Title: **Vitamin C in Atrial Fibrillation Ablation (VitC-AF)**

PI: Jayanthi Koneru MD

NCT #: NCT03148236

Unique Protocol ID: HM20006786

Document approval date: February 23, 2018

Document Type: Protocol

VCU Office of Research and Innovation
VIRGINIA COMMONWEALTH UNIVERSITY

Date: Friday, February 23, 2018 7:36:00 PM

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ID: MS6_HM20006786 View: SF - Study Identification

Study Identification

1. * **Select the Principal Investigator:**
   Jayanth Koneru

2. * **Study Title:**
   Pilot Study of the Safety and Efficacy of Intravenous Vitamin C in Patients Undergoing Atrial Fibrillation Ablation

3. * **Is this a student or trainee project in which activities will be carried out by that individual under your supervision:**
   ◯ Yes
   ◉ **No**

4. **Select any associated VCU IRB protocols:**
   ID PI
   There are no items to display

5. **Select all individuals who are permitted to edit the IRB protocol and should be copied on communications (study staff will be entered later). These individuals will be referred to as protocol editors:**

Last Name	First Name	E-Mail	Phone	Mobile
DeWilde	Christine	dewildect@vcu.edu	8046285710	
Fowler	Alpha	afowler@vcu.edu	8048289071	
Gunda	Sampath	sgunda2@vcu.edu		
Koneru	Jayanth	jkoneru@vcu.edu	8046280147	
Puckett	Laura	lpuckett@vcu.edu		
Trankle	Cory	ctrankle@vcu.edu	8042132679	

ID: MS6_HM20006786 View: SF - Research Determination

Research Determination

1. * **Select one of the following that applies to the project:**

   ◉ **Research Project or Clinical Investigation**
   ◯ Exception from Informed Consent for Planned Emergency Research
   ◯ Humanitarian Use of Device for Treatment or Diagnosis
   ◯ Humanitarian Use of Device for Clinical Investigation
   ◯ Emergency Use of Investigational Drug, Biologic or Device
   ◯ Treatment Use (Expanded Access to Investigational Product for Treatment Use)
   ◯ Center or Institute Adminstrative Grant Review

2. * **VCU requires that all clinical research studies be evaluated to determine if a Coverage Analysis is required. Has your study been evaluated by your school/center's Research Administration Office:**
   ◉ **Yes**
   ◯ No
   ◯ Not Applicable

   ***If No above, please contact the appropriate office about completing required coverage analysis documentation for your study. (School of Medicine: somct@vcuhealth.org; Other Schools/Colleges: CRSADMIN@vcu.edu)**

ID: MS6_HM20006786 View: SF - Federal Regulations

Federal Regulations

1. * **Is this a Clinical Trial? A clinical trial is a study that prospectively assigns human subject(s) to an intervention(s) and evaluates the effects of the intervention on health-related outcomes:**
   ◉ **Yes**
   ◯ No

2. * **Is this a FDA regulated study:**
   ◉ **Yes**
   ◯ No

3. * **Is this study supported by the Department of Defense (DoD):**
   - ○ Yes
   - ◉ **No**

4. * **Check if any of the following funding sources apply to this research:**

   None of the above

ID: MS6_HM20006786 View: SF - FDA Regulated

FDA Regulated

1. * **Indicate the FDA regulated product(s) this study involves:**

- ☑ **Drug**
- ☐ Medical Device
- ☐ Biologic
- ☐ Dietary Supplement
- ☐ Food/Food Additive
- ☐ Color Additive
- ☐ Electronic Products for Human Use (radiation producing)
- ☐ Other

2. **If "Other" selected above, provide description:**

ID: MS6_HM20006786 View: SF - Personnel

Personnel

1. * **Indicate all VCU/VCUHS personnel, including the PI, who will be engaged in this study:**

	Name	Roles	Roles - Other	Responsibilities	Responsibilities - Other	Qualifications	Qualifications - Other	COI Investigator
View	Jayanth Koneru	Principal Investigator Medical or Psychological Responsible Investigator		Data Analysis Project Coordination Data Collection - Direct Observation Participant Consent Data Collection - Lab Regulatory Management Data Management Data Collection - Clinical Participant Identification Data Entry Study Design Data Coding Participant Recruitment Intervention Services Clinical Services Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical Education and/or Professional Preparation		yes

	Name	Roles	Roles - Other	Responsibilities	Responsibilities - Other	Qualifications	Qualifications - Other	COI Investigator
View	Alpha Fowler	Co/Sub-Investigator		Data Analysis Project Coordination Participant Consent Regulatory Management Study Design Participant Recruitment		Experience - Research Experience - Clinical Education and/or Professional Preparation		no
View	Cory Trankle	Co/Sub-Investigator Trainee/Student		Data Analysis Project Coordination Data Collection - Direct Observation Participant Consent Data Collection - Lab Regulatory Management Data Management Data Collection - Clinical Participant Identification Data Entry Study Design Data Coding Participant Recruitment Clinical Services Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical Education and/or Professional Preparation Student Trainee		no
View	Christine DeWilde	Research Nurse Research Coordinator Research Assistant Regulatory Coordinator		Data Analysis Project Coordination Data Collection - Direct Observation Participant Consent Data Collection - Lab Regulatory Management Data Management Data Collection - Clinical Participant Identification Data Entry Study Design Data Coding Participant Recruitment Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical		no

	Name	Roles	Roles - Other	Responsibilities	Responsibilities - Other	Qualifications	Qualifications - Other	COI Investigator
View	Sampath Gunda	Co/Sub-Investigator Trainee/Student		Data Analysis Project Coordination Data Collection - Direct Observation Participant Consent Data Collection - Lab Regulatory Management Data Management Data Collection - Clinical Participant Identification Data Entry Study Design Data Coding Participant Recruitment Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical Education and/or Professional Preparation Trainee		no
View	Robin Sculthorpe	Pharmacist		Other Study Design Clinical Services	Creation of randomization scheme; handling, preparation, and dispensing of study infusions and matched placebos	Experience - Research Experience - Clinical Education and/or Professional Preparation		no
View	Narayan Kowlgi	Co/Sub-Investigator Trainee/Student		Data Analysis Project Coordination Data Collection - Direct Observation Participant Consent Data Collection - Lab Data Management Data Collection - Clinical Participant Identification Data Entry Data Coding Participant Recruitment Clinical Services Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical Education and/or Professional Preparation Trainee		no

	Name	Roles	Roles - Other	Responsibilities	Responsibilities - Other	Qualifications	Qualifications - Other	COI Investigator
View	Aditya Saini	Co/Sub-Investigator Trainee/Student		Data Analysis Project Coordination Data Collection - Direct Observation Participant Consent Data Collection - Lab Data Management Data Collection - Clinical Participant Identification Data Entry Data Coding Participant Recruitment Intervention Services Clinical Services Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical Education and/or Professional Preparation Trainee		no
View	Harsimran Saini	Co/Sub-Investigator Trainee/Student		Data Analysis Project Coordination Data Collection - Direct Observation Participant Consent Data Collection - Lab Data Management Data Collection - Clinical Participant Identification Data Entry Data Coding Participant Recruitment Intervention Services Clinical Services Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical Education and/or Professional Preparation Trainee		no
View	Samuel Powell	Trainee/Student		Data Collection - Clinical Participant Identification Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical Education and/or Professional Preparation Trainee		no

	Name	Roles	Roles - Other	Responsibilities	Responsibilities - Other	Qualifications	Qualifications - Other	COI Investigator
View	Laura Puckett	Research Nurse Research Coordinator		Project Coordination Participant Consent Data Collection - Clinical Participant Identification Data Entry Participant Recruitment Data Collection - Interviews/Surveys		Experience - Research Experience - Clinical		no
View	Kenneth Ellenbogen	Co/Sub-Investigator		Clinical Services		Experience - Research Experience - Clinical Education and/or Professional Preparation		no
View	Cierra Gilmore	Research Assistant		Data Entry		Experience - Related Skills		no

2. **Identify all non-VCU personnel who will be engaged in this study AND who DO NOT have IRB approval for this study from their own institution.**
   Name Roles Roles - Other Responsibilities Responsibilities - Other Qualifications Qualifications - Other COI Investigator
   There are no items to display

3. **CV/Biosketch: (required for PI, Medically/Psychologically Responsible Investigators and Student/Trainee Investigators)**

ID: MS6_HM20006786 View: SF - Conflict of Interest

Conflict of Interest

1. * **To the best of your knowledge, do you (as PI) or any other engaged individual hold a financial conflict of interest related to this study?**
   ○ Yes
   ◉ **No**

2. **If Yes, provide:**
   - **Name(s) of the engaged conflicted individual(s)**
   - **Brief description of the financial conflict of interests**

3. * **Describe any potential non-financial conflicts of interest for members of the research team that could impact the conduct of the study (if None, please state "None"):**
   None

4. **Describe any institutional conflict of interest with this research that you or any member of the research team may be aware of:**

ID: MS6_HM20006786 View: SF - Communication Plan for Research Team

Communication Plan for Research Team

1. * **Describe the process that will be used to ensure that all persons at all involved sites assisting with the research are adequately informed about the protocol and their research related duties and functions:**
   VCU will be the only site for the study. All study personnel have completed CITI training. All study personnel will meet with the PI prior to the initiation of the study and every 6 months thereafter during study progress meetings. Additional training will be conducted as needed in response to any changes in the study protocol. Study personnel will be instructed to call and/or page the PI Dr. Koneru directly with any adverse events or other problems with the study conduct.

ID: MS6_HM20006786 View: SF - IRB Panel Setup

IRB Panel Setup

1. * **To which IRB is this study being submitted for review:**

- (◉) **VCU IRB**
- ( ) Western IRB
- ( ) NCI Central IRB
- ( ) Other IRB

2. **If Other IRB, name the IRB that will review this research. If ORSP has not already agreed to rely on this IRB (via phone or email communication), you are strongly advised to contact IRBReliance@VCU.edu before proceeding with this submission:**

ID: MS6_HM20006786 View: SF - Review Setup

Review Setup

1. * **Does this study involve greater than minimal risk:**
   - (◉) **Yes**
   - ( ) No
2. * **Review Type Requested: (subject to IRB approval)**

- (◉) **Full Board**
- ( ) Expedited
- ( ) Exempt

3. * **Has this protocol received a Massey protocol review:**
   - ( ) Yes
   - (◉) **No**
4. * **Has this human subjects protocol (not the grant application) been reviewed by the funder:**
   - ( ) Yes
   - (◉) **No**

ID: MS6_HM20006786 View: SF - Research Description

Research Description

1. * **Describe the study hypothesis and/or research questions. Use lay language whenever possible.**
   Treatment with intravenous (IV) vitamin C in patients who are undergoing a non-invasive catheter ablation procedure to treat their atrial fibrillation (AF, a form of irregular heart beat) will be safe, well tolerated, and may lead to a reduced level of inflammation after the procedure.
2. * **Describe the study's specific aims or goals. Use lay language whenever possible.**
   This will be a double-blinded, placebo-controlled pilot study to measure the effects of IV vitamin C in patients who are being scheduled for AF ablation (N=20). The primary endpoints will be evaluation of the safety of the IV vitamin C infusion and it's efficacy in reduction of inflammatory markers in the blood of patients undergoing AF ablation.
3. * **Describe the study's background and significance, including citations, or upload a citation list in document upload. Use lay language whenever possible.**
   Atrial fibrillation (AF) is a highly prevalent form of irregular heart rhythm, representing the most common arrhythmia worldwide[1,2]. Noninvasive catheter-based ablation procedures, which allow trained cardiologists to find sources of the abnormal rhythms and then burn or freeze those areas, is the only potential minimally invasive cure for AF. Catheter ablation involves the delivery of radiofrequency (RF) or cryothermal energy, which causes tissue injury to the targeted areas of the heart and results in blocking the abnormal rhythms from progressing throughout the heart, thus interrupting and/or preventing further AF.

