Washington University in St. Louis

INFORMED CONSENT DOCUMENT

Project Title: Sleep Apnea and Fetal Growth Restriction

Principal Investigator: Alex Hincker, MD

Research Team Contact: Liz Wilson 314-454-5967

This consent form describes the research study and helps you decide if you want to participate. It provides important information about what you will be asked to do during the study, about the risks and benefits of the study, and about your rights and responsibilities as a research participant. By signing this form you are agreeing to participate in this study.

- You should read and understand the information in this document including the procedures, risks and potential benefits.
- If you have questions about anything in this form, you should ask the research team for more information before you agree to participate.
- You may also wish to talk to your family or friends about your participation in this study.
- Do not agree to participate in this study unless the research team has answered your questions and you decide that you want to be part of this study.

WHAT IS THE PURPOSE OF THIS STUDY?

This is a research study. We invite you to participate in this research study because you are approximately 22-28 weeks pregnant and have been diagnosed with FGR fetal growth restriction.

The purpose of this research study is to help us understand if autotitrated positive airway pressure (aPAP) can improve fetal growth in pregnant woman diagnosed with sleep apnea. aPAP is a machine that gently delivers pressurized air, via a mask, to keep your airways free of obstruction as you sleep. The air pressure delivered from the machines acts as a splint, keeping your throat open so that you can breathe freely through the night.

The aPAP machine is approved by the U.S. Food and Drug Administration for the treatment of patients with obstructive sleep apnea (OSA), central and/or mixed apneas or periodic breathing.

The home sleep monitoring device is approved by the U.S. Food and Drug Administration to aid in the diagnosis of sleep disordered breathing in adult patients.

WHAT WILL HAPPEN DURING THIS STUDY?

If you decide to participate in this study, you will complete a sleep questionnaire either electronically or on paper. You may refuse to answer any question on the questionnaire that makes you uncomfortable, but it is possible that you might not be able to participate in the study, depending on which question it is. You will be provided with a home sleep monitoring device and instructed on how to use it. A home sleep monitor is a device that monitors your breathing while you sleep and determines whether or not you have sleep apnea. You will wear the sleep monitor for two consecutive nights and fill out a short sleep survey rating the quality of your sleep.

If the results of your home sleep test meet the study criteria, you will be eligible to advance to the final stage of the study, where you will be randomized to either receive an aPAP (auto-titrating positive airway pressure) device or no device.

If you are randomized to receive an aPAP device and mask, you will be expected to wear the device each night when you sleep for the duration of your pregnancy. The aPAP device will provide data to the study team to monitor compliance by indicating the number of hours each night that you wear the device. We will collect the data daily from the device electronically via an internal modem. The data transfers automatically and you do not have to do anything to make this happen. A member of the study team will remain in contact with you throughout the study to provide support and answer any questions or concerns you may have.

You will be provided with both paper instructions and educational videos for using the devices.

We will collect demographic data including name, date of birth, home address, phone number and email address, and clinical data such as your height, weight, medical history, expected due date, obstetric outcomes and fetal outcomes from your and your baby's medical record.

We are looking for any connections between sleep apnea and low blood flow to your baby. It is routine practice for doctors of patients with fetal growth restriction to send the placenta to pathology for analysis. If you agree, we may take a small slice for our research study.

Please place your initials in the blank next to Yes or No for each of the questions below:

You may use a small slice of my placenta tissue to look for genes that might help us to understand markers of low blood flow to the placenta

_____ Yes **_____ No**
Initials **Initials**

After your baby is born, we would like to review their medical chart relating to their 18 – 24 month visit for the results of a routine test the pediatrician may do called the "Bayley Score." The Bayley Score is an assessment of your child's cognition, language and motor function.

Please place your initials in the blank next to Yes or No for each of the questions below:

You may check my child's electronic medical record for their 18-24-month follow-up visit to access the Bayley Score.

_____ Yes **_____ No**
Initials **Initials**

After the study is complete, if the results of your home sleep test meet criteria you will be referred to your OB or PCP for a possible referral to a sleep physician.

Will you save my research information and/or biospecimens to use in future research studies?

