Evaluation of the Addition of Liposomal Bupivacaine to the Erector Spinae Plane (ESP) Block to Multilevel Lumbar Spinal Fusion Surgery
NCT05417113
Christina Jeng, MD
Document Date: May 12, 2022

Mount Sinai	Protocol Name:	Erector Spinae Block for Spine Surgery
	Principal Investigator:	Christina Jeng,
	Primary Contact Name/Contact Info:	Lily Eaker 212-241-1678
	Date Revised:	11/15/2021
	Study Number:	Study 20-01312

HRP-503 Application (Protocol Supplement)

- *This application can only be used in conjunction with a protocol. If this project does not have a protocol from the sponsor or is already included in a grant application then a comprehensive protocol should be developed. A comprehensive template and online wizard is located at: NIH Wizard.*
- *Note that, depending on the nature of your research, certain questions, directions, or entire sections below may not be applicable, or may have been fully covered in the protocol. Provide information if and when applicable. If the answer is found in the protocol please provide a page reference. If the question is not applicable to the study, mark the section "N/A". Do not delete any sections.*
- *Be sure to complete any supplement questions from one or another ancillary office that you receive during the RUTH application process. Please make certain that the protocol, this 503 application and responses to ancillary offices do not contradict each other and the information is incorporated in all documents where appropriate. Be sure to save the Ancillary office responses you provided within RedCap and upload them to Ruth.*
- *Throughout this application are references to checklists. These tools are used by the IRB to make specific regulatory findings. To allow us to do that it is the applicant's responsibility to ensure that your protocol has sufficiently addressed these additional regulatory criteria for approval, and that the applicant identifies those protocol specific findings required by the checklist. how will they do that, here or a separate form?*
- *Keep an electronic copy of this version of the document. You will need to modify this copy when making changes.*

1. Setting of the Human Research:

The research activities will take place at The Mount Sinai Hospital.

2. Resources Available to Conduct the Human Research: (the aim here is to assess if the research is likely to be successful and thus justify the efforts and risks taken by the subjects):

Recruitment of patients will be through the practices of five orthopedic and/or neurological surgeons providing elective lumbar spinal fusion surgery. 12 physicians with specialized training in either spine surgery or regional anesthesiology with exquisite knowledge of the local study site, culture, and society and extensive research experience (numerous published studies) over the course of their careers entail the persons assisting with the trial. These individuals are all informed about the protocol, the investigational product(s), and their trial-related duties and functions. The study group will conduct weekly meetings via video or in-person conference to discuss the study protocol, investigational product(s), their trial-related duties and functions, and progress of the study in each stage.

3. Study Design:

a) Recruitment Methods (see PPHS policy):

Patients scheduled for a 1-2 level lumbar spinal fusion procedure will be identified at the time of the scheduled surgery. The study will be discussed and written consent will be provided for the patient to review and sign. A member of the research team will call the patient approximately 1 week prior to the surgery to discuss the study further and answer any questions the patient may have. This investigator will describe the study in detail, answer questions, confirm understanding, and review the consent form with the patient. Additionally, patients will be screened for inclusion and exclusion criteria in the clinic at the time of the scheduled procedure prior to the phone call 1 week before surgery. During the follow up phone call to answer any additional questions, the patient will be screened again for inclusion and exclusion criteria.

b) Inclusion and Exclusion Criteria:

Inclusion criteria: Adults aged greater than or equal to 18 years old and less than or equal to 85 years old. Patients who are scheduled to undergo lumbar spinal fusion surgery (1-2 level) and willing and able to provide informed consent.

Exclusion criteria: Patients with a history of consistent chronic opioid use for > 3 months including but not limited to fentanyl, morphine, oxycodone, methadone. Patients with known allergy or intolerance to any drug used in the study including local anesthetics, total intravenous anesthesia medications, and non-steroidal anti-inflammatory medications. Patients with a history of alcohol or drug abuse. Patients with a history of intolerance of nonsteroidal anti-inflammatory drugs. Patients with hepatic insufficiency. Patients with renal insufficiency. Patients with American Society of Anesthesiologists physical status of 4 or greater. Patients on immunosuppressive therapy. Pregnant patients.

c) Number of Subjects:

Total number of subjects to be accrued locally: 84

d) Study Timelines:

Duration of an individual subject's participation in the study (including follow-up): Individual subject's participation will conclude 12 weeks after lumbar spinal fusion surgery.

