1. **Protocol Title:** impact of Virtual Reality on pre-procedural anxieTy prior to Heart cathEterIzAtion – VR-THEIA

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3. **Version Date:** 19 August, 2021

4. **Objectives:**
   The primary aim of this study is to test the hypothesis that use of VR combined with standard procedural education will result in less pre-procedural anxiety than standard procedural education alone among patients undergoing first-time cardiac catheterization. The VR technology being evaluated in this study will allow patients to experience a 3-D simulation of certain aspects of their upcoming procedure prior to the actual procedure date.

5. **Background:**
   It has been reported that patients scheduled for cardiac catheterization experience considerable anxiety in anticipation of undergoing the procedure (1-3). This pre-procedural anxiety has the potential to adversely impact quality of life and could reduce overall patient satisfaction.

   Virtual reality (VR) is the computer-generated simulation of a three-dimensional (3-D) environment that can be interacted with in a seemingly real, or physical, manner (4). VR technology, although previously expensive to produce and use, is becoming more affordable. When introduced into contemporary medical care, VR has the potential to alter the medical landscape and could be used in novel ways to improve patient satisfaction and clinical outcomes. The proposed study is being performed to determine if VR can be applied to reduce pre-procedural anxiety prior to cardiac catheterization.

6. **Setting of the Research:**
   The research activities will be conducted at or from Spectrum Health outpatient offices and the Meijer Heart Center whenever possible. Potential participants will be called on the phone to discuss participation; if they agree to proceed, they will be met in person at an outpatient Spectrum Health facility, unless otherwise requested by the potential participant (e.g., if the would-be participant requests we meet her or him at an office or other public location and is comfortable conducting study activities in that locale, we would grant that request out of consideration for that participant's wishes) for signing of consent and baseline activities. Study personnel will then meet the participant on the day of her or his procedure in the Meijer Heart Center Catheterization Lab to conduct the preprocedure activities.

7. **Resources Available to Conduct this Research:**
   Members of the Cardiovascular Research team will be available to conduct this study. In fiscal year 2015-2016, 3,800 left heart catheterizations (LHC) were performed at the Meijer Heart Center. Approximately 35% of those procedures were first time LHC's for the patient which equates to approximately 26 patients per week. If a minimum of 2 patients per week agreed to participate, the study team could enroll the target number of 172 participants (who successfully completed all study activities) and conclude all study activities in two years. Approximately 1% of the PI's time and 10% of each coordinator's/assistant's time will be devoted to the conduct of this study. The aggregate research experience of the team, including the PI, is over 20 years and includes prospective, retrospective, randomized, industry sponsored, federally funded and investigator initiated studies.

The current team has enrolled over 250 participants in studies over the past two years and successfully followed participants, collected and reported data and contributed to multiple publications.

The members of the team conducting this study are a subspecialty group within the Cardiovascular Research (CVR) Department. The CVR Department is comprised of five subspecialty teams totaling an average of 20 coordinators/nurses/assistants. The teams report to a cardiovascular research supervisor and the CVR Department is a subset of the Office of Research Operations at Spectrum Health. Our offices include individual works stations each (with computers connected to the SH servers and hospital software applications) for all staff, two conference rooms, a lab room, separate secure storage rooms, hoteling for monitors, a private office for leadership, high density storage and a full time secretarial administrator.

8. Study Design:

a. Recruitment Methods

Patients scheduled for outpatient LHC will be screened for inclusion/exclusion criteria via the catheterization laboratory schedule. Upon review of those medical records, patients who appear to meet all inclusion criteria and have no exclusion criteria and whose procedure date allows for a baseline visit preprocedure will be called by study personnel to discuss study participation. Whenever possible, a PDF of the consent form will be sent to the patient directly (e.g. via email or fax). If the immediate transmission of a consent form is not technologically possible, study personnel will verbally present all elements of the study. If the patient chooses to proceed with participation, a date and time will be agreed upon to meet at an agreed upon location (Spectrum Health facility whenever amenable). At that visit, study personnel will again review all elements of the consent form, procure written consent and then proceed with baseline activities. A one-time gift card valued at $25.00 will be provided to the participant at the conclusion of the visit. The total number of participants to be enrolled in this study will be up to 200.

b. Inclusion and Exclusion Criteria

Inclusion Criteria

- Scheduled to undergo a left-heart catheterization procedure at the Meijer Heart Center
- 18-75 years of age
- Signed study consent form

Exclusion Criteria

- History of cardiac procedure(s) in a cardiac catheterization laboratory
- History of seizures, migraine headaches or severe susceptibility to motion sickness
- Currently taking psychotropic drugs or on long-term psychotropic treatment
- Unable to read and speak English
- Visually impaired
- Unable to provide written consent

c. Study Endpoints

The primary measure of interest in the present study is patient anxiety, as measured using the State Trait Anxiety Inventory (2, 3).