   Approximately 38% of patients who undergo catheter-based ablation have a return of AF within the first 90 days[3]. This early recurrence predicts long-term recurrence of AF[3], and patients who fail the initial procedure frequently must undergo more catheter ablation procedures. Therefore, there is an urgent need to develop new strategies to improve the effectiveness of catheter ablation for AF, especially in the immediate post-procedure period (3 months).

It is now appreciated that when heart tissue is injured, the resulting inflammation can amplify that injury, causing further heart dysfunction[4]. Catheter ablation itself induces an inflammatory response, both locally at the affected heart tissue as well as throughout the whole body. The intensity of this inflammatory response predicts early AF recurrence after the ablation procedure[5]. This suggests that reducing the inflammatory response to catheter ablation may be an opportunity to improve the healing process after the procedure. However, current guidelines do not provide recommendations on how to manage this inflammatory process[6].

There is a growing body of evidence to suggest that vitamin C plays a role in controlling inflammation levels in a variety of clinically relevant scenarios. Low vitamin C levels appear to promote more inflammation and impair the body's ability to eventually resolve the inflammation[7]. A small trial in patients who suffered severe burns showed that high dose IV vitamin C was associated with less fluid requirements while they were being resuscitated[8]. A larger trial in critically ill surgical patients demonstrated improved rates of acute lung injury and multiorgan failure after receiving high doses of IV vitamin C and vitamin E[9]. After promising data in animal models of sepsis, a phase I clinical trial in patients with severe sepsis was completed. In this study, high dose ascorbic acid infusions (including doses up to 200 mg/kg/day) demonstrated no serious adverse events, while showing efficacy in raising plasma ascorbate levels, a significant lowering in a score of multi-system failure, and a significant lowering in C-reactive protein (CRP) levels, a well-established marker of inflammation[10].

Based on available evidence, there may be a link between of vitamin C levels in the body and rates of AF. A population-based study suggests that vitamin C-deficient women may carry a higher risk of developing AF[11]. Another randomized controlled trial showed that administering supplementations of vitamin C, vitamin E, and n-3 polyunsaturated fatty acids reduced AF in patients who had undergone open heart surgery[12]. Multiple small trials using high dose IV vitamin C infusions have already been conducted in patients who are having stents placed in their heart vessels, demonstrating improved markers of blood flow to the heart through the microscopic vessels after stent placement[13], reductions in the amount of heart tissue damage during the procedure[14], and reductions in markers of oxidative stress[14,15]. All of these studies, as well as an additional trial in which high dose IV ascorbic acid did not significantly reduce acute kidney injury during cardiac stent placement[16], did not demonstrate any significant adverse effects related to the infusions.

We hypothesize that high dose intravenous ascorbic acid (Vitamin C) given around the time of AF ablation will be safe, well tolerated, efficacious in raising plasma ascorbate levels, and will blunt the amount of blood vessel damage, platelet activation, and overall acute inflammatory response, thus reducing the likelihood of early AF recurrence and post-ablation pain. We plan to evaluate high dose IV ascorbic acid in randomized, controlled, double-blinded safety and feasibility pilot study. Patients will be monitored before, during, and after their AF ablation, as well as in clinic follow up. Laboratory biomarkers, patient symptoms, and objective clinical endpoints will be tracked to determine the effects of the infusions to demonstrate their safety and efficacy in raising vitamin C levels. Based on the clear link between inflammation and AF (including recurrence after ablation), studies suggesting a link between vitamin C levels/supplementation and AF incidence, and extensive safety data in both cardiac stenting populations and severely ill septic/burn patients, we believe there is adequate background information to justify this pilot study in human subjects without conducting studies in animal models of AF ablation. We believe that this pilot study will provide an estimate of the potential effect of vitamin C infusions for the design of a future phase II study.

4. * **Describe the proposed research using language understandable to those IRB committee members whose expertise is not scientific. The description must include:**

   - **A statement explaining the study design**
   - **A detailed description of all the procedures that will be followed to carry out the study, preferably in sequential order**
   - **A description of all research measures/tests/interventions that will be used (if applicable)**
   - **A detailed description or list of all secondary data elements and/or secondary specimens that will be obtained and how they will be used (if applicable)**

   See the help text for additional guidance.

We propose a single-center, double-blinded, randomized, controlled, safety and feasibility pilot study of high dose IV ascorbic acid (200mg/kg) over 24 hours, divided into four doses administered every six hours with a 30 minute IV infusion time per dose, compared to matched placebo infusion.

Patients will be screened for eligibility, consented, and enrolled during their electrophysiology clinic appointment (standard of care) preceding their scheduled ablation. Based on prior experience with high dose IV ascorbic acid and the study focus on inflammatory effects, a limited list of exclusion criteria will include: diabetes mellitus with poor control or requiring insulin therapy (due to concerns that the infusions may interfere with glucometer readings), active renal calculus, active acute or chronic infection (including HIV and hepatitis C), active or recent (within 5 years) malignancy, autoimmune or auto-inflammatory disease, and recent or active use of immunosuppressive medications.

Upon admission for their ablation (standard of care), subjects will begin the first study infusion (sterile L-ascorbic acid diluted in 50mL of 5% dextrose in water or matched placebo of 50mL 5% dextrose in water). Once the subject has demonstrated no adverse effects of the first infusion, the AF ablation will proceed as scheduled. Patients will continue receiving infusions every six hours (+/- 3 hours) for a total of four infusions (research intervention). Of note, this 24 hours' worth of infusions was chosen as opposed to the 4 days' worth of infusions which was approved under the original IND (attached), since patients who are undergoing routine AF ablations rarely stay in the hospital longer than 24 hours. The shorter duration of infusions is still expected to test the theoretical benefit, while exposing the patients to even less risk of adverse reactions to the study agent than the 4 days' worth of infusions that are granted under the IND.

Prior to the first infusion, blood samples will be taken to measure plasma levels of ascorbic acid, biomarkers of inflammation (high-sensitivity C-reactive protein [hsCRP], interleukin-6 [IL-6]), and markers of blood vessel damage (von Willebrand Factor [vWF]), all part of the research intervention. A basic metabolic profile will be measured prior to the first infusion (standard of care), followed by measures of kidney function at 24 hours (+/- 12 hours) and at 30-day (+/- 14 days) follow up visit (research labs).

Patients will be monitored during their admission and during their follow up visit for any changes in blood pressure or heart rate, or any other reaction felt to be potentially related to the ablation procedure; monitoring for these elements in the history/physical

exam are standard of care. A validated tool will be used to assess postprocedural pain on a 1-10 scale (research intervention; pain assessment tool attached). We hypothesize that vitamin C infusions will reduce inflammation, which will in turn reduce the amount of post-procedure pericarditis and thus the pain associated with the pericarditis. This is a small pilot study, and we recognize that it will not be powered for clinical outcomes or changes in "soft" endpoints such as subjective pain levels after the procedures. We focused the design of the study on "hard" endpoints such as inflammatory biomarkers, as we expect to be better powered to detect a difference with this. However, we still plan to obtain pain scores by the validated tool we uploaded, to demonstrate feasibility of this approach for future larger studies, and to gather hypothesis-generating data on any trends we may observe in pain reduction (again, to aid in the design of future studies).

Patients will have a 48 hour Holter monitor approximately 2 weeks after the procedure, to screen for recurrence of atrial arrhythmias (standard of care). They will return for a 30-day (+/- 14 days) follow up visit in the electrophysiology clinic for a standard post-ablation assessment (standard of care), as well as safety labs and repeat vitamin C levels (research labs). The medical charts will be monitored by the research team for the 12 months following the AF ablation, as the patients follow up with their (standard of care) visits. Any documented information on Adverse Events, AF recurrence or clinically significant postprocedural pain will be recorded. This will provide hypothesis-generating data and help design future larger scale Phase II studies . Subjects will be called on the phone to asses for Adverse Events, AF recurrence, or postprocedural pain at the 3 month and 12 month mark.

5. **Upload any supporting tables or documents (e.g. protocol documents, figures/tables, data collection forms, study communications/reminders):**

ID: MS6_HM20006786 View: SF - Study Activities

Study Activities

1. * **Select which study type best describes the majority of the study. Your response will help determine which IRB panel should review this.**

- (●) **Bio-Medical**
- ( ) Qualitative - Social/Behavioral/Education (SBE)
- ( ) Quantitative - SBE
- ( ) Mixed Method - SBE
- ( ) Mixed Method - Biomedical

2. * **This study will involve (check all that apply):**

- [x] **procedures such as surveys, interviews, field studies, focus groups, educational tests, deception, psycho-physiological testing, any other similar data collection**
- [x] **secondary data analysis: procedures such as analysis of information collected for non-research purposes (includes both retrospective and prospectively collected information), or analysis of data previously collected for a prior research study**
- [x] **drugs, devices, experimental interventions, biohazards, radiation, other medical or surgical procedures**

ID: MS6_HM20006786 View: SF - Bio-Med Project Details

Bio-Med Project Details

1. * **Select all details that apply:**

- [x] **Drugs, Biologics, Supplements, and/or Other Compounds**
- [x] **Placebo**
- [ ] Washout Period
- [ ] Device Evaluation
- [ ] Bio-Hazards, Other Toxins, Recombinant DNA/Gene Transfer
- [ ] Radiation Exposure and/or Scans involving radiation (PET, MRA)
- [ ] Stem Cells
- [ ] Expanded Access - Treatment Use of an Investigational Product
- [x] **Other Medical or Surgical Procedures**
- [x] **Protected Health Information (PHI)**

