Consent Form (includes HIPAA Authorization)

Title of Research Study: Magnesium sulfate as adjuvant analgesia and its effect on opiate use of post-operative transplant patients in the pediatric ICU

Investigator Team Contact Information:

For questions about research appointments, the research study, research results, or other concerns, call the study team at:

Investigator Name: Gwenyth Fischer MD Department: Pediatric Critical Care Phone Number: 612-625-9950 Email Address: fisch662@umn.edu	Co-Investigator: Joseph Resch MD Phone Number: 702-575-4648 Email Address: resch066@umn.edu

If you are the parent or guardian of a child under 18 years old, you will be asked to read and sign this document to give permission for your child to participate in this study. If you are a study participant who previously signed a study assent form and then turned 18 years old while in the study, you will now be asked to sign this consent form; the phrase "your child" throughout this document refers to you, the study participant.

Your child's surgeon, who is also responsible for this research study, is interested in both your child's clinical care and the conduct of this research study. You have the right to discuss this study with another person who is not part of the research team before deciding whether to participate in the research.

Supported By: This research is supported by the UMMC Children's Hospital Pediatric ICU.

Key Information About This Research Study

The following is a short summary to help you decide whether or not to be a part of this research study. More detailed information is listed later on in this form.

What is research?

Doctors and investigators are committed to your care and safety. There are important differences between research and treatment plans:

- The goal of research is to learn new things in order to help groups of people in the future. Investigators learn things by following the same plan with a number of participants, so they do not usually make changes to the plan for individual research participants. Your child, as an individual, may or may not be helped by volunteering for a research study.
- The goal of clinical care is to help you get better or to improve your quality of life. Doctors can make changes to a clinical care plan as needed.

Research and clinical care are often combined. One purpose of this informed consent document is to provide you clear information about the specific research activities of this study.

Why am I being asked to take part in this research study?

We are asking you to allow your child to take part in this research study to see if a different kind of medication can reduce pain in your child after his or her surgery, decrease the amount of other pain medicines used, and learn how to better treat children receiving transplants in the future. Since your child is receiving an organ transplant, he or she is eligible for this study.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you allow your child to take part is up to you.
- You can choose not to allow your child to take part.
- You can agree to allow your child to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Why is this research being done?

The purpose of this research is to see whether we can use an electrolyte medication (called magnesium) to decrease children's pain after transplant procedures, and help limit the amount of other pain medication more typically used (called opiates).

Children who receive transplant surgery endure a significant amount of pain, and often require a high amount of opiate pain medication (such as morphine) to treat their pain. Opiate medications have a high number of side effects. We are trying to find safer options to treat pain so that children do not need to take as many opiate medications.

Magnesium is found in many common foods, and is already used to treat conditions like headaches and asthma attacks. However, it has not been previously studied as a pain medication after transplant

surgery in children. The use of magnesium in this study is investigational is not approved by the FDA as a pain medication.

How long will the research last?

We expect that your child will be in this research study throughout his or her time in the pediatric ICU after the operation (typically a few days to 1 week). This will not require any additional participation or otherwise affect your child's standard care.

What will my child and I need to do to participate?

If you consent for your child to be in this research, magnesium would be used as part of your child's pain control in the ICU after the operation, something which the surgery and medical teams evaluate every day. Your child will also have several blood draws to monitor his or her magnesium levels.

More detailed information about the study procedures can be found under ***"What happens if I say yes, I want my child to be in this research?"***

Is there any way that being in this study could be bad for my child?

There are some rare reported side effects with use of magnesium, including lowering the blood pressure, causing slowing or abnormal heart rhythms, and slowing reflexes. Very high levels of magnesium can cause muscle weakness or paralysis, lethargy or depression of the nervous system which can cause respiratory failure. This depression may be increased with concomitant opioids, neuromuscular agents, cardiac glycosides, and benzodiazepines. All of these are monitored for and can be reversed in the pediatric ICU. The intended levels of magnesium used in this study are well below those which cause these side effects.

There will be some extra blood collections due to magnesium monitoring. It is possible that extra blood loss could contribute to anemia. To avoid this we will match up most of the magnesium checks with other blood draws routinely done with your child's transplant regimen.

There is a chance that the information we collect about your child could be accidentally shared with people who don't need to see it. We store this information securely to reduce this risk.

Will being in this study help my child in any way?

We cannot promise any benefits to your child or others from your taking part in this research. However, possible benefits include better pain control, less need for opiate pain medications (like morphine), less complications from opiate or sedative medications, less nausea and vomiting.

What happens if I do not want my child to be in this research?

There are no known alternatives, other than deciding not to allow your child to participate in this research study. Whether or not your child participates in this study, his or her pain will be controlled following standard care, including with the use of opiate medications.

Detailed Information About This Research Study

The following is more detailed information about this study in addition to the information listed above.

How many people will be studied?

We expect around 30 children here will be in this research study and receive study medication.