In all patients, anxiety will be assessed using this tool at baseline (prior to randomization) and again on the day of the procedure, just prior to undergoing catheterization.

The primary outcome of this study is the anxiety level measured just prior to catheterization, which will be compared in the two study groups.

The preparedness tool results will be compared between the two groups as a secondary analysis.

d. Procedures Involved in the Research

Standard procedural education. Standard procedural education for all patients undergoing cardiac catheterization at our site formally comes from two sources. First, it is provided verbally by clinical personnel, including physicians and nurses, during routine clinical interactions (i.e. at the time of office visits) and during subsequent phone calls made by the patient to clinical personnel requesting additional procedural information. Second, clinical personnel provide all patients with an information sheet that describes cardiac catheterization (attached as Appendix A; also available online at www.kramesondemand.com).

Virtual reality. The VR experience developed for this study will be provided to participants by study personnel using a smartphone (Moto G, Motorola, Schaumburg, Illinois) and a viewer headset (View-Master, Mattel, Segundo, California). This interactive VR experience was filmed using a commercially available camera (360fly 4K, 360^{FLY}, Pittsburgh, Pennsylvania) and developed using proprietary software by Carnevale Interactive (Grand Rapids, Michigan). The VR simulation will allow participants to experience aspects of their procedural day, starting with arrival in the lobby of the catheterization center. The simulation will progress to the catheterization laboratory registration and waiting room, followed by the pre-procedural holding area and finally the procedure room. In each location, the participant will be able to virtually explore the space and have the option of clicking on certain objects of interest, which will trigger an audio description of the object and its purpose.

Visit 1 - Baseline. All participants will be required to meet with study personnel at an offsite locale (Spectrum Health facility whenever possible) prior to the scheduled LHC to conduct the baseline visit. Once informed consent is obtained, study personnel will administer the State Trait Anxiety Inventory (STAI) assessment to all participants.

Randomization. Following the completion of the STAI assessment, participants will be randomized in a 1:1 fashion to undergo either VR combined with standard procedural education or to standard procedural education alone. Prior to enrollment of the first participant, Spectrum Health Office of Research Administration statisticians (who are not be study personnel) provided the randomization assignment schema to Cardiovascular Research staff (also not study personnel). Each assignment was placed in an envelope in the order designated by the statisticians' assignment schema. The envelopes were sealed and sequentially numbered from "1" to "200". The envelopes were stored in the research office in the high-density storage area.

Due to the COVID-19 Pandemic, study personnel are now working primarily from home.

In order to maintain the randomization schema as designed as well as reduce the need for staff to go into the hospital to collect randomization envelopes (thereby reducing their risk of exposure), the randomization process will be, for the remainder of the study, via REDCap database. The coordinator attending the enrollment visit will use REDCap to learn the randomization assignment for that participant while in the field, thus maintaining the blind.

For participants randomized to standard procedure education alone, the baseline visit will be complete. Participants will be thanked (and provided a gift card) and remaining study activities will be reviewed.

For participants randomized to VR intervention, the following will occur:

- A baseline wellness self-assessment will be administered (reporting on absence or presence and degree of severity of headache, nausea, dizziness, fatigue and vision abnormalities)
- The participant will be asked to confirm she or he is seated comfortably and study personnel will ensure the chair and participant are free of direct obstruction
- The participant will be shown the individual components of the VR system (View-Master with smartphone inserted; external speaker for audio projection; monitor for study staff to observe what the participant is experiencing), be given instructions on how to use the device and encouraged to ask questions.
- Once the participant indicates she or he is ready, they'll be asked to begin the VR experience. Study personnel will stay in the room with the participant for the entire duration and will be viewing on the monitor what the participant is experiencing virtually. Study personnel will provide guidance and answer questions regarding the technology and its use but will not answer questions regarding the facilities, prep, procedure or recovery (this will be explained prior to starting the VR experience).
- When the participant indicates she or he is finished with the VR experience and has had a few minutes to orient, the wellness self-assessment will be administered again.
- Participants will be thanked for their participation (and provided a gift card) and remaining study activities will be reviewed.