ID: MS6_HM20006786 View: SF - Bio-Med Drug/Supplement/Other Compound Details

Bio-Medical Drug, Supplement and/or Other Compound Details

1. * **List all drugs and/or biologics:**

	Drug	Manufacturer	Types	FDA Labeling	IND Holder	IND Number
View	Ascor L 500 (Ascorbic acid injection)	McGuff Pharmaceuticals, Inc.	Investigational Drug/Biologic	Not Applicable	VCU Sponsor who is not the Investigator	113856

2. * **Will the Investigational Drug Service (IDS) pharmacy be utilized:**

- (●) **Yes**
- ( ) No
- ( ) Not Applicable

3. * **For each drug/biologic listed above, upload an investigator's drug brochure or package insert/FDA labeling.**

- **For drug products that require an IND, upload at least one of the following documents for verification of the IND number:**
  - **External sponsor's protocol including IND number and signed Form FDA 1572 for the VCU Principal Investigator**
  - **Communication from the external sponsor verifying the IND number and signed Form FDA 1572 for the VCU Principal Investigator**
  - **VCU sponsor-investigator's FDA IND protocol including IND number**
  - **Communication from the FDA with verification of the IND number**
- **For drug products that qualify for IND exemption under under 21 CFR 312.2(b), upload one of the following documents for each applicable drug:**
  - **A document explaining, with protocol-specific information, how the drug's use in this study meets the relevant critieria for IND exemption under 21 CFR 312.2(b).**
  - **The completed "Determination of IND Exemption for Marketed Drugs" form available on the VCU Faculty-Held IND or IDE website at go.vcu.edu/indide.**
  - **External sponsor's protocol including IND exemption information**
  - **Communication from the external sponsor verifying the IND exemption**
  - **Communication from the FDA with verification of IND exemption**
- **If the Investigational Drug Service Pharmacy (IDSP) is not utilized, upload the IDSP management plan approval.**

ID: MS6_HM20006786 View: SF - Bio-Med Placebo/No Treatment

Bio-Medical Placebo/No Treatment

1. * **Describe and justify the use of placebo:**
This study will evaluate the use of IV vitamin C versus placebo IN ADDITION to standard care for patients undergoing AF ablations. The use of a placebo group is necessary to evaluate the effect of the investigational treatment.

ID: MS6_HM20006786 View: SF - Social/Behavioral Project Details

Social/Behavioral Project Details

1. * **Select all that apply to this study:**

- [x] **Analysis of Information Originally Collected for Non-Research Purposes**
- [ ] Analysis of Data Originally Collected for a Previous Research Study
- [ ] Behavioral Intervention or Experimentation
- [ ] Observations
- [ ] Educational Settings/Assessments/Procedures
- [ ] Population Based Field Study
- [ ] Psychophysiological Testing
- [ ] Deception
- [ ] Oral History
- [ ] Interview/Focus Groups
- [x] **Surveys/Questionnaires/Psychometric Testing**

- [ ] None of the Above

2. * **Will any portion of the research be potentially upsetting to the participants:**
   - ○ Yes
   - ◉ **No**

3. **If Yes, describe the nature of the questions and how you will manage the situation should participants become upset:**

4. **Upload ALL instruments/guides that will be used, including scripts/questions to guide interviews, surveys, questionnaires, observational guides, etc.:**

Data Collection Details

1. * **Select all involved in the study:**

- [x] **Specimen/Biologic Sample Collection**
- [x] **Protected Health Information (PHI)**
- [ ] Secondary Data or Specimens Not From a Registry or Repository
- [ ] Audio/Video
- [ ] Use of Internet for Data Collection
- [ ] Registries/Repositories (Includes Accessing, Contributing or Creating)
- [ ] None of the Above

2. * **Select all identifiers that will be collected as part of this study (including for recruitment, data gathering, data analysis, etc.), even if the data will eventually be anonymized:**

- [x] **Names**
- [ ] Geographic Locators Below State Level
- [ ] Social Security Numbers
- [x] **Dates (year alone is not an identifier)**
- [ ] Ages >89
- [x] **Phone Numbers**
- [ ] Facsimile Numbers
- [ ] E-mail Addresses
- [x] **Medical Record Numbers**
- [ ] Device Identifiers
- [ ] Biometric Identifiers
- [ ] Web URLs
- [ ] IP Addresses
- [ ] Account Numbers
- [ ] Health Plan Numbers
- [ ] Full Face Photos or Comparable Images
- [ ] License/Certification Numbers
- [ ] Vehicle ID Numbers
- [ ] Other Unique Identifier
- [ ] No Identifiers
- [ ] Employee V#

3. **If "Other Unique Identifier" was selected above, describe the identifiers:**

4. * **Will participants be able to withdraw their data (paper, electronic, or specimens) from the study if they no longer wish to participate:**
   - ○ Yes
   - ◉ **No**

5. **If yes above, describe how participants will be able to withdraw their data:**

Sample Collection

1. * **Select all of the types of samples that will be collected as part of this study:**

- [ ] Amniotic Fluid
- [x] **Blood**
- [ ] Buccal Smears
- [ ] Saliva
- [ ] Tissue
- [ ] Urine
- [ ] Other
- [ ] None of the Above

2. **If Other, please describe the type of sample being collected:**

3. * **Describe how the samples will be collected and the collection schedule. For each type of sample, include information about**

   - **The procedures that will be followed to collect the sample**
   - **The role(s) of the individuals who will collect the sample**
   - **The volume/size range of the sample**
   - **The timing and frequency of sample collection**

   All blood samples will be collected by trained personnel (e.g. physicians, nurses, phlebotomists). Whenever possible, blood will be obtained at the same time as other clinically indicated blood draws–or through indwelling catheters–to minimize the need for additional venipuncture. Labs for the study will be drawn at baseline (before the ablation procedure and before any IV vitamin C has been administered), 24 hours (+/- 12 hours) after the start of the first vitamin C infusion, and at the 30-day (+/- 14 days) follow up clinic visit. At each study visit, 2-3 tablespoons will be drawn.

4. * **Will Genetic Testing be conducted on any of the samples:**
   - ○ Yes
   - ◉ **No**

5. * **Will any of the samples be used for a pregnancy test:**
   - ◉ **Yes**
   - ○ No

6. **If yes, describe how positive pregnancy results will be communicated to the participant, particularly if minors are involved:**
   Women of childbearing potential will be informed (in person) of positive pregnancy tests. No minors will be allowed to participate in the study.

7. * **Will any of the samples be used to screen or document alcohol or illicit drug use:**
   - ○ Yes
   - ◉ **No**

8. * **I am aware that I may need to establish a research account with VCUHS Department of Pathology for specimen processing:**
   - ◉ **Yes**
   - ○ No

Blood Details

1. * **Select all of the methods of sample collection that will be utilized in this study:**

- [x] **Individual Needle Stick(s)**
- [ ] Indwelling Catheter Placed Solely for This Study
- [x] **Indwelling Catheter Placed for Other Reason(s)**
- [x] **Blood Collected at the Same Time as Non-Research Blood Collection(s)**
- [ ] Unused Blood Originally Drawn for Clinical Purposes
- [ ] Other

HIPAA

1. * **Describe the protected health information that will be obtained or used in this research:**
Investigators will review the medical record to evaluate diagnosis of atrial fibrillation with plans for ablation procedure and entry criteria at screening. This will include review of prior medical history, medication history, admissions notes, progress notes, laboratory results, procedure notes, and patient interview. Upon enrollment in the study, we will record vital signs, laboratory parameters, medication history, pain level questionnaires, freedom from atrial fibrillation, and hospital-free survival.

2. * **Describe the source(s) of the protected health information:**
PHI will be collected by direct patient interview or from the electronic medical record.

3. * **Explain how the PHI collected or used in this research is the minimum necessary to accomplish this research:**
The amount of PHI collected/used is only the amount necessary to screen/identify potential patients for the study (for the partial waiver of authorization). Then, for the individuals who do elect to participate in the study, the amount of PHI that will be collected/used will be only the amount necessary to track information on clinically relevant demographic/medical factors as well as contact the patients to coordinate the follow up clinic visit and relay any important information about the study.

4. * **Select all pathways this research will employ to use or access PHI:**

- [ ] De-Identified Data (none of the 18 identifiers are recorded or associated with the research data)
- [ ] Limited Data Set
- [ ] Waiver of Authorization
- [x] **Partial Waiver of Authorization**
- [x] **Signed Authorization Combined with Consent Form**
- [ ] Signed Authorization as Stand-Alone Form

ID: MS6_HM20006786 View: SF - Partial Waiver of Authorization

Partial Waiver of Authorization

1. * **Select the purpose for requesting the partial waiver of authorization:**

- [x] **Identify possible participants to recruit for the study**
- [ ] Waive some elements of authorization (such as signature)

2. **If you selected "Waive some elements of authorization" above, list the elements you want to waive and explain why:**

3. * **Explain how the partial waiver of authorization poses no greater than minimal risk to participants' privacy:**
Patients will be screened for a tentative diagnosis of atrial fibrillation with plans for ablation procedure. Those with a tentative diagnosis will be approached by the investigators for potential enrollment.

4. **If you selected "Identify possible participants to recruit" above, describe when will the identifiers be destroyed for those who do not eventually enroll in the study?**

- [x] **Following Participant Contact**
- [ ] Following Participant Enrollment
- [ ] Upon Reaching Study Accrual Objectives
- [ ] Other

5. * **Other than the PI and research personnel identified in this research application, who else will have access to the Protected Health Information?**
Only the PI and research personnel will have access to the health information.

6. * **Explain why the study cannot practicably be conducted without the partial waiver of authorization:**
Preliminary access to PHI is necessary to screen patients for a potential diagnosis of atrial fibrillation with plans for an ablation procedure. Once the subjects have been contacted the information previously collected will be kept in the research file if the subject provides written informed consent to the study or they will be destroyed if the subject is considered ineligible or does not provided informed consent.

7. * **In applying for a partial waiver of authorization, the PI agrees to the following:**

- the identifiers used for this research study will not be used for any other purpose or disclosed to any other person or entity (aside from members of the research team identified in this application), except as required by law
- if at any time the PI wants to reuse this information for other purposes or disclose the information to other indivivdals, the PI will seek approval from the IRB/Privacy Board
- the PI will comply with VCU HIPAA policies and procedures and to the use and disclosure restrictions described above
- the PI assumes responsibility for all uses and disclosures of the PHI by members of the study team

- (●) **Yes**
- ( ) No

ID: MS6_HM20006786 View: SF - Data Confidentiality and Storage

Data Confidentiality and Storage

Confidentiality refers to the way private, identifiable information about a participant or defined community is maintained and shared.

1. * **Specify where this study's paper and electronic research data and/or physical specimens will be stored and how they will be secured from improper use and disclosure:**

   See the help text for additional guidance.
   Paper-based records will be kept in secure location (MMRB building, 6th floor in a locked filing cabinet), and only accessed by authorized study personnel. Electronic records will be stored on a secure password encrypted database and made available only to approved study personnel. Identifiers will be removed from study-related data (data is coded with a key stored in a separate secure location).

