, 2023

To whom it may concern.

We had the pleasure to host the pediatric heart function and transplant team from Oslo, Norway at our institution for a clinical observership from March 6 to March 10, 2023.

Dr. Thomas F. A. Møller, MD, PhD, Dr. Jakob Klčovansky, MD, and Cecilia Størmer Folgerø, RN, had the opportunity to participate in clinical, management and research rounds, heart function and transplant clinics, inpatient management including children on ventricular assist devices and meet team members for individual discussions.

The Stollery Children's Hospital/ University of Alberta provides pediatric heart transplantation and VAD for all Western Canadian Provinces and Territories, placing it amongst the 10% largest centers in the world and is internationally renowned for its pioneer roles in ABO incompatible transplantation, HLA antibody management and psychosocial interventions allowing broad insight into aspects of modern management of children in advanced heart failure.

Please do not hesitate to contact me for any questions.

Yours sincerely,

Dr. Simon Urschel

# Special ATI-WCCHN Joint Seminar:

## Pediatric Heart Transplantation

### in Norway and in the Nordic Countries

Thomas Möller, MD PhD  
Head of Pediatric Heart Transplantation  
Department of Paediatric Cardiology  
Oslo University Hospital

At the end of this session, participants will be able to:

- Have an understanding of pediatric transplant medicine in the European multi-national organ exchange environment
- Hear about the Norwegian pediatric heart transplant approach without a VAD program
- Understand challenges in infant organ donation under Norwegian regulations with mandatory brain circulation imaging in potential organ donors



Photo: Marit Hov

The Alberta Transplant Institute Seminar Series is a self-approved group learning activity as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

MARCH 9TH, 12:00 - 1:00 PM

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