We would like to use the data and tissue we are obtaining in this study for studies going on right now as well as studies that are conducted in the future. These studies may provide additional information that will be helpful in understanding fetal growth restriction, or other diseases or conditions, including research to develop investigational tests, treatments, drugs or devices that are not yet approved by the U.S. Food and Drug Administration. It is unlikely that what we learn from these studies will have a direct benefit to you. There are no plans to provide financial compensation to you should this occur. By allowing us to use your data and tissue you give up any property rights you may have in the data and tissue.

We might remove identifiers from your private information and your data and tissue and then use the information and your data and tissue for future research studies or share them with other researchers for their future research. This future research may involve studying genes from your tissue samples. If this occurs we will not ask you for additional consent for these uses of your information or data and tissue.

We will share your data and tissue with other researchers. They may be doing research in areas similar to this research or in other unrelated areas. These researchers may be at Washington University, at other research centers and institutions, or industry sponsors of research. We may also share your research data with large data repositories (a repository is a database of information) for broad sharing with the research community. If your individual research data is placed in one of these repositories only qualified researchers, who have received prior approval from individuals that monitor the use of the data, will be able to look at your information.

Your data and tissue will be stored without your name or any other kind of link that would enable us to identify which sample(s) or data are yours. Therefore, it will be available for use in future research studies indefinitely and cannot be removed.

HOW MANY PEOPLE WILL PARTICIPATE?

Approximately 34 people will take part in this study conducted by investigators at Washington University. Approximately 104 people will take part in the study worldwide.

HOW LONG WILL I BE IN THIS STUDY?

If you agree to take part in this study, your physical involvement will last for the duration of your pregnancy, and long-term follow-up will conclude at 18-24 months with the collection of your baby's Bayley scores from EMR.

WHAT ARE THE RISKS OF THIS STUDY?

You may experience one or more of the risks indicated below from being in this study. In addition to these, there may be other unknown risks, or risks that we did not anticipate, associated with being in this study.

Home Sleep monitor: You may experience mild discomfort from the device and mild inconvenience.

APAP device: You may experience mild discomfort from the device and mild inconvenience. A properly functioning aPAP device will sense subtle changes in your breathing and adjust itself to the best pressure setting for you. If your machine is malfunctioning, you many not receive adequate pressure. We will be able to see this and can provide you with another. Other risks include:

1. Irritation of facial skin from the PAP mask (common, mild). A mask fitting will be performed by a registered sleep technologist, and if skin irritation occurs, you can return for further mask fittings.
2. Irritation and dryness of nasal passages (common, mild). Every PAP machine will be dispensed with a humidifier and filters to minimize irritation and dryness to the nasal passages.
3. Sensation of fullness in chest (rare, mild): Some individuals feel like the pressurized air from the PAP machine causes a sensation of fullness in the chest. This usually resolves spontaneously after several days of usage.
4. Worse sleep quality due to mask on face, noise from machine, or unfamiliar sleeping environment (common, mild). This usually resolves as a person gets accustomed to using PAP.

Genetic Research
There is a federal law called the Genetic Information Nondiscrimination Act (GINA). In general, this law makes it illegal for health insurance companies, group health plans and employers with greater than 15 employees to discriminate against you based on your genetic information. However, it does not protect you against discrimination by companies that sell life insurance, disability insurance or long term-care insurance.

Breach of Confidentiality
One risk of participating in this study is that confidential information about you may be accidentally disclosed. We will use our best efforts to keep the information about you secure. Please see the section in this consent form titled *"How will you keep my information confidential?"* for more information.

WHAT ARE THE BENEFITS OF THIS STUDY?

You may or may not benefit from being in this study.

However, we hope that, in the future, other people might benefit from this study because we will gain a better understanding of treatment of obstructive sleep apnea during pregnancy.

WILL IT COST ME ANYTHING TO BE IN THIS STUDY?

You will not have any costs for being in this research study.

You and/or your medical/hospital insurance provider will remain responsible for your regular medical care expenses.

WILL I BE PAID FOR PARTICIPATING?

You will be paid for being in this research study. You will need to provide your social security number (SSN) in order for us to pay you. You may choose to participate without being paid if you do not wish to provide your social security number (SSN) for this purpose. If your social security number is obtained for payment purposes only, it will not be retained for research purposes.

You will receive a $25 Target gift card upon completion of the home sleep study and return of the device.

If you are eligible and randomized to wear an aPAP device, you will be given a $25 Target gift card for compliance and at $25 Target gift card following return of the device after delivery.

