



Comprehensive Research Experience for Medical Students  
Summer Research Program 2019

Supervisor/Project Information Form

*Due February 20 2019 by email to [crems.programs@utoronto.ca](mailto:crems.programs@utoronto.ca)*

Supervisor Name: Rhonda Zwingerman

Project Title: The impact of preimplantation genetic testing for aneuploidy on prenatal screening patterns and results.

Hospital/Research Institution: Mount Sinai Hospital

Email: Rhonda.zwingerman@sinaihealthsystem.ca

Field of Research (2 keywords): *in vitro* fertilization, prenatal genetic screening

Department: Obstetrics & Gynaecology, Division of Reproductive Endocrinology & Infertility

School of Graduate Studies Appointment (IMS, LMP, IHPME etc)? Yes/No: NO If YES, please name:

Project Title: The impact of preimplantation genetic testing for aneuploidy on prenatal screening patterns and results.

Brief Project Description (< 300 words):

**Background:** Preimplantation genetic testing for aneuploidy (PGT-A) involves screening the chromosomes of an embryo before it is transferred in an IVF cycle. Pregnancies conceived after PGT-A are at much lower risk for aneuploidy syndromes (e.g. trisomy 13, 18, or 21) as compared to other pregnancies, bringing into question the role of current prenatal screening tests such as first trimester screening (eFTS) and non-invasive prenatal screening (NIPT). **Objective:** The objective of this study is to map the current state of prenatal screening after PGT-A as compared to IVF without PGT-A. **Methods:** This is a retrospective cohort study comprised of patients who conceived after undergoing IVF at Mount Sinai Fertility, either with or without PGT-A, and were referred for ongoing prenatal care to the Special Pregnancy Clinic for Fertility Patients at Mount Sinai Hospital. The following information will be collected: any and all prenatal genetic screening tests and their results, any and all invasive diagnostic genetic tests and their results, and whether or not any appointments with a genetic counsellor occurred, including the reason for those appointments. **Outcome:** The primary outcome of this study will be a comprehensive description of current prenatal screening patterns after IVF, both with and without PGT-A, including their results – something that has not been previously published. **Team and Role of Student:** This study is part of a larger research collaboration investigating pregnancy outcomes after IVF and involving researchers from maternal fetal medicine, reproductive endocrinology and infertility, and medical genetics. There will be opportunities for the student to gain firsthand exposure to the clinical context in which this research is being carried out. The student will be expected to perform a systematic review of the literature, lead

database creation and data collection, and participate in cohort data analysis and drafting of the final manuscript.