Supervisor & Project Information Form

Please complete and return via email ONLY to gdip.hres@utoronto.ca by November 2, 2020

Supervisor Information

MUST have unrestricted University of Toronto School of Graduate Studies (SGS) appointment (to independently supervise graduate students)

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<th>Name:</th>
<th>Email:</th>
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| Dr Gideon Hirschfield  
Professor, Division of Gastroenterology and Hepatology | gideon.hirschfield@uhn.ca |

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<tr>
<th>SGS Department:</th>
<th>Field of Research:</th>
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<tr>
<td>Dept Medicine/IHPME</td>
<td>Clinical Medicine</td>
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<th>Research Institution affiliation (if applicable):</th>
<th>Location of Work:</th>
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<tr>
<td>Toronto General Research Institute</td>
<td>Toronto Centre for Liver Disease/Joint Department of Imaging UHN/Sinai</td>
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<th>Student contact time (number of hours per week YOU are available to the student for any concerns or to review progress):</th>
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<td>1hr + can join our bi-weekly group meetings for students + access our research coordinators</td>
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**Project Information (will be posted on GDipHR website for student access)**

**TITLE:** Interventional radiology in the management of advanced liver disease: utility, risks and outcomes from a single centre review

**DESCRIPTION (MAX 500 WORDS):**

Hepatology is a clinical specialty that is growing in scope and clinical burden, in association with an ageing population, and a population at risk from many chronic liver diseases. However as a specialty it is highly dependent on inter-specialist collaboration, particularly with Radiology and Pathology. With improved technology, interventional radiology has taken on a greater importance in the daily practice of patients being investigated for liver disease, as well as in their care. Two aspects of interventional radiology, are very well developed in our centre, a programme that uniquely serves patients from across the province: a) investigating the nature of liver disease by transjugular liver biopsy and portal pressure studies; and b) managing the complications of portal hypertension by radiologic placement of porto-systemic shunts.

In the context of our complex liver programme, with heterogeneity in disease and a diverse patient population, a review of our practice is timely. Such a review has the primary objective of evaluating the utility and outcome of advanced radiology in the management of liver disease, with goals to inform our own practice, and that of others. The relevant stakeholders include patients, hepatologists, radiologists, pathologists, and referring clinician colleagues. Furthermore it is a very manageable project for a student from initiation to completion, providing appropriate research training in a programme that has a track record of clinical research in liver disease.

In this project we will therefore seek to understand, using a detailed chart review of a uniquely large liver programme, the role of interventional radiology in the management of advanced liver disease. We will focus our efforts on two interventional procedures, with the goal of evaluating utility and risk of intervention from the perspective of the patient. The two procedures we will evaluate, with access to electronic records, including those of radiology, are a) Transjugular liver biopsy/Portal pressure studies and b) Transjugular Intrahepatic Porto-systemic Shunts. The student will develop the skills needed to conduct and analyse a clinical dataset, with the supervision of a clinical team, as well as the dedicated statistical support available within the Toronto Centre for Liver Disease. We will ensure, with support, that the student finalizes a project proposal (including key objectives and a statistical plan), obtains (with help) appropriate ethics, assembles a comprehensive dataset, and finally analyses/reports the data, applying appropriate statistical methodology.

Our primary goal will be to understand, from the perspective of the patients presenting to our programme, the risks and benefits of interventional radiology, and to compare our practice to
that of others as reported in the literature. Points of particular note will be evaluation of procedural efficacy, against risk, and use of our comprehensive clinical records, to look not only at short term outcomes, but longer term outcomes as well. We will have the ability to ask particular questions as relates to the impact of patient factors such as age, gender and disease.

If human subjects are involved, have the appropriate Research Ethics Board approvals been obtained?

☐ Yes  x No  ☐ Application Submitted (Date: ________________)

If awarded we will submit appropriate ethics and provide appropriate coordinator support to ensure efficiently handled.

Do you expect this work will be published within the 20 months?

x Yes  ☐ No  ☐ Uncertain / Other

**Student Roles & Responsibilities (please be as specific as possible)**

1) With the supervisory team agree the main testable objectives for the research study;

2) With administrative and coordinator support write a chart review ethics, submit, respond to comments, and complete submission;

3) With support from the Toronto Centre for Liver Disease and Radiology Departments assemble a unique dataset focusing on a) Transjugular liver biopsy/portal pressure studies and b) Radiologic shunt procedures;

4) With support from the supervisory team analyse, report and present the analysis of the data, as first/presenting author.

*Indicate who will serve as the student’s direct report for daily oversight (PI, PhD student, technician, etc...)*

Dr Gideon Hirschfield (Hepatology) and Dr Arash Jaberi (Imaging).
Dr Bettina Hansen is a Senior Biostatistician at Toronto Centre for Liver Disease/IHPME and will supervise all statistical aspects of the study.

*Indicate to what extent the student’s research activities could, if necessary, be completed remotely.*

We expect 100% to be remote as needed. We have chosen this project accordingly.