Duration anticipated to enroll all study subjects: 22 months

Estimated date for the investigators to complete this study (complete primary analyses): 1/1/2024.

e) Specimen Banking for Future Uses Not Part of This Project

N/A

f) Data Storage, Transmission and Confidentiality:

Describe the data and specimens to be sent out or received. If storage will occur at Sinai and elsewhere (e.g. the sponsor) be sure to answer these questions for both sets of samples as, at the very least, governance of future uses will differ.

As applicable, describe:

- *How will data be collected?*
- *How will data be transmitted? If clinical trials software or similar is being used provide the names as well as the security/regulatory specifications it complies with (e.g. FDA)*
- *How will data be stored? Provide data standards where known*
- *How long will data be stored?*
- *What are the SOPs that govern data sharing?*
- *If this project is not funded by NIH will a Certificate of Confidentiality be obtained? If not, why not?*

- Description of the source records that will be used to collect data about subjects:

  EPIC computerized medical record charting will be used to record data about the subjects. Additionally, investigators will ask patients questions (for example, nausea in PACU on 11 point Likert scale).

- Description of data that will be collected including long-term follow-up:

  Age, Gender, BMI, ASA status, duration of surgery, total opioid use in PACU, total opioid consumption in 24 and 72 hours, severity of pain on Likert scale (0-10) at 1, 6, 12, 24, and 72 hours as well as at 2 weeks, 6 weeks, and 12 weeks post surgery, time to breakthrough pain after surgery (first dose of pain medication requested after surgery is finished), incidence of vomiting in PACU, nausea in PACU (highest number reported on 11 point Likert scale), time to ambulation after surgery, time to flatus after surgery, time to first bowel movement after surgery, analgesia satisfaction score 3 days after discharge, length of stay in PACU, Quality of recovery vis QoR-15 survey at 3 days, 2 weeks, 6 weeks, and 12 weeks postoperatively.

- Description of health information that will be viewed, recorded, or generated:

  Age, Gender, BMI, ASA status, duration of surgery, total opioid use in PACU, total opioid consumption in 24 and 72 hours, severity of pain on Likert scale (0-10) at 1, 6, 12, 24, and 72 hours as well as 2 weeks, 6 weeks, and 12 weeks postoperatively, time to breakthrough pain after surgery (dose of pain medication beyond standard patient controlled analgesia regimen), vomiting in PACU, nausea in PACU (highest number reported on 11 point Likert scale), time to ambulation after surgery, time to flatus after surgery, time to first bowel movement after surgery, length of stay in PACU; length of stay in hospital, patient reported satisfaction with anesthesia, Quality of recovery vis QoR-15 survey at 3 days, 2 weeks, 6 weeks, and 12 weeks postoperatively.

- How PHI will be protected from improper use or disclosure:

  Only researchers involved in data collection and analysis will have access to patient data. All data collected by the researchers will be labeled with a one-way hash ID. Only the study investigators will have access to the full data set which will allow for matching of the has ID to the original data source. All researchers who will access the data have completed the institutional HIPAA certification. Extracted data will be de-identified before being given to the statistician for analysis. Any intermediary data files containing extracted PHI will be stored on secured hospital servers and destroyed after data analysis is complete. All study data at Mount Sinai stored electronically will follow MSMC policies. All PHI that is not stored on a limited access Mount Sinai IT maintained network drive will be encrypted and password protected. Statistical analysis will be carried out by a statistician employed by the Department of Anesthesiology. When the de-identified data set is released for analysis, a one-way hash ID will be generated for each record. Only Mount Sinai study investigators with access to the full data set will be able to match the hash ID to the original source.

- When and how PHI will be destroyed:

  PHI will be destroyed following publication of this study. Digital encrypted files on the Mount Sinai network will be deleted permanently.