Visit 2 – Procedure Day

Study personnel will meet participants in their Prep/Recovery room prior to their procedure and the STAI assessment will be administered to all. A Retrospective Wellness questionnaire will be administered to the VR intervention group only in order to assess for any longer-term adverse effects (e.g., headache lasting several hours) of the VR experience. Postprocedure, a patient preparedness survey will be administered to all participants. All participants will again be thanked for their participation, all questions will be answered and their study participation will conclude.

All of the above activities except for standard procedural education will be research related. The average study participation time frame for all participants will be less than 1 month.

The data collected for this study entails the State-Trait Anxiety Inventory results, wellness self-assessments results, preparedness survey results and meta-data results.

e. Data Management
The data collected for this study will comprise of survey results (State-Trait Anxiety Assessment; VR related wellness assessments; and a preparedness assessment) as well as demographic and medical history data (for general reporting purposes). The data will be collected directly from participants using paper tools, where after the responses will be entered into an electronic data capture (EDC) system. The study EDC will be housed on secure Spectrum Health servers and the paper documents will be stored in secure Spectrum Health facilities.

f. Withdrawal of Subjects
Participants may change their minds at any time and choose to withdraw from this study; however, there are no circumstances under which participants would be withdrawn without their consent.

9. Statistical Plan

a. Sample Size Determination
Using G*Power 3.1.5 and looking at two sample independent t-test for the primary endpoint, in order to detect an effect size of 0.5 between the groups at 90% power and using significance level of 0.05, 86 patients are required in each study group.

b. Statistical Methods
Categorical variables will be reported as count (frequency). Normally distributed continuous variables will be reported as mean ± standard deviation and non-normally distributed continuous variables will be reported as median (interquartile range). To determine if there is a difference in the two groups demographic variables a two sample t-test will be used for normally distributed continuous variables, a Mann Whitney Test will be used for non-normally distributed continuous variables, and a Chi-square will be used for categorical variables unless assumptions aren't met then Fishers Exact test will be used. To compare the anxiety levels of the group of individuals randomized to VR and standard procedural education vs. standard procedural education alone an independent two sample t-test will be used. If assumptions aren't met then a Mann Whitney test will be used. To determine if there is a difference in anxiety before and after the use of VR a paired t-test will be used. If assumptions aren't met then a Wilcoxon Signed Rank test will be used. Significance will be assessed at an alpha of 0.05.

10. Risks to Subjects

Possible documented risks to using virtual reality include seizures; loss of awareness; eye strain; eye or muscle twitching; involuntary movements; altered, blurred, or double vision or other visual abnormalities; dizziness; disorientation; impaired balance; impaired hand-eye coordination; excessive sweating; increased salivation; nausea; lightheadedness; discomfort or pain in the head or eyes; drowsiness; fatigue; and/or motion sickness.

About 1 in 4000 may have severe dizziness, seizures, eye or muscle twitching or blackouts triggered by light flashes or patterns, and this may occur while they are watching TV, playing video games or experiencing virtual reality, even if they have never had a seizure or blackout before or have no history of seizures or epilepsy. Such seizures are more common

in children and young people under the age of 20. These risks are generally associated with prolonged use and with the complete VR systems which entail large, fitted headsets and full body utilization. The VR hardware being used for this study is a reductive version (a hand-held View-Master with a smartphone), the participants will be seated for the duration and the experiences will last 10-15 minutes. The participant will be in complete control and can set down the View-Master at any time as well as choose to discontinue the experience.

11. Potential Benefits to Subjects

There are no known benefits to using virtual reality prior to a medical procedure; however, it is possible that participation in the study could reduce preprocedureal anxiety for the intervention group.

12. Provisions to Protect the Privacy Interests of Subjects

Study personnel will conduct initial phone calls to patients and participants during routine business hours, unless otherwise requested by the recipient. Study personnel will routinely inquire if it is a good time to talk and if told it is not will ask for another, more convenient time to talk.