What happens if I say "*Yes, I want my child to be in this research*"?

If you decide you want your child to be in this research, magnesium will be given to your child from the time he or she is in the operating room for 48 hours or until the time that he or she leaves the PICU and moves to the general pediatric floors, whichever comes first. Magnesium will be given continuously through the IV in your child's hand or arm. We use your child's existing IV from his or her standard medications, so your child will not experience an extra needle stick.

Every four to six hours while your child is receiving magnesium, we will draw 1 ml (1/5 teaspoons) of blood to check your child's magnesium levels. We match most of these blood draws up with the other blood draws your child will receive for routine standard of care, so your child will not experience as little extra disruption as able.

What happens if I say "Yes", but I change my mind later?

You can request that your child leaves the research study at any time. Your child can leave the research study at any time and no one will be upset by your decision.

If you decide to have your child leave the research study, we will continue to manage your child's pain with our other medications.

If you decide to have your child leave the research study, tell the study doctor. He can reflect this in your child's medical chart. This makes sure that no further magnesium is given for this research study, and that additional blood samples are not drawn. Please keep in mind that magnesium may need to be given for your child's standard care whether or not he or she remains in this research study. No new data will be collected, however we will use any preceding data when the overall study concludes.

Choosing not to allow your child to be in this study or to stop your child from being in this study will not result in any detriment to you or your child. This means that your choice not to be in this study will not negatively affect your right to any present or future medical care.

If your child stops being in the research, information about your child that has already been collected may not be removed from the study database. You will be asked whether the investigator can collect information from your child's routine medical care, such as your child's medical records after your child leave the study. If you agree, you will be asked to sign an additional consent form (i.e. Clinical Data Collection after Withdrawal Consent Addendum) and HIPAA authorization to document your agreement to participate in ongoing data collection.

Can my child be removed from the research?

It's possible that we will have to ask your child to leave the study before he or she finishes it. If this happens, we will tell you why. We will also help arrange other care for your child, if needed.

Will it cost anything for my child to participate in this research study?

Taking part in this research study will not lead to any costs to you or your child. The study pays for all

study-related costs, such as study treatment or lab tests that are performed for research purposes. Health care services that are performed for your child's standard care will be billed in the usual manner, to you or your insurance company. You should check with your insurance to see what services will be covered and what you will be responsible to pay.

What happens to the information collected for the research, including my health information?

We try to limit the use and sharing of your information, including research study records, any medical records and any other information about you, to people who have a need for this information. But we cannot promise complete confidentiality.

Overview

If you participate in this study, your information, including your health information, will be used and shared for purposes of conducting this research. As described later in this Consent Form, your information may also be used and shared for publishing and presenting the research results, future research, and any optional elements of the research you agree to in this Consent Form, which may include creating audio and video recordings of you. If you sign this Consent Form, you are giving us permission to use and share your health information for these purposes, and if we are using your medical records, you are giving permission to any health care providers who are treating you to share your medical records with us.

What health information will be made available?

Health information about you to be used and shared for the research includes those items checked by the research team below:

☒ Your medical records, which may include records from hospital and clinic visits, emergency room visits, immunizations, medical history and physical exams, medications, images and imaging reports, progress notes, psychological tests, EEG/EKG/ECHO reports, lab and pathology reports, dental records and/or financial records. These records may be used and shared for as long as this research continues.

☐ Information collected as part of this research study, including research procedures, research visits, and any optional elements of the research you agree to, all as described in this Consent Form. This information might not be part of your medical record, and may include things like responses to surveys and questionnaires, and information collected during research visits described in this Consent Form.

Who will access and use my health information?

If you agree to participate in this study, your information will be shared with:

- The University of Minnesota research team and any institutions or individuals collaborating on the research with us;

- Others at the University of Minnesota and M Health/Fairview who provide support for the research or who oversee research (such as the Institutional Review Board or IRB which is the committee that provides ethical and regulatory oversight of research at the University, systems administrators and other technical and/or administrative support personnel, compliance and audit professionals (Such as the Quality Assurance Program of the Human Research Protection Program (HRPP)) , individuals involved in processing any compensation you may receive for your participation, and others);

- The research sponsor(s), any affiliates, partners or agents of the sponsor(s) involved in the research, organizations funding the research, and any affiliates, partners or agents of the funding organization(s) involved in the research;

- Organizations who provide accreditation and oversight for research and the research team, and others authorized by law to review the quality and safety of the research (such as U.S. government agencies like the Food and Drug Administration, the Office of Human Research Protections, the Office of Research Integrity, or government agencies in other countries); and

- Organizations that process any payments that may be made to you for participating in this study, and any other individuals or organizations specifically identified in this Consent Form.

Additional sharing of your information for mandatory reporting

If we learn about any of the following, we may be required or permitted by law or policy to report this information to authorities:

- Current or ongoing child or vulnerable adult abuse or neglect;
- Communicable, infectious or other diseases required to be reported under Minnesota's Reportable Disease Rule;
- Certain wounds or conditions required to be reported under other state or federal law; or
- Excessive use of alcohol or use of controlled substances for non-medical reasons during pregnancy.

