



CURRENT MATERNAL AND INFANT RESEARCH AT BC WOMEN'S HOSPITAL

A summary of relevant BC Women's Hospital research studies which currently require biological specimens is provided below. **If you agree to take part in the BioBank, a portion of your biological sample(s) may be utilized for some or all of these studies**, depending on the suitability and specific study requirements. In addition, remaining samples will be stored in the BioBank for future research.

If you are interested in obtaining more detail about any of the following studies, please contact the investigator, as indicated.

STUDY: SWAVE-U2 (Shear Wave Absolute VibroElastography in Utero)

Background & Purpose: The placenta (afterbirth) is a temporary organ that joins the mother and baby in the womb. Many pregnancy-related health problems are linked to the placenta. Ultrasound is a safe, practical, and cost-effective method for examining the placenta. However it is only useful for detecting large abnormalities. During ultrasound, high frequency sound waves bounce off of tissues to create an image. Researchers have recently developed a new system (Shear Wave Absolute VibroElastography (SWAVE)) which could be used with ultrasound to create a different image which reflects the density and elastic properties of the tissue. This could allow doctors to detect more subtle abnormalities and lead to earlier disease diagnosis and treatments.

Magnetic resonance imaging (MRI) is another potential method for assessing abnormalities. MRI scanners use magnetic fields and radio waves to generate images of the inside of the body. MRI is currently used for many different things (brain imaging, heart imaging, assessing lesions and detecting tumors). However it is not routinely used for pregnancy assessments.

Currently, there is limited information about what placentas look like using the SWAVE device, and what they look like using MRI. This study will determine what placentas from healthy pregnancies and placentas from different pregnancy-related conditions look like using SWAVE and MRI. Together, this knowledge will enable us to determine which methods can be used to detect subtle abnormalities in pregnancy.

What's required? Placenta donation

Who's eligible? Healthy, singleton or twin pregnancies, pre-eclampsia, fetal/intrauterine growth restriction

Principal Investigator: Dr. Jefferson Terry **Co-Investigators:** R. Rohling, D. Pugash, C. Mayer

Contact: Jefferson.Terry@cw.bc.ca

Link for more information: [\[WHRI link w/consent & contact info\]](#)

STUDY: Understanding the immunological basis for early-life infections in preterm infants

Background & Purpose:

Normal umbilical cord blood contains primitive blood cells. After your baby is born, the umbilical cord is cut and the placenta, or “afterbirth,” is delivered soon thereafter and usually discarded. However, at this time, the blood can be collected from the cord and then used for research. Understanding how normal blood cells are produced is important because it helps us better understand disease processes. For instance, from studying normal blood cells in healthy full-term infants we can detect vulnerabilities in a premature baby’s immune system, or learn how to better treat blood diseases, or improve transplant therapies

The goal of this project is to understand how the immune system of healthy babies born at term differ from babies born earlier or from healthy adults

What's required? Umbilical cord blood.

Who's eligible? Everyone.

Principal Investigator: Dr. Pascal Lavoie **Co-Investigators:** T. Kollmann, K. Schultz, M. Levings

Contact: plavoie@cw.bc.ca

Link for more information: [\[WHRI link w/consent & contact info\]](#)