2. * **Who will have access to study data:**
   Only study personnel listed on this application will have access to study data, as well as the NIH and FDA upon request.

3. * **If the study will code (i.e. de-identify) the research data by replacing subjects' names with assigned subject IDs, explain the following aspects of the coding process:**

   1. **The process for how subject IDs will be generated/assigned (e.g. random, sequential)**
   2. **Whether there will be a key that links the subject ID with direct identifiers.**

      If a key will be created, describe
   3. **The place where the key will be stored**
   4. **The role(s) of all individuals who will have access to the key**
   5. **When the key will be destroyed**

   See the help text for additional guidance.

   Upon enrollment, each patient will be assigned a sequential patient ID number (e.g. AF-VitC-01, AF-VitC-02, AF-VitC-03, etc) that will be used for all study related procedures. The key to the patient ID number will be maintained by the study coordinator and will be kept in a secure location behind a locked door. Only the investigators on the study roster will have access to the key (upon request). The key will be destroyed at the end of the study.

4. * **Will the sponsor or investigator obtain a certificate of confidentiality for this study:**

   - (●) **No - CoC will not be Obtained**
   - ( ) Yes - CoC has been Obtained
   - ( ) Yes - CoC Request is Pending
   - ( ) Yes - Plan to Submit CoC Request

5. **If the Certificate of Confidentiality has been obtained by the PI, upload it here:**

6. * **What will happen to the research records when the research has been completed:**

   - ( ) Stored indefinitely with identifiers removed
   - ( ) Stored indefinitely with identifiers attached
   - (●) **Destroyed at the end of study once the minimum time required for data retention has been met per VCU Data Retention Policy and/or sponsor retention requirements**
   - ( ) Destroyed when notified by sponsor but not less than the minimum time required for data retention per VCU Data Retention Policy
   - ( ) Other

7. **If Other, explain:**

8. **If "stored indefinitely with identifiers attached", explain why identifiers are necessary:**

ID: MS6_HM20006786 View: SF - Types of Sites

Types of Sites

1. * **Select which of the following accurately describes this study:**

- (●) **Not Multicenter Study**
- ( ) Multicenter Study - VCU Lead
- ( ) Multicenter Study - Non-VCU Lead

2. * **Select all sites where study interventions or interactions will occur and/or identifiable data will be held:**

- [x] **VCU Site**
- [ ] Non-VCU Site (VCU Investigators are conducting/overseeing the conduct of the study)

3. * **Is there a community partner in this research study:**
   - ( ) Yes
   - (●) **No**

ID: MS6_HM20006786 View: SF - VCU Site Details

VCU Site Details

1. * **Select all VCU sites that will be utilized in this study:**

- [ ] Children's Hospital of Richmond at VCU
- [ ] Clinical Research Services Unit (CRSU)
- [ ] Massey Cancer Center
- [ ] VCU Health Community Memorial Hospital
- [x] **VCU Medical Center downtown**
- [ ] VCU Monroe Park Campus
- [ ] VCU Qatar
- [ ] Other VCU Site

2. * **Provide details regarding each VCU Site including:**
   - what clinics / facilities will be used
   - resources that are available for the conduct of this study:
   Standard clinical care will be provided in the normal VCU Health System sites, including the clinic visits before and after the ablation procedure, as well as the electrophysiology suite for the procedure itself and the inpatient ward for observation after the procedure. The study will not involve any additional clinical sites above the standard of care.

   The blood samples will be taken to the VCU School of Nursing laboratory facilities (for IL-6 and vWF analysis), VCU Pathology Services (for hsCRP and creatinine analysis), and the laboratory facility in the Molecular Medicine Research Building for analysis of the vitamin C levels.

   Data storage and analysis will be in the Molecular Medicine Research Building, 6th floor.

ID: MS6_HM20006786 View: SF - VCU Health System

VCU Health System

1. * **The PI has reviewed and agrees to comply with the Conduct of Clinical Research in VCU Health System Patient Care Areas policy:**
   - (●) **Yes**
   - ( ) No

2. * **Explain how you will notify and obtain support from patient care providers in the units where the study will be conducted:**
   Patients will primarily be recruited during their visits with their electrophysiology specialists, who will be involved with their clinical care during the entirety of the study subjects' participation in the clinical trial. The study team will perform an in-service educational session for the staff in the clinical areas involved (clinic, electrophysiology suite, inpatient units) to include information about the study and the potential side effects of the vitamin C infusions. Given the prior interference noted with point of care blood glucose measurements, a blood glucose monitoring plan will be emphasized. As an extra precaution, the study exclusion criteria prohibits insulin-dependent or uncontrolled diabetic patients to minimize this risk overall.

ID: MS6_HM20006786 View: SF - Study Funding

Study Funding

1. * **Have you applied for funding:**
   - (●) **Yes**
   - ( ) No

2. **If so, is this study already funded:**
   - ( ) Yes
   - (●) **No**

ID: MS6_HM20006786 View: SF - Funding Details

Funding Details

1. * **Select all funding sources for this study (pending or awarded):**

- [ ] Industry
- [ ] Direct Federal
- [ ] Non-Profit
- [ ] Indirect Federal
- [ ] State/Local Government
- [ ] Internal Grant
- [ ] Investigator/Departmental Funds
- [x] **None**
- [ ] Other

2. **Select all related proposals:**

RAMS-SPOT ID# (FP/PT/PD#)	Sponsor	PI	Title	Status	Start	End
There are no items to display						

ID: MS6_HM20006786 View: SF - Study Population

Study Population

1. * **Provide the total number of individuals at VCU, and at other sites under the VCU IRB, that:**

   1. **May participate in any study interaction or intervention (including screening, consenting, and study activities) AND/OR**

   2. **You may obtain any data/specimens about (regardless of identifiability)**

   See the help text for additional guidance.

   25

2. **If this is a multi-Center Project, what is the total anticipated number of subjects across all sites:**
   N/A

3. * **Provide justification for the sample size:**
   This is a pilot study, and it is difficult to estimate the needed sample size.
   We believe that completing a 20-patient study will allow to measure effect size and either show a clear rise in ascorbic acid levels or allow for an accurate determination of the needed sample size.

4. * **List the study inclusion criteria:**
   1) Age >/= 21 years
   2) Diagnosis of atrial fibrillation with plans for a catheter-based ablation procedure
   3) Ability to provide informed consent and willingness to be included in the study

5. * **List the study exclusion criteria:**
   1) Known allergy to Vitamin C
   2) Inability to obtain informed consent
   3) Diabetes mellitus either requiring the use of insulin therapy or not requiring the use of insulin therapy but which is uncontrolled, defined as a glycosylated hemoglobin of greater than or equal to 8%
   4) Prior catheter-based ablation for atrial fibrillation
   5) Pregnancy or breast feeding
   6) Active renal calculus
   7) Active acute or chronic infection (including HIV or hepatitis C)
   8) Active or recent (within 5 years) malignancy
   9) Autoimmune or autoinflammatory disease
   10) Recent or active use of immunosuppressive medications

11) Non-English speaking
12) Ward of the state (inmate, other)

6. * **Check all participant groups that will be included in this study or discernable in the research data/specimens. In particular, if you will know that a regulated vulnerable population (children, pregnant women, or prisoners) is involved in the study, be sure to check them:**

- [ ] Healthy volunteers
- [ ] Children
- [ ] Emancipated minors
- [ ] Pregnant women
- [ ] Fetuses, Neonates, Post-delivery Materials, or In-Vitro Fertilization
- [ ] Prisoners
- [ ] Decisionally Impaired Adults
- [ ] When cancer is integral to the research - cancer patients, their family members, cancer healthcare providers, or cancer prevention
- [x] **VCU Health System or VCU Dental Care patients**
- [ ] Non-VCU patients
- [ ] VCU / VCUHS students or trainees
- [x] **VCU / VCU Health System employees**
- [ ] Individuals with limited English proficiency
- [ ] Active military personnel
- [ ] When researching in a K-12 environment - populations within school districts or other learning environments

7. **Justify the inclusion and exclusion criteria if necessary. If you are either targeting, or excluding, a particular segment of the population / community, provide a description of the group/organization/community and provide a rationale:**
This is a small pilot study aimed at demonstrating the safety and efficacy of these infusions in patients undergoing atrial fibrillation ablation. There has been robust safety data in other tested populations (burn victims, severe sepsis, patients undergoing percutaneous coronary intervention, etc.), but this will represent the first such trial in this patient population. We want to be sure that the research subjects understand this, and thus chose to exclude non-English speaking patients to avoid miscommunication of this concept. We agree that the risk is expected to be minimal with the potential for benefit. Should this study support this hypothesis, we will plan to expand the eligible population to include non-English speaking subjects.

8. * **Select the age range(s) of the participants who may be involved in this study:**

- [ ] < 1 Year
- [ ] 1 - 6 Years
- [ ] 7 - 12 Years
- [ ] 13 - 17 Years
- [ ] 18 - 20 Years
- [x] **21 - 65 Years**
- [x] **> 65 Years**

ID: MS6_HM20006786 View: SF - VCU Employees

VCU Employees

1. * **Describe how the study will minimize the possibility of coercion to participate:**
Investigators will generally be unaware of a patients employment status unless that information is volunteered by the patient. Patients will be recruited based upon their diagnosis of atrial fibrillation with plans for a catheter-based ablation irrespective of their VCU employment. Patients will be allowed to take as much time as necessary to read/review the informed consent document and ask questions prior to signing up for the study. Patients will be allowed to review the informed consent document home to read/review with friends/family.

ID: MS6_HM20006786 View: SF - Potential Subject Identification and Recruitment

Potential Subject Identification and Recruitment

1. * **Choose all recruitment methods that may be used:**

- [ ] E-mail Campaign
- [ ] Phone Solicitation

- [ ] Flyers, Letters or Newspaper/TV/Radio Ads
- [ ] Website
- [x] **Direct Contact**
- [ ] Psychology Research
- [ ] Participant Pool (SONA)
- [ ] VCU TelegRAM announcement
- [ ] Word of Mouth
- [ ] Other

2. If Other, please describe:

3. * Select the methods used to obtain names and contact information for potential subjects:

- [x] **Pre-Existing Relationship with Participants**
- [x] **Selected from Pre-Existing VCU Records**
- [ ] Selected from Pre-Existing Non-VCU Records
- [ ] Selected from Publicly Available Records
- [ ] Referred by Health Care Provider or Other Health Professional
- [ ] Recruited from Database or Registry
- [ ] Identified through Community Based Organization (Schools, Church Groups, etc.)
- [ ] Self Referred (Flyer/Ad)
- [ ] Other

4. If Other, please describe:

5. * Provide a description of:

1. **How potential participants or secondary data/specimens of interest will be identified and**
2. **All procedures that will be followed to carry out recruitment and screening activities.**

Include details (as applicable) about:

- **How secondary data/specimens that meet the study's eligibility criteria will be identified (i.e. what database(s) will be queried and the search terms that will be used)**
- **How potential participants will be identified and their contact information obtained**
- **The timing and frequency of recruitment activities**
- **Where and how recruitment procedures will be completed**
- **Who will recruit or respond to potential participants**
- **What and how written or verbal recruitment materials and reminders (if any) will be used**
- **What screening activities will occur and how these procedures will be performed**

See the help text for additional guidance.