You could receive up to $75 in Target gift cards if you complete the study and are compliant wearing the aPAP.

WHO IS FUNDING THIS STUDY?

The RESMED Foundation is funding this research study. This means that Washington University is receiving payments from the RESMED Foundation to support the activities that are required to conduct the study. No one on the research team will receive a direct payment or increase in salary from the RESMED Foundation for conducting this study.

WHAT IF I AM INJURED AS A RESULT OF THIS STUDY?

Washington University investigators and staff will try to reduce, control, and treat any complications from this research. If you feel you are injured because of the study, please contact the investigator Alex Hincker at 314-362-2628 and/or the Human Research Protection Office at 1-(800)-438-0445.

Decisions about whether payment for medical treatment for injuries relating to your participation in research will be made by Washington University**.** If you need to seek medical care for a research-related injury, please notify the investigator as soon as possible.

HOW WILL YOU KEEP MY INFORMATION CONFIDENTIAL?

Other people such as those indicated below may become aware of your participation in this study and may inspect and copy records pertaining to this research. Some of these records could contain information that personally identifies you. We will keep your participation in this research study confidential to the extent permitted by law.

- Government representatives (including the Office for Human Research Protections) to complete federal or state responsibilities
- The U.S. Food and Drug Administration
- The RESMED Foundation
- Your primary care physician if a medical condition that needs urgent attention is discovered
- Hospital or University representatives to complete Hospital or University responsibilities
- Information about your participation in this study may be documented in your health care records and will be available to anyone with access to your health care record, including your health insurance company. This information may also be released as part of a release of information request.
- The last four digits of your social security number may be used in hospital or University systems to track billing information for research procedures.
- Washington University's Institutional Review Board (a committee that oversees the conduct of research involving human participants) and the Human Research Protection Office. The Institutional Review Board has reviewed and approved this study.
- Any report or article that we write will not include information that can directly identify you. The journals that publish these reports or articles require that we share your information that was collected for this study with others to make sure the results of this study are correct and help develop new ideas for research. Your information will be shared in a way that cannot directly identify you.

To help protect your confidentiality, we will have all paper documents locked in a filing cabinet in a locked office of a member of the study team. We will keep all electronic documents on secured servers that are password protected and have various state of the art firewall protections with frequent upgrades of these protections. Access to these electronic research files will be restricted to members of the research team and will be controlled by the principal investigator.

A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. Law. This Web site will not include information that can identify you. At most, the Web site will include a summary of the results. You can search this Web site at any time.

Are there additional protections for my health information?

Protected Health Information (PHI) is health information that identifies you. PHI is protected by federal law under HIPAA (the Health Insurance Portability and Accountability Act). To take part in this research, you must give the research team permission to use and disclose (share) your PHI for the study as explained in this consent form. The research team will follow state and federal laws and may share your health information with the agencies and people listed under the previous section titled, "How will you keep my information confidential?"

Once your health information is shared with someone outside of the research team, it may no longer be protected by HIPAA.

The research team will only use and share your information as talked about in this form or as permitted or required by law. When possible, the research team will make sure information cannot be linked to you (de-identified). Once information is de-identified, it may be used and shared for other purposes not discussed in this consent form. If you have questions or concerns about your privacy and the use of your PHI, please contact the University's Privacy Officer at 866-747-4975.

Although you will not be allowed to see the study information, you may be given access to your health care records by contacting your health care provider.

If you decide not to sign this form, it will not affect

- your treatment or the care given by your health provider.
- your insurance payment or enrollment in any health plans.
- any benefits to which you are entitled.

However, it will not be possible for you to take part in the study.

If you sign this form:

- You authorize the use of your PHI for this research
- This authorization does not expire.
- You may later change your mind and not let the research team use or share your information (you may revoke your authorization).
    - To revoke your authorization, complete the withdrawal letter, found in the Participant section of the Human Research Protection Office website at https://hrpo.wustl.edu/participants/withdrawing-from-a-study/ or you may request that the investigator send you a copy of the letter.
        - **If you revoke your authorization:**
            - The research team may only use and share information already collected for the study.

- Your information may still be used and shared as necessary to maintain the integrity of the research, for example, to account for a participant's withdrawal from the research study or for safety reasons.
- You will not be allowed to continue to participate in the study.

