University of Pittsburgh

Department of Anesthesiology & Perioperative Medicine

CONSENT TO ACT AS A PARTICIPANT IN A RESEARCH STUDY

TITLE: BRIDGE Device: Alternative Post-Cesarean Delivery Analgesia

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Clinical and Translational Science Institute's Research Initiative for Special Populations Pilot Program

Why is this research being done?

The opioid epidemic has warranted research into alternative methods of pain relief. Additionally, many patients experience adverse side effects of taking opioid pain medications, such as post-operative nausea and vomiting, respiratory complications, weakening of the immune system, and constipation. Therefore, non-drug pain therapies pose a great benefit to surgical patients who may otherwise become susceptible to opioid addiction and/or the harmful side effects that result from taking opioid pain medications. For example, a non-drug pain therapy called Percutaneous Nerve Field Stimulation (PFNS) has been shown to be effective as a complementary method of pain management. We are exploring a specific

FDA cleared device, called the NSS-2 BRIDGE as a method of post-operative pain management. It is a non-invasive, battery-operated device containing electrodes that attach to the ear that may cause some mild discomfort when first placed. It works by directly blocking nerves in the brain that are responsible for the sensation of pain, thus providing pain relief. We are hoping that by adding this device into post-surgical pain management, patients will have less pain and improved recovery with fewer opioid pain medications.

Who is being asked to take part in this research study?

You are being invited to participate in this research study because you will undergo cesarean section surgery. People being invited to participate must be over 18 years of age.

What procedures will be performed for research purposes?

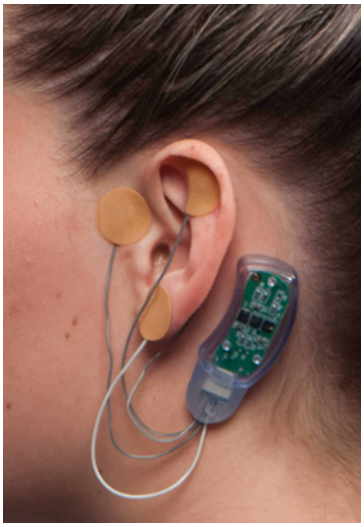
Screening Procedures:

There are no specific screening tests or procedures for this research study. Your medical records will be examined by your anesthesiologist to determine your eligibility for the study.

Procedures:

If you qualify to take part in this research study, you will undergo the procedures listed below:

After you sign an informed consent form, you will be enrolled into the study. At the time you are enrolled, we will ask you to fill out surveys for us, answering questions about topics like your demographic information, your social supports, and how you handle pain. After your surgery, you will be randomized to receive one of three study arms: an active NSS-2 Bridge device, an inactive NSS-2 Bridge device, or no device. Participants will be randomized in a 1:1:1 ratio to these three arms. If you are randomized to receive a device, you will not be aware of whether the device is active or inactive. The investigators and study team will also not be aware of your assignment, with the exception of the team member who will randomize you. Please note that there is a 2/3rd chance that you will not be randomized to the intervention arm of the study.



The PI and the research coordinator have been trained in placing the NSS-2-BRIDGE. If you are randomized to receive a device, the study team will apply the device in the immediate post-operative setting (post-anesthesia care unit, PACU). The device will be attached behind the ear with double-sided tape. It contains three electrodes which will be applied to the ear and a ground which will be placed on the patient's lobe. Each electrode and the ground will be secured with adhesive bandages. Other forms of analgesia (pain medication) will be permitted per the standard of care. There is no restriction on pain medications that can be prescribed to you while wearing this device. Examples of pain medications that are often given for post-operative pain management are hydrocodone, oxycodone, acetaminophen, ibuprofen and ketorolac. The device will be placed on ear in accordance with the following image. Once the device is placed you will be asked to perform a "pinch test" throughout the duration of your time wearing the device. To perform the "pinch test" you must pinch down on the electrodes and ground to ensure they are still placed in their designated locations and have not come loose. This test will feel like pressure and in some cases might have quick sharp sensation.

You should expect to feel a pulsing, tapping or tingling sensation at the placement site, especially when the device is first applied which might create some mild discomfort. As the nerves in the ear become accustomed to this sensation, the pulsing will taper down over time and this sensation could disappear completely over time. The device is still working even if the pulsation sensation is no longer felt.

If you no longer wish to participate in the study for any reason, you may withdraw at any time.