Patients seen in VCUHS Electrophysiology clinics will be screened for inclusion and exclusion criteria. The investigators will request a waiver of consent to perform this screening. Patients meeting all inclusion criteria will be approached during their VCUHS clinic visit by one of the study investigators to obtain informed consent. Patients agreeing to participate in the study will sign the informed consent form and will be given a copy of the consent form. Patients who decline the consent of enrollment will not be adversely affected. Enrolled subjects will be free to withdraw from the study at any time with no adverse consequences.

6. Describe any special recruitment procedures for vulnerable populations:

7. Upload all recruitment materials including ads, flyers, telephone or in-person scripts, letters, email invitations, TelegRAM announcements, and postcard reminders:

8. * Before potential participants consent to the study, will screening questions be asked or will any screening procedures/tests be done that would not otherwise be done as standard of care:
No

9. If Yes, will identifiable information about individuals be recorded during screening:
- ○ Yes
- ○ No

Privacy

1. * **Privacy is an individual's right to control how others view, record, or obtain information about them. When privacy is violated it can involve such things as being asked personal questions in a public setting; being publicly identified as having a particular characteristic or diagnosis; being photographed, videotaped or observed without consent; or disclosing personal information.**

   Describe how participants' privacy will be protected during:
   - identification,
   - recruitment,
   - screening,
   - the consent process,
   - conduct of the study, and
   - data dissemination:

   All patient-related activities will be conducted in routine healthcare settings (i.e. private clinic rooms, private hospital rooms). Only the minimum necessary information and patient identifiers will be recorded. Upon enrollment, all patients will receive a coded patient ID number to be used throughout the course of the study. The key to the patient ID numbers will be kept in a separate secure location from the coded patient information.

ID: MS6_HM20006786 View: SF - Costs to Participants

Costs to Participants

1. **Select all categories of costs that participants or their insurance companies will be responsible for:**

- [ ] Participants will have no costs associated with this study
- [x] **Study related procedures that would be done under standard of care**
- [ ] Study related procedures not associated with standard of care
- [ ] Administration of drugs / devices
- [ ] Study drugs or devices
- [ ] Other

2. **If Other, explain:**

3. * **Provide details of all financial costs to the participant, other than time and transportation. Additional details regarding standard of care costs will be requested on another screen, if applicable.**
   There will be no financial costs to the participant.

ID: MS6_HM20006786 View: SF - Standard of Care Vs. Research Costs

Standard of Care Vs. Research Costs

1. * **Describe any procedures, therapy, lab work, x-rays, drugs, or devices, etc that are considered standard of care and will be charged to the participant or their insurance:**
   Routine lab work as part of standard of care, surveillance Holter monitoring for occult return of atrial fibrillation which would have been ordered as part of standard of care, clinic visits which would be part of standard of care regardless of study participation.

2. * **Describe the process to determine whether participants' insurance will cover the expenses:**
   We have met with the School of Medicine team representatives from the department of Clinical Research Operations, who have assisted with a cost-coverage analysis and provided guidance on the standard of care items which are appropriate for billing patients' insurance providers and which items must be billed to the research account.

ID: MS6_HM20006786 View: SF - Compensation

Compensation

1. * **Describe any compensation that will be provided including:**
   - items such as parking/transportation
   - total monetary amount
   - type (e.g., gift card, cash, check, merchandise, drawing, extra class credit)
   - how it will be disbursed:
   There will be no compensation to study participants.

2. **If compensation will be pro-rated, explain the payment schedule:**
   N/A

ID: MS6_HM20006786 View: SF - Risks, Discomforts, Potential Harms and Benefits

Risks, Discomforts, Potential Harms and Benefits

1. * **Describe the risks of each research procedure to participants or others. For each identified risk, provide an assessment of the anticipated seriousness and likelihood of the risk. Some examples of possible risks include but are not limited to:**

   - **Physical risks (e.g. bodily harms or discomforts, side effects, etc.)**
   - **Psychological risks (e.g. emotional, mental, or spiritual harms or discomforts, changes to thoughts, beliefs, or behaviors, etc.)**
   - **Research data risks (e.g. loss of confidentiality and privacy)**
   - **Social or legal risks (e.g. impacts on relationships or reputation, legal or criminal justice actions for self or others, etc.)**
   - **Financial risks (e.g. impacts on income, employability, or insurability, loss of services, etc.)**
   - **Other risks (e.g. unforeseeable risks of experimental procedures, risks related to particular study designs (randomization, washout, placebo, withholding care/services, deception), etc.)**

   See the help text for additional guidance.

   High dose ascorbic acid therapy is a powerful anti-oxidant and micronutrient, and it has been demonstrated to be a safe therapy in normal subjects, patients undergoing coronary artery stenting procedures, and critically ill patients. The use of high dose ascorbic acid therapy as an anti-inflammatory treatment for AF ablation procedures is justified by its low risk:benefit ratio.

   Disease-specific concerns related to the infusions include: interference with point of care glucometer readings (resulting in falsely high results), which is not seen in venous laboratory glucometer readings. In large doses of vitamin C, hyperoxaluria can be observed in 1-10% of patients, raising concerns primarily for patients with active renal calculus or those prone to recurrent renal calculi. Studies involving patients with advanced cancer have reported infrequent side effects consisting of nausea, vomiting, dizziness, and headache.

   Other potential risks of participating in the research study include the mild risks of blood draws (bleeding, infection, damage to soft tissue). To minimize this, research-related blood draws will be taken from existing intravenous catheters placed for standard of care purposes (if applicable) or combined with clinically-indicated lab draws to avoid repeat phlebotomy.

2. * **Describe how the risks / harms will be minimized:**
   Diabetics will be excluded if they are on insulin therapy and/or if they have uncontrolled diabetes, defined as a glycosylated hemoglobin of greater than or equal to 8%. While admitted periprocedurally, signs will be posted inside and outside of the patient rooms as a warning that point of care glucose readings should not be considered reliable within 36 hours of the infusion, in case this is ordered clinically. In-services will be given to the nursing staff in all involved clinical areas to educate them on the effect of high dose ascorbic acid infusions on point of care glucometers.

   Patients with active renal calculus or those deemed prone to recurrent renal calculi will be excluded from the study.

   Below is our protocol for addressing the blood glucose monitoring concerns:

   Guidance for blood glucose monitoring in patients enrolled in investigational Vitamin C Studies under this IND:

   Glucose levels in this study population are checked daily as standard of care, and point of care testing is not usually needed. However, all studies under this IND follow the glucose monitoring plan outlined below. If additional glucose draws are required for a participant in this study, all additional draws outside of standard of care will be billed to the study. Additional glucose draws, if needed, will be determined on an as needed basis by the clinical team.

   Ascorbic acid is known to artefactually raise POC blood glucose readings; however, it does not raise blood glucose readings from a basic metabolic panel or glucose results using the gas lab. Thus, extreme care must be taken to assure an accurate blood glucose level from a metabolic laboratory (BMP) or arterial blood gas panel before initiating any insulin therapy, including sliding scale or scheduled insulin.
   Guidance for blood glucose monitoring in patients enrolled this study:
   • Critical care Nursing and Physician leadership at all study sites must be informed of vitamin C•s effect on point of care (glucometer) blood glucose and arterial blood gas glucose point of care values.
   • In-service training will be documented in the Study Training Log
   • Bold signage will be displayed on all study instructions, data collection forms, and at the patient•s head of bed, stating:
   • STOP! Do not use Accuchek or other Point of Care devices to measure glucose on this patient
   • Use only metabolic or gas lab glucose screening methods
   • This patient is enrolled in a study with Vitamin C, which artifactually increases POC glucose testing
   • Do Not Initiate or Utilize Sliding Scale, Scheduled Insulin, or Continuous Insulin Infusion Without Laboratory Confirmation of Blood Glucose

   • Those receiving insulin infusion or sliding scale insulin will have metabolic glucose screening on the schedule determined by the primary physician and paid for by the study
   • Blood glucose monitoring for insulin administration guidance should only be by a metabolic or blood gas laboratory measured blood glucose results, whether or not the study patient is receiving insulin
   • Study personnel will follow each study patient closely to monitor insulin use to ensure that point of care glucose screening is suspended for the research subject.
   • If subject loses central venous access (PICC line and arterial line acceptable), Vitamin C infusions are to stop but subject not

withdrawn. Data collected through end of study.
• Point of care glucose testing may resume 36 hours after the last infusion of study drug.

3. **If the disclosure of any of the information obtained during the study would place the individual at risk for harm (legal, reputation, emotional etc.) and the information will be recorded so that the individual could be identified, explain the protections that will be put in place to decrease the risk of disclosure:**

4. * **The Code of Virginia requires that most medical personnel and all employees of institutions of higher education report suspected child/elder abuse or neglect. Is it likely investigators could discover information that would require mandatory reporting by the investigators or staff:**
   ○ Yes
   ◉ **No**

5. * **Is it likely investigators could discover a participant's previously unknown condition (eg disease, suicidal thoughts, wrong paternity) or if a participant is engaging in illegal activities:**
   ○ Yes
   ◉ **No**

6. **If yes, explain how and when such a discovery will be handled:**

7. * **Describe any potential risks or harms to a community or a specific population based on study findings:**
   N/A

8. * **Describe criteria for withdrawing an individual participant from the study; such as safety or toxicity concerns, emotional distress, inability to comply with the protocol, etc.:**
   Patients may withdraw from the study at any time. The investigators can withdraw any patient at any time from the study if medically necessary. If for any reason the study treatment or observations were discontinued the reasons will be recorded and the DSMB will be informed.

9. * **Summarize any pre-specified criteria for stopping or changing the study protocol due to safety concerns:**
   The study protocol will be stopped in the event that any participant develops an adverse event or side effect which is known to be associated with the vitamin C infusions, or if patients develop exclusion criteria after enrollement.

10. **Where appropriate, discuss provisions for ensuring necessary medical, professional, or psychological intervention in the event of adverse events to the subjects:**
    Investigators will determine daily if any clinical adverse experiences occur during the period from informed consent through study hour 24 and will be followed up through resolution, resolved with sequelae, unresolvable or death.