Can we contact you by email?

We would like to contact you by email for the purposes listed below. Some of these emails may contain health information that identifies you.

- Patient education
- Appointment scheduling, which may contain PHI

Only the research team will have access to your email communications. We will only communicate by email to send you the information listed above. If you have any questions or need to contact us for an urgent or emergent situation, please contact the research team member identified at the top of this document.

You should be aware that there are risks associated with sending your health information via email.

- There is always a risk that the message could be intercepted or sent to the wrong email address. To avoid sending messages to the wrong email address, the first email we send you will be a test message to ensure we have the correct email address.
- When using any computer you should be careful to protect your username and password. Make sure you log-out before getting up from the computer.
- If you share a home computer with other family members, and do not want them to know you are participating in this study make sure you provide an email address that only you can access.
- Your employer will have access to any email communications sent or received on any electronic devices used for work or through a work server.

Do you agree to allow us to send your health information via email?

_____ Yes **_____ No**
Initials **Initials**

IS BEING IN THIS STUDY VOLUNTARY?

Taking part in this research study is completely voluntary. You may choose not to take part at all. If you decide to be in this study, you may stop participating at any time. Any data that was collected as part of your participation in the study will remain as part of the study records and cannot be removed.

If you decide not to be in this study, or if you stop participating at any time, you won't be penalized or lose any benefits for which you otherwise qualify.

What if I decide to withdraw from the study?

You may withdraw by telling the study team you are no longer interested in participating in the study or you may send in a withdrawal letter. A sample withdrawal letter can be found at https://hrpo.wustl.edu/participants/withdrawing-from-a-study/ under Withdrawing from a Research Study.

If you decide to leave the study early, we will ask you to return the home sleep monitor and aPAP machines.

If you withdraw from the study we will ask your permission to continue to collect information from your health care records**.** Should this occur we will ask you to sign a separate consent form before collecting this information.

Will I receive new information about the study while participating?

If we obtain any new information during this study that might affect your willingness to continue participating in the study, we'll promptly provide you with that information.

Can someone else end my participation in this study?

Under certain circumstances, the investigator might decide to end your participation in this research study earlier than planned. This might happen for no reason or because in our judgment it would not be safe for you to continue, because funding for the research study has ended, because the sponsor has decided to stop the research.

WHAT IF I HAVE QUESTIONS?

We encourage you to ask questions. If you have any questions about the research study itself, please contact: Liz Wilson 314-454-5967**.** If you experience a research-related injury, please contact: Alex Hincker at 314-362-2628.

If you have questions, concerns, or complaints about your rights as a research participant, please contact the Human Research Protection Office 1-(800)-438-0445, or email hrpo@wustl.edu. General information about being a research participant can be found on the Human Research Protection Office web site, http://hrpo.wustl.edu. To offer input about your experiences as a research participant or to speak to someone other than the research staff, call the Human Research Protection Office at the number above.

This consent form is not a contract. It is a written explanation of what will happen during the study if you decide to participate. You are not waiving any legal rights by agreeing to participate in this study. As a participant you have rights and responsibilities as described in this document and including:

- To be given enough time before signing below to weigh the risks and potential benefits and decide if you want to participate without any pressure from the research team or others.
- To understand all of the information included in the document, have your questions answered, and receive an explanation of anything you do not understand.
- To follow the procedures described in this document and the instructions of the research team to the best of your ability unless you choose to stop your participation in the research study.
- To give the research team accurate and complete information.
- To tell the research team promptly about any problems you have related to your participation, or if you are unable to continue and wish to stop participating in the research study.

Your signature indicates that this research study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a signed and dated copy of this form.

By signing this form you are agreeing to participate in this study and providing permission for your child to participate.

Do not sign this form if today's date is after EXPIRATION DATE: 07/08/22.

_____ _____
(Signature of Participant) (Date)

_____
(Participant's name – printed)

Statement of Person Who Obtained Consent

The information in this document has been discussed with the participant or, where appropriate, with the participant's legally authorized representative. The participant has indicated that they understand the risks, benefits, and procedures involved with participation in this research study.

_____ _____
(Signature of Person who Obtained Consent) (Date)

_____
(Name of Person who Obtained Consent - printed)

07/19/2021