- Description of PHI that will be shared:

Age, Sex, BMI, ASA status, surgical procedure, opioid use. All other subject demographics will not be shared when de-identified data is given to a statistician employed by the department of anesthesiology.

- Justification for sharing PHI:

  Deidentified data will be given to a statistician employed by the department of anesthesiology in order to complete the study analysis.

- With whom directly PHI will be shared:

  Deidentified data will be given to a statistician employed by the department of anesthesiology

- Location where data will be stored:

  Extracted data will be de-identified before being given to the statistician for analysis. Any intermediary data files containing extracted PHI will be stored on secured hospital servers and destroyed after data analysis is complete. All study data at Mount Sinai stored electronically will follow MSMC policies. All PHI that is not stored on a limited access Mount Sinai IT maintained network drive will be encrypted and password protected.

- Duration data will be stored:

  Data will be stored for the duration of the study. Encrypted data will be deleted permanently from the Mount Sinai network following completion of the study.

- Steps that will be taken to secure the data during storage use and transmission:

  Extracted data will be de-identified before being given to the statistician for analysis. Any intermediary data files containing extracted PHI will be stored on secured hospital servers and destroyed after data analysis is complete. All study data at Mount Sinai stored electronically will follow MSMC policies. All PHI that is not stored on a limited access Mount Sinai IT maintained network drive will be encrypted and password protected.

- Data analysis plan including any statistical procedures:

  Data analysis will be completed by a biostatistician employed by the department of anesthesiology.

g) Data and Safety Monitoring Plan:

- **For projects with a Data Safety Monitoring Board/Data Safety Committee (DMSB/DMC): N/A**
- *If not included in the protocol, attach a description of the DMC/DSMB, including the number, names (if available} and area of professional expertise of the members. The responsibilities of the DSMB/DMC must be clear as well as their powers and their degree of independence. The DSMB charter must be provided to the PPHS before the study may begin. Reports of the DMC/DSMB must be made available to the local PI and the MSSM PPHS. The report need not contain specifics of the study or data, but there should be clear statement if the study can continue as is,or requires changes or termination.*

h) For other projects with greater than minimal risk a monitoring plan must be provided:

1. List the name(s) of the individual(s) at MSSM who will be responsible for data and safety monitoring of this study. For each individual, indicate their role, name, title, and department information. The Principal Investigator may be the only monitor of a study.

2. If the qualifications of an individual to serve as a monitor are not contained in the PPHS application, they must be added to the DSMP either as a narrative description or as a CV.

MSSM Principal Monitor: **Principal Investigator**

Last Name: Jeng
First Name: Christina
Academic Title: Associate Professor
Department: Anesthesiology
Mailing Address: 1 Gustave L Levy Place Box 1010 [redacted] *NY, NY 10029*
Phone: 212-241-6426
Fax:
E-mail: Christina.jeng@mountsinai.org

3. Justify your choice of principal monitor in terms of the assessed risk to the research subject's health and wellbeing. In high risk studies when the principal monitor is independent of the study staff, indicate the individual's credentials, relationship to the PI, and the rationale for selection.

This protocol is a minimal risk protocol comparing two standard of care treatments. As such, no more than minimal monitoring is required. As an anesthesiologist who performs these interventions, the PI is more than capable for this task.

4. List the specific items that will be monitored for safety (e.g., adverse events, subject compliance with the protocol, drop outs, etc.).

We will monitor for adverse events as well as dropouts.

5. Indicate the frequency at which ACCUMULATED safety and data information (items listed in number 3 above and interim analysis of efficacy outcomes) will be reviewed by the monitor(s) or the Data Monitoring Committee (DMC). Although this information must be reviewed at least annually, the higher the study risks, the more frequently reviews must be scheduled.

We will review blinded data items at the halfway point of the study to look for any safety issues. We will not be doing formal data analysis at that timepoint.