    It is expected that Diseases/Illnesses/Symptoms associated with the study population will occur in the study population, independent of investigation product exposure. These associated diseases/illnesses/symptoms will be considered as part of the study inclusion processes and/or study assessments and as such will not be considered "reportable" Adverse Events (AE)/Serious Adverse Events (SAE) unless the Investigator has a reasonable doubt regarding the relatedness of the event to the investigational product.
    The investigator will evaluate any changes in laboratory values and physical signs and will determine if the change is clinically important and different from what is expected in the course of treatment of the study patients. If clinically important and unexpected adverse experiences occur, they will be recorded on the adverse event case report form.

    The following will be considered reportable adverse events:

    For this trial, a reportable adverse event is defined as:

    1. Any clinically important untoward medical occurrence in a patient receiving study drug or undergoing study procedures which is different from what is expected in the clinical course of a patient undergoing AF ablation, or,
    2. Any clinically important, untoward medical occurrence that is thought to be associated with the study drug or procedures, regardless of the "expectedness" of the event for the course of a patient undergoing cardiac bypass surgery.
    3. Investigators will report all serious, unexpected, AND study-related adverse events from the time of informed consent through study hour 48 that are considered to be harmful and unintended responses to the investigational product and/or study related procedures in the participants" case report forms. "Responses to investigational product" means that the causal relationship between an investigational product and an adverse event cannot be ruled out.

    The following will be reported as adverse events:

    Investigators will report all unanticipated problems that involve risk or harm to a research participant AND was not anticipated or foreseen (e.g., not described in the consent form) AND is probably or definitely related to or caused by the research to the sponsor/IND Holder by phone and email within 24 hours of becoming aware of event. The Institutional Review Board will be notified within 5 business days of receiving notice of the unanticipated problem.

    Investigators must report Unanticipated Problems to the sponsor, regardless of severity, associated with the study drug or study procedures within 24 hours. An unanticipated problem is defined as follows:

    Any incident, experience, or outcome that meets all of the following criteria will be reported from the time of consent through study hour 48 until resolved, withdrawn from the study, death occurs or lost to follow up:
    • Unexpected, in terms of nature, severity, or frequency, given the research procedures that are described in the protocol-related documents, such as the IRB-approved research protocol and informed consent document; and the characteristics of the subject population being studied;
    • Related or possibly related to participation in the research. In this guidance document, possibly related means there is a reasonable possibility that the incident, experience, or outcome may have been caused by the procedures involved in the research;
    • Suggests that the research places subjects or others at a greater risk of harm (including physical, psychological, economic, or social harm) than was previously known or recognized.

11. * **Describe any potential for direct benefits to participants in this study:**
We do not anticipate direct benefits to study participants other than the "hypothesized" benefit of anti-inflammatory treatment. If the study hypotheses are proven to be correct, treatment with high dose ascorbic acid may alleviate the inflammatory response to catheter ablation, improve post-ablation heart tissue healing, and reduce the likelihood of recurrence of atrial fibrillation in the future.

12. * **Describe the scientific benefit or importance of the knowledge to be gained:**
The evidence for the presence of inflammation after catheter-based ablation for atrial fibrillation is overwhelming; however, there are currently no guideline-based therapeutic approaches to this problem. The unanswered question remains whether inflammation plays a key role in the recurrence of atrial fibrillation after ablation or merely a marker of the risk. This proposal will investigate the safety of using high dose ascorbic acid at the time of a catheter ablation for atrial fibrillation (knowledge gap) and evaluate whether this infusion reduces inflammation levels and the subsequent risk of atrial fibrillation recurrence (unmet clinical need) in a pilot clinical trial. The findings will then form the basis for the subsequent design of a phase II clinical trial.

As for all clinical trials, there is no guarantee that there is a benefit with high dose ascorbic acid infusions. If this treatment does improve the post-ablation disease course, this could have a substancial potential benefit for patients with patients who require a catheter-based ablation with regards to symptoms, quality of life, healthcare costs, morbidity, and mortality.

13. **If applicable, describe alternatives (research or non-research) that are available to potential participants if they choose not to participate in this study:**
There are currently no guideline-based anti-inflammatory treatments for patients who undergo atrial fibrillation ablation. The alternative to participation is standard care.

14. * **Indicate if this study will have a Data Safety Monitoring Board (DSMB) or a Data Safety Monitoring Plan (DSMP): [Required for all greater than minimal risk studies]**

- [x] **DSMB**
- [ ] DSMP
- [ ] No DSMB/DSMP [Note: This response is not applicable for greater than minimal risk studies]

ID: MS6_HM20006786 View: SF - DSMB Details

DSMB Details

1. * **Describe the composition and affiliations of the DSMB:**
The DSMB is composed of members who are independent from the study operations. For this study, the DSMB is composed of 3 voting members, including a cardiologist, a pharmacist, and a cardiac electrophysiologist.

2. * **Describe the frequency or schedule for DSMB review of data:**
The DSMB will meet every 6 months or sooner in case of unanticipated serious adverse events.

3. * **Describe what data (blinded or unblinded) the DSMB will review.:**
The study team will provide the board members with data regarding screening, enrollment, adverse events and withdrawals. The board members may request unblinding at any time. Upon request of the DSMB (following positive vote by 2 or more members), the coordinator will retrieve the randomization code for one or more individual patients (as needed). If necessary the DSMB will inform the investigators of the unblinding of the randomization code, if not necessary the investigators (and the patients) will be kept blinded. The DSMB may request an expert opinion by one or more non-members, however only the DSMB members will vote on any individual issue. The DSMB (following positive vote by 2 or more members) may request temporary or permanent halting of the study, or interruption of treatment of one or more patients. The minutes from each meeting will be distributed to the board members and to the IRB, and not to the investigators unless specifically requested by the DSMB. A brief conclusive statement addressing whether the study should continue as planned or not will be provided to the investigators and the IRB every 6 months.

ID: MS6_HM20006786 View: SF - Consent Qualifiers

Consent Qualifiers

1. * **Are you submitting your study as exempt and therefore no consent is required:**
- ○ Yes
- ◉ **No**

ID: MS6_HM20006786 View: SF - Consent Groups

Consent Groups

1. * **List all consent groups:**

Group	Types	Waivers	Roles	Roles - Other	Consent	Coercion	Decision	Re-Consent

	Group	Types	Waivers	Roles	Roles - Other	Consent	Coercion	Decision	Re-Consent
View	Systematic Screening Activities	None of the Above (select waiver below)	Waiver of Some or All Elements of Consent	N/A: Requesting Waiver of Consent		N/A	N/A	N/A	
View	Study Participants	Written/Signed Consent by Participant	No Waivers Requested	Research Nurse Principal Investigator Co/Sub-Investigator Medical or Psychological Responsible Investigator		Patients seen in the VCUHS electrophysiology clinics will be screened for inclusion and exclusion criteria. Patients meeting all inclusion criteria and no exclusion criteria will be approached to obtain informed consent prior to their surgery. Consent will be an ongoing process over the duration of active study participation and follow-up encounters. There may be times where there is insufficient time for the subjects to make an informed decision to participate in their procedure because they do not have an upcoming clinic appointment before their ablation procedure. In this scenario, we will not have a chance to meet them in person their scheduled procedure. In this scenario, the investigators will send a consent form to potential subjects prior to their scheduled surgery for their review. This is not a scripted conversation between the investigator and potential subject. This is simply to allow for the potential subject to review the consent form and have any questions answered prior to the day of surgery.	Patients will be allowed to take as much time as necessary to read/review the informed consent document and ask questions prior to signing up for the study. Patients will be allowed to review the informed consent document home to read/review with friends/family.	As long as the participants wish to review the consent, provided they still meet the inclusion criteria and fulfill no exclusion criteria if and when they do enroll, and as long as enrollment is still open by the time they decide.	N/A

2. Upload any consent / assent documents:

ID: MS6_HM20006786 View: SF - Waiver of Some or All Elements of Consent

Waiver of Some or All Elements of Consent

Consent groups that require a waiver of some or all elements of consent:

Group	Types	Waivers	Roles	Roles - Other	Consent	Coercion	Decision	Status Change
Systematic Screening Activities					N/A	N/A	N/A	

The basic elements of informed consent are as follows:

1. All of the following:
   - a statement that the study involves research
   - an explanation of the purposes of the research
   - an explanation of the expected duration of the participant's involvement
   - a description of the procedures to be followed
   - identification of any procedures which are experimental

2. A description of any reasonably foreseeable risks or discomforts to the participant
3. A description of any benefits to the participant or to others which may reasonably be expected from the research
4. A disclosure of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to the participant
5. A statement describing the extent, if any, to which confidentiality of records identifying the participant will be maintained
6. For research involving more than minimal risk, an explanation as to whether any compensation and an explanation as to whether any medical treatments are available if injury occurs and, if so, what they consist of, or where further information may be obtained
7. An explanation of whom to contact for answers to pertinent questions about the research and research participants' rights, and whom to contact in the event of a research-related injury to the participant
8. A statement that participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled, and the participant may discontinue participation at any time without penalty or loss of benefits to which the participant is otherwise entitled

1. * **Describe which of the elements of informed consent you are waiving or altering for <u>each group</u> listed at the top of this page:**
   We will screen patients for this study using existing clinical databases that are in operation (Cerner). We are not developing any databases for the purpose of systematic screening. Therefore, we will not explain to every patient that they are part of a systematic screening process. Contacting and obtaining consent from each patient prior to screening would not be feasible. We are requesting a waiver of all elements of consent only for this screening portion of the study.

2. * **Will you be waiving parental permission for any of the consent groups at the top of this page:**
   ○ Yes
   ◉ **No**

3. * **Is this study sanctioned by State and Local Government and designed to study public benefit or service programs:**
   ○ Yes
   ◉ **No**

ID: MS6_HM20006786 View: SF - Waiver [45 CFR 46.116d] - Adults

Waiver [45 CFR 46.116d] - Adults

1. * **Explain how the research involves no more than minimal risk to the participants:**
   We are not creating a database for the purpose of screening, and we will identify patients who are within our existing clinical practice at VCUHS in the electrophysiology clinic.

2. * **Explain how the waiver or alteration will not adversely affect the rights or welfare of the participants:**
   Having patients within our electrophysiology clinic screened for potential study inclusion will not affect their rights, as their health care information will not be transmitted from Cerner to another database.

3. * **Explain how the research could not practicably be carried out without the waiver or alteration:**
   Without this waiver, the research could not be pursued. We have to develop an idea of which patients in our clinic might be eligible, so they can be approached about participating in a clinical research study. It would not be practical to consent all of our clinic patients, as a large majority would not be eligible based on the patients' comorbid conditions.

4. * **Explain how participants will be provided with additional pertinent information after participation. If this will not be provided, explain why not:**
   We will provide study participants with information related to the results of the clinical trial at their request. We will have our study listed on clinicaltrials.gov so that anyone could access details of the study or approach us about participation.