Monitoring/Follow-up Procedures

If you have received a device, you will be seen once per day while in the hospital to assess your comfort level wearing the device and ensure there is no issue with device placement. If you are still in the hospital 120 hours (Post-Operative Day 5) after device placement, a researcher will remove and

dispose of the device. If you are discharged from the hospital prior to Post-Operative Day 5, you will receive instructions via phone call for removing and disposing of the device yourself. The study team will follow up with you daily through Post-Operative Day 5 by sending surveys via the email address you provide. The study team may also reach out by phone to ask questions about the device and your pain, or text to remind you to answer these surveys. The Post-Operative follow up surveys will ask you questions about your pain and recovery, medications you're taking, as well as your satisfaction with your birth experience and the device, if applicable. Online surveys and follow up phone calls will take about five minutes each. Participants in all arms will complete all of the same surveys and follow up procedures, with the exception of questions about device tolerability and experience with the device (participants who receive no device will not be required to complete questions about device experiences).

Pain: Pain during your recovery will be assessed daily until Post-Operative Day 5. These surveys about pain will examine the severity of your pain, and the level to which your pain interferes with your daily activities.

Narcotic Consumption: Rescue analgesia (pain medication) may be offered. Opioid consumption will be measured in total from the time you exit the operating room.

Patient Satisfaction Survey: On Post-Operative Day 5, you will be asked to complete a survey indicating your overall satisfaction as well as satisfaction as it pertains to pain management. This will be measured using a numeric rating scale where 0 indicates the worst satisfaction while 10 indicates the best satisfaction.

Device Removal: If you received a device, and are discharged prior to 120 hours post-operatively, you will be asked to wear the device home. We ask that you remove the device at 120 hours (Post-Operative Day 5) after device placement and dispose of it in your home. We will provide removal instructions. If you are still in the hospital on Post-Operative Day 5, a researcher will remove and dispose of the device.

Device Care: The device is water-resistant but not water-proof. It will malfunction, but not harm you, should it be submerged with water. You may bathe and wash your hair with the device, but care should be taken not to get it wet. It has been recommended that holding a dry wash cloth or a small

plastic cup over the ear while showering will be enough to protect the device. If the device should come partially unattached while you are at home, we ask that you remove it fully.

Researchers will also collect common medical information from your medical record and from surveys about your recovery, including medical history, total pain medication consumption, time elapsed until your needing opioid pain medication time to bowel movement and passing gas, post-operative nausea and vomiting, time to oral intake (liquid and regular diet), time to hospital discharge, and readmission.

What are the possible risks, side effects, and discomforts of this research study?

There are risks associated with your surgery, anesthesia, and hospitalization. These risks will be discussed with you by your surgeon and anesthesiologist and are not related to your participation in this research study.

NSS-2 BRIDGE Device: This device may be associated with the risk of skin irritation, bleeding at the application site (amount of a paper cut), pain/electrical impulse discomfort, and infection. The investigator applying the device will have had the appropriate training to avoid these risks. For these reasons, patients with a history of hemophilia or skin conditions around the ear will not be eligible for study.

Your medical record will be accessed by study team. Some of the information reviewed in the medical record include medical history, surgical and anesthesia record, medication record and pain scores. All of your medical record and study-related information will be considered protected health information and will be kept confidential per HIPAA privacy act. There is, however, a possibility of breach of confidentiality. That is, in very rare cases, people not associated with this research study may inadvertently see your identifiable research results. We will do everything in our power to prevent this from happening by keeping all research records in locked files and identify all specimens and medical information by a research record number, rather than by your name or social security number. The codebook containing your name and number will be kept secure by the Study Team. Your research information and data may be shared with investigators conducting other research. This information may be identifiable.

There is a possibility that you will find answering survey questions to be inconvenient or uncomfortable. For this reason, we have kept our surveys as short as possible, and given you the option to skip any questions you feel uncomfortable answering.

Additionally, there is the potential for loss of confidentiality (privacy) with your survey answers and with study correspondence via email or text messaging. We have decreased this risk as much as possible by using secure servers for storing data and contact information and storing your survey answers in a way that does not identify you as the person answering the survey.

You can speak with your anesthesiologist if you have any questions or concerns regarding the implications and frequencies of each risk.

What are possible benefits from taking part in this study?
If you are assigned to the group receiving active or placebo device, you may benefit by requiring fewer post-operative narcotics which may result in fewer side effects. Benefit from participating in this study is not guaranteed.

What treatments or procedures are available if I decide not to take part in this research study?
If you decide not to take part in this research study, you will receive the standard of care anesthesia and post-operative pain management.

If I agree to take part in this research study, will I be told of any new risks that may be found during the course of the study?
You will be promptly notified if, during the conduct of this research study, any new information develops which may cause you to change your mind about continuing to participate.