6. Where applicable, describe rules which will guide interruption or alteration of the study design.
N/A

7. Where applicable, indicate dose selection procedures that will be used to minimize toxicity.
N/A

8. List any specialized grading system that will be used to evaluate adverse events (e.g., National Cancer Institute Common Toxicity Criteria).
N/A

9. Describe procedures that will be used to assure data accuracy and completeness.
All members are trained in proper data entry.

10. Should a temporary or permanent suspension of your study occur, in addition to the PPHS, indicate to whom (NIH, FDA, sponsor, IRB) will you report the occurrence.
IRB

i) Withdrawal of Subjects:

- Procedures for Subjects to Request Withdrawal:

  (1) Patients are able to withdraw from the study at any point in the investigation. Patients will be provided with contact information and must withdraw in writing. If this decision is made prior to their procedure, the patient will undergo their procedure at the standard of care and not be included in the experimental protocol. If this decision is made following their procedure, the postoperative data collection will cease. The patient will receive standard postoperative care no matter the time of withdrawal from the study. All collected PHI will be destroyed at the time of withdrawal.

- Procedures for Investigator to Withdraw Subjects:
  (1) If a patient must be withdrawn from the study by the investigators, the patient will be informed of such as soon as this decision is made. This may be due to changes in eligibility or if in the opinion of the investigator, they are not appropriate candidates for an Enhanced Recovery After Surgery protocol.
  (2) If this decision is made prior to their procedure, the patient will undergo their procedure at the standard of care. If this decision is made following their procedure, the postoperative data collection will cease. The patient will receive standard postoperative care no matter the time of withdrawal from the study. All collected PHI will be destroyed at the time of withdrawal.

4. Provisions for Research Related Harm/Injury:

- Subjects will be monitored during surgery and during recovery from anesthesia and surgery. Upon discharge, subjects will be provided with a phone number to call should they have any concerns related to surgery, anesthesia, or the study. If necessary, subjects will be instructed to return to the hospital should any complication requiring medical attention occur.

- Subjects who are injured as a result of this study will be treated and the cost will not be billed to them and/or their insurance carrier. Patients will not be compensated for research-related injury.

5. Recordings:

N/A

6. Provisions to Protect the Privacy Interests of Subjects:

This clinical trial does not involve active communication between the study participants. Consent for the procedure occurs in a private consultation/exam rooms at the attending offices at the Mount Sinai Hospital. Similarly, all questionnaires to be completed in a private interview with each patient. All data will be maintained on a database created for this study using Microsoft Excel or HIPAA-compliant spreadsheet. This database will only be accessible by the research personnel listed in the IRB by using password protected hard drive at Mount Sinai as well as encrypted email (Mount Sinai emailing system). To maintain confidentiality all personal identifiable information will be removed from the database and labeled with a unique code. Consent forms for the study will be kept in a secure locked cabinet at our department. The data obtained from this study will be maintained indefinitely but only accessible by the investigators/coordinators on this study who are all HIPPA trained.

7. Economic Impact on Subjects:

There are no costs to subjects for participating in this study. The erector spinae plane block will be performed free of charge. There will be no additional visits or tests related to study participation other than the standard postoperative follow-up visit with the surgeon that would take place regardless of study participation.

8. Payments/Reimbursements to Subjects:

N/A

9. Consent Process:

Participants will give verbal consent via telephone approximately 1 week prior to surgery. The patient will be seen preoperatively on the day of surgery to discuss the consent and answer any additional questions. At this time, the patient will sign written consent.

Children and cognitively impaired individuals are not included in the study.

Non-English speaking patients will be excluded secondary to unavailability of translated consent forms for all possible languages.

Where and When Consent Will Be Obtained:
Patients will be consented at the Icahn School of Medicine at Mount Sinai, first in the spine surgeon's office by Dr. Wesley Bronson on 5 E 98th St 4th Floor, New York, NY 10029, then in the pre-operative holding area by an anesthesiologist involved in this study, either Dr. Jeng, Dr. Park, Dr. Burnett, or Dr. Patel, on the 3rd floor of the Guggenheim pavilion building on 1468 Madison Ave, New York, NY 10029.