ID: MS6_HM20006786 View: SF - Documents

Documents

1. * **Upload any documents that the VCU IRB will need to conduct a review of this submission.**

   NOTE: The delete function should only be used if an incorrect document is uploaded or added to the system AND that document has not been reviewed and approved by the IRB. Do NOT delete documents that the IRB previously reviewed and approved.

   Once you have uploaded a document to RAMS-IRB, any changes to that document (i.e. different versions of the same document) should be added to the IRB submission by using the Update button. To provide updated documents, follow these steps:

   - Click the Update button located to the left of the document to be updated.
   - In the Add Document window, click the Choose File or Browse button, select the file you are adding, and click on the Open button.
   - Click OK to close the Add Document window, and the system will upload the revised document. RAMS-IRB will automatically provide a version number for the document.

   To access previous versions of a document in RAMS-IRB you must use the History link associated with the document:

   - Click the View or Update button located to the left of the document you wish to access.

- In the Add/View Document window, click the "History" hyperlink located to the right of the file name.
- A separate window will open that shows all versions of the document that have been added to RAMS-IRB. Click on any file name to download and view the document.

	Document Name	Document	Version	Date Modified	Uploaded By	Type	Approved
View	Sam Powell CV	sam's CV update2.docx	0.01	8/30/2017 9:37 AM	Christine DeWilde	CV/Biosketch	No
View	Informed Consent Form	CITRIS-AF_ICF CLEAN_04-06-2017-Version #4.pdf	0.10	4/24/2017 1:45 PM	Cory Trankle	Consent/Assent/Information Sheet	Yes
View	References for Background Section	VitC in AF Ablation IRB Protocol References.docx	0.01	4/26/2016 5:19 PM	Cory Trankle	Other	Not Applicable
View	Dr. Koneru CV	Koneru CV.pdf	0.01	4/26/2016 5:17 PM	Cory Trankle	CV/Biosketch	Yes
View	Visual Pain Scale	Visual Analog Pain Scale.pdf	0.01	4/26/2016 5:11 PM	Cory Trankle	Research Measure	Yes
View	Investigator's IND Brochure	SignedInvestigatorsBrochure1.14.16.pdf	0.01	3/28/2016 3:44 PM	Cory Trankle	FDA Regulatory Document	Not Applicable

ID: MS6_HM20006786 View: SF - Protocol Complete

Section Complete:
SUMMARY

End of Application:
IRB HUMAN SUBJECTS STUDY

Click Continue Below

ID: MS6_HM20006786 View: Personnel

Personnel

1. * **Name:**
   Jayanth Koneru

2. * **Is this individual a 'COI Investigator'?**
   - (●) **Yes**
   - ( ) No

3. * **Roles:**

☑	**Principal Investigator**
☐	Co/Sub-Investigator
☑	**Medical or Psychological Responsible Investigator**
☐	Student Investigator
☐	Research Coordinator
☐	Research Nurse
☐	Consultant
☐	Research Assistant
☐	Pharmacist
☐	Statistician
☐	Regulatory Coordinator
☐	Trainee/Student
☐	Other

4. **If other role is selected, explain:**

5. * **Study related responsibilities:**

- [x] **Study Design**
- [x] **Data Collection - Lab**
- [x] **Data Collection - Clinical**
- [x] **Data Collection - Interviews/Surveys**
- [x] **Data Collection - Direct Observation**
- [x] **Clinical Services**
- [x] **Intervention Services**
- [x] **Data Entry**
- [x] **Data Coding**
- [x] **Data Management**
- [x] **Data Analysis**
- [x] **Project Coordination**
- [x] **Participant Identification**
- [x] **Participant Recruitment**
- [x] **Participant Consent**
- [x] **Regulatory Management**
- [ ] Other

6. **If other responsibility is selected, explain:**

7. *** The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:**
   Yes

8. *** Qualifications to carry out study related responsibilities: (you may select multiple answers)**

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [ ] Trainee
- [ ] Student
- [ ] Other

9. **If other qualification is selected, explain:**

10. **Additional or Emergency Phone:**
    804-828-4558

ID: MS6_HM20006786 View: Personnel

Personnel

1. *** Name:**
   Alpha Fowler

2. *** Is this individual a 'COI Investigator'?**
   - ○ Yes
   - ◉ **No**

3. *** Roles:**

- [ ] Principal Investigator
- [x] **Co/Sub-Investigator**
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [ ] Research Assistant

- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [ ] Trainee/Student
- [ ] Other

4. If other role is selected, explain:

5. * Study related responsibilities:

- [x] **Study Design**
- [ ] Data Collection - Lab
- [ ] Data Collection - Clinical
- [ ] Data Collection - Interviews/Surveys
- [ ] Data Collection - Direct Observation
- [ ] Clinical Services
- [ ] Intervention Services
- [ ] Data Entry
- [ ] Data Coding
- [ ] Data Management
- [x] **Data Analysis**
- [x] **Project Coordination**
- [ ] Participant Identification
- [x] **Participant Recruitment**
- [x] **Participant Consent**
- [x] **Regulatory Management**
- [ ] Other

6. If other responsibility is selected, explain:

7. * The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:
Yes

8. * Qualifications to carry out study related responsibilities: (you may select multiple answers)

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [ ] Trainee
- [ ] Student
- [ ] Other

9. If other qualification is selected, explain:

10. Additional or Emergency Phone:

ID: MS6_HM20006786 View: Personnel

Personnel

1. * Name:
Cory Trankle

2. * Is this individual a 'COI Investigator'?
- ○ Yes
- ◉ **No**

3. * Roles:

- [ ] Principal Investigator
- [x] **Co/Sub-Investigator**
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [ ] Research Assistant
- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [x] **Trainee/Student**
- [ ] Other

4. If other role is selected, explain:

5. * Study related responsibilities:

- [x] **Study Design**
- [x] **Data Collection - Lab**
- [x] **Data Collection - Clinical**
- [x] **Data Collection - Interviews/Surveys**
- [x] **Data Collection - Direct Observation**
- [x] **Clinical Services**
- [ ] Intervention Services
- [x] **Data Entry**
- [x] **Data Coding**
- [x] **Data Management**
- [x] **Data Analysis**
- [x] **Project Coordination**
- [x] **Participant Identification**
- [x] **Participant Recruitment**
- [x] **Participant Consent**
- [x] **Regulatory Management**
- [ ] Other

6. If other responsibility is selected, explain:

7. * The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:
Yes

8. * Qualifications to carry out study related responsibilities: (you may select multiple answers)

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [x] **Trainee**
- [x] **Student**
- [ ] Other

9. If other qualification is selected, explain:

10. Additional or Emergency Phone:
804-628-3981

Personnel

1. * **Name:**
Christine DeWilde

2. * **Is this individual a 'COI Investigator'?**
- ○ Yes
- ◉ **No**

3. * **Roles:**

- ☐ Principal Investigator
- ☐ Co/Sub-Investigator
- ☐ Medical or Psychological Responsible Investigator
- ☐ Student Investigator
- ☑ **Research Coordinator**
- ☑ **Research Nurse**
- ☐ Consultant
- ☑ **Research Assistant**
- ☐ Pharmacist
- ☐ Statistician
- ☑ **Regulatory Coordinator**
- ☐ Trainee/Student
- ☐ Other

4. **If other role is selected, explain:**

5. * **Study related responsibilities:**

- ☑ **Study Design**
- ☑ **Data Collection - Lab**
- ☑ **Data Collection - Clinical**
- ☑ **Data Collection - Interviews/Surveys**
- ☑ **Data Collection - Direct Observation**
- ☐ Clinical Services
- ☐ Intervention Services
- ☑ **Data Entry**
- ☑ **Data Coding**
- ☑ **Data Management**
- ☑ **Data Analysis**
- ☑ **Project Coordination**
- ☑ **Participant Identification**
- ☑ **Participant Recruitment**
- ☑ **Participant Consent**
- ☑ **Regulatory Management**
- ☐ Other

6. **If other responsibility is selected, explain:**

7. * **The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:**
Yes

8. * **Qualifications to carry out study related responsibilities: (you may select multiple answers)**

- ☐ Education and/or Professional Preparation
- ☑ **Experience - Research**
- ☑ **Experience - Clinical**
- ☐ Experience - Related Skills
- ☐ Trainee
- ☐ Student

- [ ] Other

9. **If other qualification is selected, explain:**

10. **Additional or Emergency Phone:**
804-628-5710

ID: MS6_HM20006786 View: Personnel

Personnel

1. * **Name:**
Sampath Gunda

2. * **Is this individual a 'COI Investigator'?**
- ○ Yes
- ◉ **No**

3. * **Roles:**

- [ ] Principal Investigator
- [x] **Co/Sub-Investigator**
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [ ] Research Assistant
- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [x] **Trainee/Student**
- [ ] Other

4. **If other role is selected, explain:**

5. * **Study related responsibilities:**

- [x] **Study Design**
- [x] **Data Collection - Lab**
- [x] **Data Collection - Clinical**
- [x] **Data Collection - Interviews/Surveys**
- [x] **Data Collection - Direct Observation**
- [ ] Clinical Services
- [ ] Intervention Services
- [x] **Data Entry**
- [x] **Data Coding**
- [x] **Data Management**
- [x] **Data Analysis**
- [x] **Project Coordination**
- [x] **Participant Identification**
- [x] **Participant Recruitment**
- [x] **Participant Consent**
- [x] **Regulatory Management**
- [ ] Other

6. **If other responsibility is selected, explain:**

7. * **The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:**

Yes

8. * **Qualifications to carry out study related responsibilities: (you may select multiple answers)**

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [x] **Trainee**
- [ ] Student
- [ ] Other

9. **If other qualification is selected, explain:**

10. **Additional or Emergency Phone:**

ID: MS6_HM20006786 View: Personnel

Personnel

1. * **Name:**
   Robin Sculthorpe

2. * **Is this individual a 'COI Investigator'?**
   - ○ Yes
   - ◉ **No**

3. * **Roles:**

- [ ] Principal Investigator
- [ ] Co/Sub-Investigator
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [ ] Research Assistant
- [x] **Pharmacist**
- [ ] Statistician
- [ ] Regulatory Coordinator
- [ ] Trainee/Student
- [ ] Other

4. **If other role is selected, explain:**

5. * **Study related responsibilities:**

- [x] **Study Design**
- [ ] Data Collection - Lab
- [ ] Data Collection - Clinical
- [ ] Data Collection - Interviews/Surveys
- [ ] Data Collection - Direct Observation
- [x] **Clinical Services**
- [ ] Intervention Services
- [ ] Data Entry
- [ ] Data Coding
- [ ] Data Management
- [ ] Data Analysis
- [ ] Project Coordination
- [ ] Participant Identification