Will my insurance provider or I be charged for the costs of any procedures performed as part of this research study?
Some of the services you will receive during this study are “research only services” that are being done only because you are in the study. Examples are the Screening Procedures, Experimental Procedures, or Monitoring/ Follow-up Procedures described above. These services will be paid for by the study and will not be billed to your health insurance company or you.

The study device is being supplied via the research department, you will not be billed for the device.

Some of the services you will receive during this study are considered to be "routine clinical services" that you would have even if you were not in the study (for example, the anesthesia, and the standard of care pain relief you receive after your cesarean delivery). These services will be billed to your health insurance company or you, if you do not have health insurance. You will be responsible for paying any deductibles, co-payments or co-insurance that are a normal part of your health insurance plan.

You may want to get more detailed information about what "routine clinical services" your health insurance is likely to pay for. Talk to a member of the study staff and/or a UPMC financial counselor to get more information.

Will I be paid if I take part in this research study?

You will be offered up to $50 for your participation in this study. You will receive that compensation on the following timeline:
$10 for completing surveys at baseline & Postpartum Day 1
$10 for completing follow up surveys on Postpartum Day 2
$10 for completing follow up surveys on Postpartum Day 3
$10 for completing follow up surveys on Postpartum Day 4
$10 for completing follow up surveys on Postpartum Day 5

Who will pay if I am injured as a result of taking part in this study?

University of Pittsburgh researchers and their associates who provide services at UPMC (UPMC) recognize the importance of your voluntary participation in their research studies. These individuals and their staffs will make reasonable efforts to minimize, control, and treat any injuries that may arise as a result of this research. If you believe that you are injured as a result of the research procedures being performed, please contact immediately the Principal Investigator listed on the first page of this form. Emergency medical treatment for injuries solely and directly related to your participation in this research study will be provided to you by the hospitals of UPMC. It is possible that UPMC may bill your insurance provider for the costs of this emergency treatment, but none of these costs will be charged directly to you. If your research-related injury requires medical care beyond this emergency treatment, you will be responsible for the costs of this follow-up care unless otherwise specifically stated below. There is no plan for monetary compensation. You do not, however, waive any legal rights by signing this form.

Who will know about my participation in this research study?
Any information about you obtained from this research will be kept as confidential (private) as possible. All records related to your involvement in this research study will be stored in a locked file cabinet. Your identity on these records will be indicated by a case number rather than by your name, and the information linking these case numbers with your identity will be kept separate from the research records. You will not be identified by name in any publication of the research results. We will attempt to preserve your medical record and participation in this study as confidentially as possible, but breach of confidentiality is a risk of participation.

Will this research study involve the use or disclosure of my identifiable medical information?
This research study will involve the recording of past, current and/or future identifiable (pertaining to only you) medical information from your hospital and/or other health care provider (e.g. physician office) records. This information that will be recorded will be limited to diagnostic information, lab results, medications, and medical history. The information will be used to determine your eligibility for this study and to follow your care once you are enrolled in the study.

Who will have access to identifiable information related to my participation in this research study?
In addition to the investigators listed on the first page of this authorization (consent) form and their research staff, the following individuals will or may have access to identifiable information (which may include your identifiable medical information) related to your participation in this research study:

Authorized representatives of the University of Pittsburgh Office of Research Protections may review your identifiable research information (which may include your identifiable medical information) for the purpose of monitoring the appropriate conduct of this research study.

Authorized representatives of the study team, who are also part of the Department of Anesthesiology and the Acute Interventional Perioperative Pain Service, will review and/or obtain identifiable information (which may include your identifiable medical information)

related to your participation in this research study for the purpose of monitoring the accuracy and completeness of the research data and for performing required scientific analyses of the research data.
Authorized representatives of the UPMC hospitals or other affiliated health care providers may have access to identifiable information (which may include your identifiable medical information) related to your participation in this research study for the purpose of (1) fulfilling orders, made by the investigators, for hospital and health care services (e.g., laboratory tests, diagnostic procedures) associated with research study participation; (2) addressing correct payment for tests and procedures ordered by the investigators; and/or (3) for internal hospital operations (i.e. quality assurance).

In unusual cases, the investigators may be required to release identifiable information (which may include your identifiable medical information) related to your participation in this research study in response to an order from a court of law. If the investigators learn that you or someone with whom you are involved is in serious danger or potential harm, they will need to inform, as required by Pennsylvania law, the appropriate agencies.

Authorized representatives of the U.S Food and Drug Administration (FDA) and other regulatory agencies may review and/or obtain your identifiable information (which may include your identifiable medical record information) related to your participation in this research study for the purpose of monitoring the accuracy of the research data.

Statement of the potential risk that PHI will be re-disclosed by a recipient:

We will protect your privacy and the confidentiality of your records, as described in this document, but cannot guarantee the confidentiality of your research records, including information obtained from your medical records, once your personal information is disclosed to others outside UPMC or the University

For how long will the investigators be permitted to use and disclose identifiable information related to my participation in this research study?

The investigators may continue to use and disclose, for the purposes

described above, identifiable information (which may include your identifiable medical information) related to your participation in this research study for an indefinite period of time. Per University of Pittsburgh policy all research records must be maintained for at least 7 years following final reporting or publication of a project.

How long will this authorization be valid?

This authorization is valid for an indefinite period of time

Right to revoke authorization/how to revoke:

However, you can always withdraw your authorization to allow the research team
to review your medical records by contacting the investigator listed on the first
page and making the request in writing.

Implications of revocation of authorization

If you do so, you will no longer be permitted to participate in this study. Any information obtained from you up to that point will continue to be used by the research team.

May I have access to my medical information that results from my participation in this research study?

In accordance with the UPMC Notices of Privacy Practices document that you have been provided, you are permitted access to information (including information resulting from your participation in this research study) contained within your medical records filed with your health care provider. However, your clinical results from participating in this study will not be shared with you.

Is my participation in this research study voluntary?

Your participation in this research study is completely voluntary. Whether or not you provide your consent for participation in this research study will have no effect on your current or future relationship with the University of Pittsburgh. Whether or not you provide your consent for participation in this research study will have no effect on your current or future medical care at a UPMC hospital or affiliated health care provider or your current or future

relationship with a health care insurance provider.

Your anesthesiologist is involved as an investigator in this research study. As both your doctor and a research investigator, s/he is interested both in your medical care and the conduct of this research study. Before agreeing to participate in this research study, or at any time during your study participation, you may discuss your care with another doctor who is not associated with this research study. You are not under any obligation to participate in any research study offered by your anesthesiologist.

May I withdraw, at a future date, my consent for participation in this research study?

You may withdraw, at any time, your consent for participation in this research study. Any identifiable research or medical information recorded for, or resulting from, your participation in this research study prior to the date that you formally withdrew your consent may continue to be used and disclosed by the investigators for the purposes described above.

To formally withdraw your consent for participation in this research study you should provide a written and dated notice of this decision to the principal investigator of this research study at the address listed on the first page of this form.

Your decision to withdraw your consent for participation in this research study will have no effect on your current or future relationship with the University of Pittsburgh. Your decision to withdraw your consent for participation in this research study will have no effect on your current or future medical care at a UPMC hospital or affiliated health care provider or your current or future relationship with a health care insurance provider.

If you decide to withdraw from study participation after you have received the study device, no study assessments will be done after your withdrawal.

If I agree to take part in this research study, can I be removed from the study without my consent?

It is possible that you may be removed from the research study by the researchers if, for example, you have an unexpected change, unanticipated 3rd trimester miscarriage, complication in your anesthesia or surgery or serious adverse reaction to the NSS-2 BRIDGE device. If you are withdrawn

from participation in this research study, you will still be treated for your post-surgical pain. Please consult your surgeon or anesthesiologist if you have any further concerns.

Where can I find more information about this study?

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

VOLUNTARY CONSENT

The above information has been explained to me and all of my current questions have been answered. I understand that I am encouraged to ask questions about any aspect of this research study during the course of this study, and that such future questions will be answered by a qualified individual or by the principal investigator listed on the first page of this consent document at the telephone number given. I understand that I may always request that my questions, concerns or complaints be addressed by a listed investigator.

I understand that I may contact the Human Subjects Protection Advocate of the IRB Office, University of Pittsburgh (1-866-212-2668) to discuss problems, concerns, and questions; obtain information; offer input; or discuss situations in the event that the research team is unavailable.

By signing this form, I agree to participate in this research study and to authorize Dr. Lim and the members of her research team to access my medical records and extract research data from them, as described in this document. A copy of this consent form will be given to me. Also, I further certify that no research component of this protocol was begun until after the consent form was signed.

_____
Participant's Signature

_____ _____
Printed Name of Participant Date

CERTIFICATION of INFORMED CONSENT

I certify that I have explained the nature and purpose of this research study to the above-named individual(s), and I have discussed the potential benefits and possible risks of study participation. Any questions the individual(s) have about this study have been answered, and we will always be available to address future questions as they arise. I further certify that no research component of this protocol was begun until after this consent form was signed.

_____
_____
Printed Name of Person Obtaining Consent Role in Research Study

_____ _____
Signature of Person Obtaining Consent Date