How will my information be used in publications and presentations?

We may publish the results of this research in scientific, medical, academic or other journals or reports, or present the results at conferences. Information that makes it easy to identify you (such as your name and contact information, SSN and medical records number) will not be part of any publication or presentation. If you have an extremely unique or rare condition that is not shared by many others, it is possible that some people may be able to determine your identity even without these identifiers.

Do I have to sign this Consent Form and give my permission to make my information, including my health information, available for use and sharing?

No, you do not have to sign this Consent Form. But if you do not sign, you will not be able to participate in this research study. Treatment available outside of the study, payment for such treatment,

enrollment in health insurance plans and eligibility for benefits will not be impacted by your decision about signing this Consent Form.

Does my permission for making my health information available for use and sharing ever expire?

No, there is no expiration date.

May I cancel my permission for making my health information available for use and sharing?

Yes. You may cancel your permission at any time by writing to the researcher at the address on the first page of this Consent Form. If you cancel your permission, you will no longer be in the research study. You may also want to ask someone on the research team in canceling will affect any research related medical treatment. If you cancel your permission, any health information about you that was already used and shared may continue to be used and shared for the research study and any optional elements of the study to which you agree in this Consent Form.

What happens to my health information after it is shared with others?

When we share your information with others as described in this Consent Form, privacy laws may no longer protect your information and there may be further sharing of your information.

Will I be able to look at my records?

It is possible that the research team may not allow you to see the information collected for this study. However, you may access any information placed in your medical records after the study is complete.

A description of this clinical trial will be available at http://www.ClinicalTrials.gov, as required by U.S. Law. This Web site will not include your name or any other direct identifiers such as your contact information. The Web site may include a summary of the results of this research. You can search this Web site at any time.

Will I receive research test results?

Most tests done on samples in research studies are only for research and have no clear meaning for health care. The investigator(s) will not contact you or share your child's individual test results.

Will anyone besides the study team be at my consent meeting?

You may be asked by the study team for your permission for an auditor to observe your consent meeting. Observing the consent meeting is one way that the University of Minnesota makes sure that your child's rights as a research participant are protected. The auditor is there to observe the consent meeting, which will be carried out by the people on the study team. The auditor will not document any personal (e.g. name, date of birth) or confidential information about you or your child. The auditor will not observe your consent meeting without your permission ahead of time.

Whom do I contact if I have questions, concerns or feedback about my child's experience?

This research has been reviewed and approved by an IRB within the Human Research Protections Program (HRPP). To share feedback privately with the HRPP about your research experience, call the Research Participants' Advocate Line at 612-625-1650 (Toll Free: 1-888-224-8636) or go to z.umn.edu/participants. You are encouraged to contact the HRPP if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Will I have a chance to provide feedback after the study is over?

The HRPP may ask you to complete a survey that asks about your child's experience as a research participant. You do not have to complete the survey if you do not want to. If you do choose to complete the survey, your responses will be anonymous.

If you are not asked to complete a survey, but you would like to share feedback, please contact the study team or the HRPP. See the "Investigator Contact Information" of this form for study team contact information and "Whom do I contact if I have questions, concerns or feedback about my child's experience?" of this form for HRPP contact information.

What happens if my child is injured while participating in this research?

In the event that this research activity results in an injury, treatment will be available, including first aid, emergency treatment and follow-up care as needed. Care for such injuries will be billed in the ordinary manner, to you or your insurance company. If you think that your child has suffered a research related injury let the study physicians know right away.

Signature Block for Capable Adult:

Your signature documents your permission to take part in this research. You will be provided a copy of this signed document.

_____
Printed Name of Participant

_____ _____
Signature of Parent/Legal Guardian Date

_____
Printed Name of Parent/Legal Guardian

_____ _____
Signature of Person Obtaining Consent Date

_____
Printed Name of Person Obtaining Consent

Signature Block for Witness:

WITNESS STATEMENT:
The participant was unable to read or sign this consent form because of the following reason:

☐ The participant is illiterate

☐ The participant is visually impaired

☐ The participant is physically unable to sign the consent form. Please describe:

_____

☐ Other *(please specify)*:

_____

For the Consent of Non-English Speaking Participants when an Interpreter is Used:
A**s** someone who understands both English and the language spoken by the subject, I represent that the English version of the consent form was presented orally to the subject in the subject's own language, and that the subject was given the opportunity to ask questions.

_____ _____
Signature of Interpreter Date

_____
Printed Name of Interpreter

OR:

Statement from a Non-Interpreter:
As someone who understands both English and the language spoken by the subject, I represent that the English version of the consent form was presented orally to the subject in the subject's own language, and that the subject was given the opportunity to ask questions.

_____ _____
Signature of Individual Date

_____
Printed Name of Individual