Waiting Period for Obtaining Consent:
Patients will have adequate time to decide to participate in the study. Patients are free to decline participation or discontinue participation at any time

10. Process to Document Consent in Writing:

The consent will be signed as described above. The patient will be given a copy of the consent form at signing. During the consenting process the consenter will review the consent form section by section with the patient.

11. Vulnerable Populations:

a) Unless already detailed in the protocol, please indicate which of the following populations are either included or excluded in this project: Indicate specifically whether you will include (target) or exclude each of the following populations:

Include	*Exclude*	*Vulnerable Population Type*

	x	*Adults unable to consent*
	x	*Individuals who are not yet adults (e.g. infants, children, teenagers)*
	x	*Wards of the State (e.g. foster children)*
	x	*Pregnant women*
	x	*Prisoners*

b) *Describe other aspects of the subject population that may increase their vulnerability (marginalized populations, poverty, illiteracy and under-education, legal status, home/institution-bound individuals; students participating in their professor's research, cognitively-impaired minors, etc.). For those subjects at an increased risk of not understanding the aims, procedures, risks and benefits of this project, OR whom may be at increased vulnerability to coercion or undue influence, describe additional safeguards included to protect their rights and welfare.*

To our knowledge there are no other aspects of the subject population that increase their vulnerability as spine surgery is a common surgery and our study offers two options that are commonly employed. Also, at any time patients can opt out of the study.

c) *What steps are being taken to assure that a diverse group of research subjects are approached to participate in this study? What are the projected demographics of the enrolled subjects at study completion.*

To ensure a diverse group of research subjects are approached, we are approaching all patients regardless of their social economic status, race etc. Any patient who fulfills the inclusion criteria and allows us to approach them will be offered the ability to participate

d) *Review the following checklists that are available in RUTH. The research team should provide the "project specific findings" that are requested in the relevant checklists. N/A*

- *If the Human Research involves cognitively impaired adults, review the "CHECKLIST HRP-417 Criteria for Research Involving Cognitively Impaired Adults" to ensure that your protocol has sufficiently addressed these additional regulatory criteria for*

approval, including protocol specific information to support the determinations.

- *If the Human Research involves persons who have not attained the legal age for consent to treatments or procedures involved in the research ("children"), review the "CHECKLIST HRP-416 Criteria for Research Involving Children" to ensure that your protocol has sufficiently addressed these additional regulatory criteria for approval, including protocol specific information to support the determinations.*

- *If the Human Research involves pregnant women, review the "CHECKLIST HRP-412 Criteria for Research Involving Pregnant Women" to ensure that your protocol has sufficiently addressed these additional regulatory criteria for approval, including protocol specific information to support the determinations.*

- *If the Human Research involves non-viable neonates or neonates of uncertain viability, review the "CHECKLIST HRP-413 Criteria for Research Involving Non-Viable Neonates" "CHECKLIST HRP-414 Criteria for Research Involving Neonates of Uncertain Viability" to ensure that your protocol has sufficiently addressed these additional regulatory criteria for approval, including protocol specific information to support the determinations.*

- *If the Human Research involves Prisoners, review the "CHECKLIST HRP-415 Research Involving Prisoners" to ensure that your protocol has sufficiently addressed these additional regulatory criteria for approval, including protocol specific information to support the determinations.*

12. Multi-Site Human Research:

N/A

13. Community-Based Participatory Research

N/A

14. Sharing of individual and study Results with Subjects:

All results of the study will be shared with subjects if they wish to be notified through their preferred method of contact.

15. External IRB Review History

N/A

16. Control of Drugs, Biologics, or Devices:

Liposomal bupivacaine and 0.25% bupivacaine will be stored, handled, and controlled by the Mount Sinai Hospital Department of Anesthesiology, Perioperative and Pain Medicine in the departments medication refrigerator so that it will only be used on subjects and used only by authorized investigators. Plaine 0.25% Bupivacaine will be obtained by anesthesiologists deemed to be authorized investigators from the preoperative holding area prior to use on each patient in Groups 1 and 2 for the ESP block. Standard drug handling policies will be utilized for this study. All personnel handling medications are trained in this manner.