Comprehensive Research Experience for Medical Students (CREMS)

2022 Supervisor and Project Information Form

Please complete and return via email ONLY to crems.programs@utoronto.ca by February 18, 2022.

Supervisor Information

NOTE: CREMS will not support pre-determined pairings of students and supervisors. Supervisors must agree to open their projects to all students and interview all that are interested.

Name: Patricia Lee
Email: pel.lee@sunnybrook.ca

Department: ObGyn
Hospital/Research Institution: Sunnybrook

SGS Department(s) (if applicable):
Click or tap here to enter text.

ORCID ID (see https://orcid.org/- If you do not have an ORCID ID we encourage you to sign up for one):
Click or tap here to enter text.

Location of Work:
Sunnybrook

Field of Research (up to 4 keywords):
COVID-19 contamination, healthcare worker safety

Student contact time (number of hours per week YOU are available to the student for any concerns or to review progress):
4 hours/week (about 1 hour most week days)
**Project Information**

*NOTE: If this project is selected, this information will be posted on CREMS website for interested student applicants to view research opportunities.*

**PROJECT TITLE:**
Risk of COVID-19 environmental contamination in the Birthing Room and Operating Room

**PROJECT DESCRIPTION:**
Including background, aim(s), methodS and significance of the project. Maximum 300 words.

Background:
The exposure risks to front-line health care workers (HCWs) who are in close proximity for prolonged periods of time, caring for COVID-19 patients undergoing surgery or obstetrical delivery, is unclear. Understanding of sample types that may harbour virus is important for evaluating risk.

Aims:
To determine if SARS-CoV-2 viral RNA from patients with COVID-19 undergoing surgery or obstetrical delivery is present in: 1) the peritoneal cavity of males and females 2) the female reproductive tract, 3) the environment of the surgery or delivery suite (surgical instruments, equipment used, air or floors) and 4) inside the masks of the attending health care workers; and if the contamination rate is higher with the Omicron variant.

Methods:
In this cross-sectional study 32 patients with COVID-19 underwent urgent surgery or obstetrical delivery and the presence of SARS-CoV-2 viral RNA in patient, environmental and air samples was identified by real time reverse transcriptase polymerase chain reaction. Air samples were collected using both active and passive sampling techniques. The primary outcome is the proportion of HCW masks positive for SARS-CoV-2 RNA. With the Omicron variant wave, we have extended this study to include 15 additional patients. Secondary outcomes will involve a more in-depth review of the combined 2 patient groups’ clinical chart to look for clinical characteristics that may be correlated with viral load/environmental contamination. In addition, a Limesurvey follow up of the HCWs who were involved in the care of these patients with COVID-19 will be collected and analyzed to evaluate if the HCW became ill after known occupational COVID-19 exposure.

Significance:
The results of this study can help with evaluating risk and provide information (including reassurance) that the PPE measures we use are appropriate in these settings.

The student will have no direct contact with COVID-19 samples or patients with COVID-19.

Is this project remote-capable (in case of new restrictions) or have an alternative remote option?
☑ Yes, remote capable  ☐ No
☐ Yes, alternate remote option. Please specify (100 words max):  
REB approved: July 22, 2021 (PIN: 1676, Sunnybrook Health Sciences Centre)

If human subjects are involved, have the appropriate Research Ethics Board approvals been obtained?
☑ Yes  ☐ No  ☐ Not Applicable

If yes, please list the application submission date:
Do you expect this work will be published?
☑ Yes  ☐ No  ☐ Uncertain / Other
Research Environment and Student Roles and Responsibilities

Please be specific as possible. Please describe the research environment, including availability of required facilities/equipment/expertise, supervisor’s experience and mentorship plans. Please clearly outline the student role(s) and responsibilities related to the project, potential educational value, and indicate who will serve as the student’s direct report for daily oversight (PI, PHD student, technician, etc.). Maximum 300 words.

Student’s role: to assist with data organization, data input, chart review, statistical analysis, literature search, manuscript writing and presentation of the project at Medical Student Research Day. There is no direct contact with COVID-19 samples or patients with COVID-19.

Supervision: The student’s direct report will be the PI and if the PI is not available, the study research coordinator (N Alavi) and/or co-investigator (R Kung) will be readily available. The PI and co-investigator have a long history of supervising research students and clinical trainees (i.e. residents, clinical fellows) culminating in the completion of their projects, the production of an abstract for presentation and/or manuscript for publication.

Research environment: we have a large 22-room clinic area at Sunnybrook with computer desk space, locker space and a good supply of PPE for learners provided by our hospital (should the student wish to be on site).

Potential educational value: We hope the experience will introduce the student to data organization, data input, chart review data extraction, statistical analysis, literature search, manuscript writing, the preparation of a presentation for Medical Student Research Day, and potentially a presentation at ObGyn Research Day. Ultimately, we hope this would serve as an opportunity to develop the student’s interest in conducting future medical research.