- [ ] Participant Recruitment
- [ ] Participant Consent
- [ ] Regulatory Management
- [x] **Other**

6. **If other responsibility is selected, explain:**
   Creation of randomization scheme; handling, preparation, and dispensing of study infusions and matched placebos
7. * **The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:**
   Yes
8. * **Qualifications to carry out study related responsibilities: (you may select multiple answers)**

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [ ] Trainee
- [ ] Student
- [ ] Other

9. **If other qualification is selected, explain:**
10. **Additional or Emergency Phone:**

ID: MS6_HM20006786 View: Personnel

Personnel

1. * **Name:**
   Narayan Kowlgi
2. * **Is this individual a 'COI Investigator'?**
   - ○ Yes
   - ◉ **No**
3. * **Roles:**

- [ ] Principal Investigator
- [x] **Co/Sub-Investigator**
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [ ] Research Assistant
- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [x] **Trainee/Student**
- [ ] Other

4. **If other role is selected, explain:**
5. * **Study related responsibilities:**

- [ ] Study Design
- [x] **Data Collection - Lab**
- [x] **Data Collection - Clinical**
- [x] **Data Collection - Interviews/Surveys**
- [x] **Data Collection - Direct Observation**

- [x] **Clinical Services**
- [ ] Intervention Services
- [x] **Data Entry**
- [x] **Data Coding**
- [x] **Data Management**
- [x] **Data Analysis**
- [x] **Project Coordination**
- [x] **Participant Identification**
- [x] **Participant Recruitment**
- [x] **Participant Consent**
- [ ] Regulatory Management
- [ ] Other

6. **If other responsibility is selected, explain:**

7. * **The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:**
   Yes

8. * **Qualifications to carry out study related responsibilities: (you may select multiple answers)**

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [x] **Trainee**
- [ ] Student
- [ ] Other

9. **If other qualification is selected, explain:**

10. **Additional or Emergency Phone:**

ID: MS6_HM20006786 View: Personnel

Personnel

1. * **Name:**
   Aditya Saini

2. * **Is this individual a 'COI Investigator'?**
   - ○ Yes
   - ◉ **No**

3. * **Roles:**

- [ ] Principal Investigator
- [x] **Co/Sub-Investigator**
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [ ] Research Assistant
- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [x] **Trainee/Student**
- [ ] Other

4. **If other role is selected, explain:**

5. * **Study related responsibilities:**

- [ ] Study Design
- [x] **Data Collection - Lab**
- [x] **Data Collection - Clinical**
- [x] **Data Collection - Interviews/Surveys**
- [x] **Data Collection - Direct Observation**
- [x] **Clinical Services**
- [x] **Intervention Services**
- [x] **Data Entry**
- [x] **Data Coding**
- [x] **Data Management**
- [x] **Data Analysis**
- [x] **Project Coordination**
- [x] **Participant Identification**
- [x] **Participant Recruitment**
- [x] **Participant Consent**
- [ ] Regulatory Management
- [ ] Other

6. **If other responsibility is selected, explain:**

7. * **The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:**
Yes

8. * **Qualifications to carry out study related responsibilities: (you may select multiple answers)**

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [x] **Trainee**
- [ ] Student
- [ ] Other

9. **If other qualification is selected, explain:**

10. **Additional or Emergency Phone:**

ID: MS6_HM20006786 View: Personnel

Personnel

1. * **Name:**
Harsimran Saini

2. * **Is this individual a 'COI Investigator'?**
- ○ Yes
- ◉ **No**

3. * **Roles:**

- [ ] Principal Investigator
- [x] **Co/Sub-Investigator**
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse

- [ ] Consultant
- [ ] Research Assistant
- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [x] **Trainee/Student**
- [ ] Other

4. If other role is selected, explain:

5. * Study related responsibilities:

- [ ] Study Design
- [x] **Data Collection - Lab**
- [x] **Data Collection - Clinical**
- [x] **Data Collection - Interviews/Surveys**
- [x] **Data Collection - Direct Observation**
- [x] **Clinical Services**
- [x] **Intervention Services**
- [x] **Data Entry**
- [x] **Data Coding**
- [x] **Data Management**
- [x] **Data Analysis**
- [x] **Project Coordination**
- [x] **Participant Identification**
- [x] **Participant Recruitment**
- [x] **Participant Consent**
- [ ] Regulatory Management
- [ ] Other

6. If other responsibility is selected, explain:

7. * The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:
Yes

8. * Qualifications to carry out study related responsibilities: (you may select multiple answers)

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [x] **Trainee**
- [ ] Student
- [ ] Other

9. If other qualification is selected, explain:

10. Additional or Emergency Phone:

ID: MS6_HM20006786 View: Personnel

Personnel

1. * Name:
Samuel Powell

2. * Is this individual a 'COI Investigator'?
- ○ Yes
- ◉ **No**

3. * Roles:

- [ ] Principal Investigator
- [ ] Co/Sub-Investigator
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [ ] Research Assistant
- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [x] **Trainee/Student**
- [ ] Other

4. If other role is selected, explain:

5. * Study related responsibilities:

- [ ] Study Design
- [ ] Data Collection - Lab
- [x] **Data Collection - Clinical**
- [x] **Data Collection - Interviews/Surveys**
- [ ] Data Collection - Direct Observation
- [ ] Clinical Services
- [ ] Intervention Services
- [ ] Data Entry
- [ ] Data Coding
- [ ] Data Management
- [ ] Data Analysis
- [ ] Project Coordination
- [x] **Participant Identification**
- [ ] Participant Recruitment
- [ ] Participant Consent
- [ ] Regulatory Management
- [ ] Other

6. If other responsibility is selected, explain:

7. * The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:
Yes

8. * Qualifications to carry out study related responsibilities: (you may select multiple answers)

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [x] **Trainee**
- [ ] Student
- [ ] Other

9. If other qualification is selected, explain:

10. Additional or Emergency Phone:

Personnel

1. * **Name:**
Laura Puckett

2. * **Is this individual a 'COI Investigator'?**
- ○ Yes
- ◉ **No**

3. * **Roles:**

- ☐ Principal Investigator
- ☐ Co/Sub-Investigator
- ☐ Medical or Psychological Responsible Investigator
- ☐ Student Investigator
- ☑ **Research Coordinator**
- ☑ **Research Nurse**
- ☐ Consultant
- ☐ Research Assistant
- ☐ Pharmacist
- ☐ Statistician
- ☐ Regulatory Coordinator
- ☐ Trainee/Student
- ☐ Other

4. **If other role is selected, explain:**

5. * **Study related responsibilities:**

- ☐ Study Design
- ☐ Data Collection - Lab
- ☑ **Data Collection - Clinical**
- ☑ **Data Collection - Interviews/Surveys**
- ☐ Data Collection - Direct Observation
- ☐ Clinical Services
- ☐ Intervention Services
- ☑ **Data Entry**
- ☐ Data Coding
- ☐ Data Management
- ☐ Data Analysis
- ☑ **Project Coordination**
- ☑ **Participant Identification**
- ☑ **Participant Recruitment**
- ☑ **Participant Consent**
- ☐ Regulatory Management
- ☐ Other

6. **If other responsibility is selected, explain:**

7. * **The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:**
Yes

8. * **Qualifications to carry out study related responsibilities: (you may select multiple answers)**

- ☐ Education and/or Professional Preparation
- ☑ **Experience - Research**
- ☑ **Experience - Clinical**
- ☐ Experience - Related Skills
- ☐ Trainee
- ☐ Student

- [ ] Other

9. If other qualification is selected, explain:

10. Additional or Emergency Phone:

ID: MS6_HM20006786 View: Personnel

Personnel

1. * Name:
Kenneth Ellenbogen

2. * Is this individual a 'COI Investigator'?
- ○ Yes
- ◉ **No**

3. * Roles:

- [ ] Principal Investigator
- [x] **Co/Sub-Investigator**
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [ ] Research Assistant
- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [ ] Trainee/Student
- [ ] Other

4. If other role is selected, explain:

5. * Study related responsibilities:

- [ ] Study Design
- [ ] Data Collection - Lab
- [ ] Data Collection - Clinical
- [ ] Data Collection - Interviews/Surveys
- [ ] Data Collection - Direct Observation
- [x] **Clinical Services**
- [ ] Intervention Services
- [ ] Data Entry
- [ ] Data Coding
- [ ] Data Management
- [ ] Data Analysis
- [ ] Project Coordination
- [ ] Participant Identification
- [ ] Participant Recruitment
- [ ] Participant Consent
- [ ] Regulatory Management
- [ ] Other

6. If other responsibility is selected, explain:

7. * The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:
Yes

8. * **Qualifications to carry out study related responsibilities: (you may select multiple answers)**

- [x] **Education and/or Professional Preparation**
- [x] **Experience - Research**
- [x] **Experience - Clinical**
- [ ] Experience - Related Skills
- [ ] Trainee
- [ ] Student
- [ ] Other

9. **If other qualification is selected, explain:**

10. **Additional or Emergency Phone:**

ID: MS6_HM20006786 View: Personnel

Personnel

1. * **Name:**
Cierra Gilmore

2. * **Is this individual a 'COI Investigator'?**
- ○ Yes
- ◉ **No**

3. * **Roles:**

- [ ] Principal Investigator
- [ ] Co/Sub-Investigator
- [ ] Medical or Psychological Responsible Investigator
- [ ] Student Investigator
- [ ] Research Coordinator
- [ ] Research Nurse
- [ ] Consultant
- [x] **Research Assistant**
- [ ] Pharmacist
- [ ] Statistician
- [ ] Regulatory Coordinator
- [ ] Trainee/Student
- [ ] Other

4. **If other role is selected, explain:**

5. * **Study related responsibilities:**

- [ ] Study Design
- [ ] Data Collection - Lab
- [ ] Data Collection - Clinical
- [ ] Data Collection - Interviews/Surveys
- [ ] Data Collection - Direct Observation
- [ ] Clinical Services
- [ ] Intervention Services
- [x] **Data Entry**
- [ ] Data Coding
- [ ] Data Management
- [ ] Data Analysis
- [ ] Project Coordination
- [ ] Participant Identification
- [ ] Participant Recruitment

- [ ] Participant Consent
- [ ] Regulatory Management
- [ ] Other

6. If other responsibility is selected, explain:

7. * The PI certifies that if this individual will conduct any clinical activities as part of this study, the individual is appropriately credentialed and privileged to practice within the institution where the research will be conducted:
Yes

8. * Qualifications to carry out study related responsibilities: (you may select multiple answers)

- [ ] Education and/or Professional Preparation
- [ ] Experience - Research
- [ ] Experience - Clinical
- [x] **Experience - Related Skills**
- [ ] Trainee
- [ ] Student
- [ ] Other

9. If other qualification is selected, explain:

10. Additional or Emergency Phone: