Epigenetics of Human Reproduction
Investigation of imprinting and imprinting disorders
Parental Information and Consent Form

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Invitation: You are being invited to participate in this study as you or your child has been observed to either have clinical features/manifestations suggestive of an imprinting disorder or have a genetic change that may affect normal imprinting (see definition below). We are interested in identifying the genetic changes associated with imprinting disorders and how these relate to clinical features. This information can then be used to improve diagnosis, counselling, and eventually treatment of individuals with such disorders.

Your participation is voluntary: Your participation in this study is entirely voluntary.

Background: For most of our genes we inherit two copies, one from each parent and both copies are used equally. However, for some genes referred to as "imprinted, one of the two copies of the gene is turned off depending on which parent (mother or father) the copy of the gene was inherited from. A number of genetic syndromes are the result of alterations to imprinted genes. The imprinting syndromes include Russell Silver syndrome, Beckwith-Wiedemann Syndrome, transient neonatal diabetes, and hemihypertropy among others. These disorders can arise from a genetic change that leads to an imbalance in the maternal or paternal gene contribution (i.e. a missing or extra copy) or an epigenetic (chemical) change to the DNA that affects how or when the gene is turned on or off.

Purpose: The aim of this study is to understand the causes of imprinting disorders. This will be done by DNA analysis of participants that compares the participant's DNA to his or her parents. Therefore, blood must be taken from the parents, as well as the participant/child, for families interested in participating in this study. Each member of the family will receive their own consent form to sign. If the participant/child is not able to sign for themselves due to age or developmental capacity, their legally accepted guardian will sign the consent form. If the biological parents are not able to participate, the participant/child may still take part in the study. The results will be correlated with clinical features present in each participant/child. Any questions concerning participation can be addressed to Dr. Robinson at the phone number above.

Who can participate in the study?
Participants with clinical features suggestive of an imprinting disorder or that have a genetic change that may affect normal imprinting, and their parents.

Who should not participate in the study?
Individuals that do not fulfill the criteria stated above.

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What does the study involve?: Two 4cc tubes (~1½ teaspoons) of blood will be drawn from the participant and both parents for genetic studies. In some cases, a saliva sample (~2mL) may be obtained and/or cheek swab samples. In some cases studies may also be performed on other tissues that have already been collected for clinical purposes (i.e. Placenta). Participation also involves access to a clinical description from your health records. The total amount of time needed is approximately 30 minutes.

What are the possible harms and discomforts? : There may be some discomfort associated with the placement of the needle for blood withdrawal and occasionally bruising, swelling, feeling faint or dizzy and/or the rare chance an infection may result. There is the potential for identifying an underlying genetic change associated with the clinical features. There may be psychological harm associated with identification of a genetic change that cannot be reversed, treated or cured. An additional risk inherent with genetic studies involving parents and a child is the risk of identifying non-paternity. However, NO incidental findings such as non-paternity will be disclosed to the study participants. When you donate your blood or tissue for genetic testing or research, you are sharing genetic information, not only about yourself, but also about biological (blood) relatives who share your genes or DNA. The risk of your information being accidentally released in this study is estimated to be small. A recently passed Federal (Canada-wide) law now prohibits anyone such as an employer or an insurer from requiring you to disclose the results of a genetic test or to take a genetic test as condition of providing services. In addition, discrimination against individuals based upon genetic characteristics is now prohibited by the Canadian Human Rights Act. You should be aware that this law is likely to be challenged on the basis of whether or not the Canadian government had the legal ability to approve it. If the challenge is successful, it might be possible in the future for an organization to require you to reveal your genetic results and / or to discriminate against you based upon your genetic characteristics.

What are the potential benefits of participating?: Participation in this study will help to further our understanding of the cause and clinical variability of imprinting disorders. The participant will likely not receive any direct benefit from participating in the study.

Remuneration: There will be no remuneration for your participation in this research study.

Results: Participants will be provided with results from these studies. We do not have an estimated turn around time for the results as this study is unfunded and completed on a volunteer basis by lab personnel. When results are provided, the counselling regarding results will reside with the original health care professional who requested the study. Results therefore will be provided to the requesting health care provider. The health care provider will contact you to inform you that the results are available. It is up to the health care provider to determine whether results will be given via an in person appointment or whether a phone appointment is sufficient.

What happens if I withdraw my consent to participate? : Your participation in this research is entirely voluntary. If you decide to enter the study and later decide to

withdraw at any time in the future, you may do so without giving any reasons. There will be no penalty or loss of benefits to which you are otherwise entitled, and your future medical care will not be affected. If you wish for your stored blood or tissue samples/data to be destroyed upon your withdrawal, you may contact the principal investigator of the study, at 604.875.3229. There may be exceptions where samples will not be able to be withdrawn for example where the sample is no longer identifiable (meaning, it can no longer be linked in any way back to your identity). Additionally, the principal investigator may decide to discontinue the study at any time, or withdraw you from the study at any time. If you choose to enter the study and then decide to withdraw at a later time, all data collected about you during your enrolment in the study and up to the time of withdrawal will be retained for analysis in order to protect the integrity of the research, which may benefit future research participants and patients. However, no further information will be collected. In the event that we receive a sample from you without consent and are unable to contact you to obtain consent, we will assume implied consent.

How will my taking part in the study be kept confidential?:
Your confidentiality will be respected. However, research records and medical records identifying you may be inspected in the presence of the Investigator or his or her designate, Health Canada, and the UBC Research Ethics Boards for the purpose of monitoring the research. No information that discloses your identity will be released or published without your specific consent, nor will any information or records that disclose your identity be removed or released without your consent unless required by law. We will be collecting date of birth as it is important to calculate maternal age for genetic studies.

You will be assigned a unique study number as a participant in this study. This number will not include any personal information that could identify you (e.g., it will not include your Personal Health Number, SIN, or your initials, etc.). Only this number will be used on any research-related information collected about you during the course of this study, so that your identity will be kept confidential. Information that contains your identity will remain only with the Principal Investigator and/or designate. The list that matches your name to the unique study number that is used on your research-related information will not be removed or released without your consent unless required by law. Dr. Robinson is the custodian to the list of participant names and the linking code. Dr. Robinson may provide access to the list of names and linking code to the research coordinator and lab manager. Both the research coordinator and lab manager have signed confidentiality agreements. The list of names is in a password protected electronic file. The electronic file is kept on the lab server only accessible with an authorized computer login and password.
Your rights to privacy are legally protected by federal and provincial laws that require safeguards to ensure that your privacy is respected. You also have the legal right of access to the information about you that has been provided to the sponsor and, if need be, an opportunity to correct any errors in this information. Further details about these laws are available on request to your study doctor.

Your de-identified tissue/DNA sample will be stored in Dr. Robinson's laboratory at the BC Children's Hospital Research Institute (BCCHR). The de-identified sample labeled with a unique study code will be stored until it is used entirely or until such tissue/DNA is withdrawn. The laboratory is in a secure building accessible only by photo key card. Should your de-identified sample be requested by an outside investigator in collaboration with Dr. Robinson, she will obtain the proper ethics approval. At no point will any identifiable data associated with the de-identified sample be sent to outside investigators. Any data or samples, sent outside of Canadian borders may increase the risk of disclosure of information because the laws in those countries *[for example, the Patriot Act in the United States]* dealing with protection of information may not be as strict as in Canada. However all data and or samples, that might be transferred outside of Canada will be re-coded (this means it will not contain your name or personal identifying information) before leaving the study site. By signing this consent form, you are consenting to the possible transfer of your information and samples, to organizations located outside of Canada. Dr. Robinson will obtain the proper ethics approval prior to transfer of data or samples outside of Canada.

What happens if something goes wrong? By signing this consent form you do not give up your legal rights against the sponsor, investigators, participating institutions, investigators or anyone else from their legal and professional duties.

We invite you to bank your de-identified DNA sample received from this study for use in future related genomic imprinting studies. A separate optional Tissue Banking Consent Form will be provided to you for this purpose.

What will the study cost me? Any tests that you will receive during your participation in this study will be provided at no cost to you.

Who do I contact if I have questions about the study during my participation?
If you have any questions or desire further information about this study before or during your participation, you can contact Dr. Robinson or the Robinson Lab Manager/Research Coordinator at (604) 875-3015.

Who do I contact if I have any questions or concerns about my rights as a participant? If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the University Of British Columbia Office Of Research Services by e-mail at RSIL@ors.ubc.ca or by phone at 604-822-8598 (Toll Free number 1-877-822-8598). Please reference the study number (H06-70085) when contacting the Complaint Line so the staff can better assist you.

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Participant Consent

My signature on this consent form means:

- *I have read and understood the participant information and consent form.*
- *I have had sufficient time to consider the information provided and to ask for advice if necessary.*
- *I have had the opportunity to ask questions and have had satisfactory responses to my questions.*
- *I understand that all of the information collected will be kept confidential and that the results will only be used for scientific objectives.*
- *I understand that my participation in this study is **voluntary** and that I am completely free to refuse to participate or to withdraw from this study at any time without affecting my participation in other studies and without changing in any way the quality of care that I receive.*
- *I authorize access to my health records and samples as described in this consent form.*
- *I understand that I am not waiving any of my legal rights as a result of signing this consent form.*
- *I understand that there is no guarantee that this study will provide any benefits to me.*
- *I have read this form and I freely consent to participate in this study.*
- *I have been told that I will receive a dated and signed copy of this form for my own records.*

Please check one **(OPTIONAL):**
☐ **I agree to be contacted by the Robinson Lab in the future for any purposes.**
☐ **I agree to be contacted by the Robinson Lab in the future regarding my participation in this study.**

Name of Participant (PRINT) (Name of the parent providing the sample)	Signature	Date
Print name of person obtaining consent	Signature	Date
Print name of Principal Investigator	Signature	Date

My signature above signifies that the study has been reviewed with the study participant by me and/or by my delegated staff. My signature may have been added at a later date, as I may not have been present at the time the participant's signature was obtained.