In person meetings will take place within Spectrum Health facilities and all visits will be conducted in private spaces, unless otherwise requested by the participant. The baseline visits will be conducted in a setting where the equipment will be available and its use appropriate. The preprocedure visit will be conducted in the participant's private Prep/Recovery room in the MHC Cath Lab. Study personnel will remain cognizant of others (staff, family, and friends) and will assess the participant for cues of distress or discomfort. If deemed necessary, study personnel may suggest to staff, family or friends that a few minutes of privacy is required to conduct the study activities.

13. Provisions to Maintain the Confidentiality of Data

Primary data related to this study will be maintained onsite at Spectrum Health in secure facilities or on secure Spectrum Health servers. Only study personnel will have access to the primary data. A single Excel spreadsheet correlation tool (excluding EDC/REDcap) will be maintained associating the participant's name and DOB with her or his study ID; all other research tools and research documents will include only the subject's study ID. The correlation tool and other research documents will be stored on the "M Drive" in a study specific folder to which only Spectrum Health research personnel should have access.

REDcap is a Spectrum Health licensed and supported secure web application for building and managing online surveys and databases. Within REDcap, the VR-THEIA study will be accessible only to current, SH IRB approved study personnel. The VR-THEIA database will contain PHI.

If any data are shared with external sites for analysis, appropriate / applicable agreements will be executed (e.g., data use and/or research collaboration agreements) between involved parties prior to the sharing of those data. The shared data will be de-identified to the fullest extent possible.

14. Cost to Subjects

Participants will not incur any costs for participation in this study.

15. Consent Process

Potential participants will be identified via electronic record review. Those appearing to meet inclusion / exclusion criteria will be called over the phone. Study personnel will identify

themselves, explain their affiliation and purpose for calling. If the patient has time to talk, the study will be introduced. If the patient is interested in hearing the details, study personnel will proceed with explaining the details of the study. If the patient is interested in participating, study personnel will ask if a PDF of the consent form can be emailed or faxed directly (due to likely time constraints between the time the patient is identified and procedure date); if yes, study personnel will send the consent. If no, study personnel will review all sections of the consent over the phone.

In the setting of sending the CF electronically, a follow up call will be conducted to learn the patient's decision. In the setting of live review, the patient will be given the option to schedule a follow up call in order to allow them private time to consider participation. It will be explicitly requested that the CF not be signed prior to the baseline/enrollment visit. All interested patients will be scheduled for an enrollment/baseline visit with study personnel at a Spectrum Health outpatient office wherein the CF will be reviewed again in full and written consent will be obtained prior to the commencement of any study activities.

16. Vulnerable Populations

No vulnerable populations will be included for participation in this study.

17. Sharing of Results with Subjects

There are no plans to formally share the results of this study with the participants. If participants request information post participation, any published results would be shared.

18. References

1. Ripley L, Christopoulos G, Michael TT, et al. Randomized controlled trial on the impact of music therapy during cardiac catheterization on reactive hyperemia index and patient satisfaction. J Invasive Cardiol. 2014;26:437-42.
2. Wu KL, Chen SR, Ko WC, et al. The effectiveness of an accessibility-enhanced multimedia informational education programme in reducing anxiety and increasing satisfaction of patients undergoing cardiac catheterization. J Clin Nurs. 2014;23:2063-73.
3. Ayasrah SM, Ahmad MM. Educational video intervention effects on periprocedural anxiety levels among cardiac catheterization patients: a randomized clinical trial. Res Theory Nurs Pract. 2016;30:70-84.
4. Dugas CM, Schussler JM. Advanced technology in interventional cardiology: a roadmap for the future of precision coronary interventions. Trends in Cardiovasc Med. 2016;26:466-473.

19. Appendices

Appendix A – Cardiac Catheterization Information Sheet

SPECTRUM HEALTH

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Having Cardiac Catheterization

You may have had chest pain (angina), dizziness, or other symptoms of heart trouble. To help diagnose your problem, your healthcare provider may advise a cardiac catheterization. This is a procedure that looks for a blockage or narrow area in the arteries around the heart. These can cause chest pain or a heart attack if not treated.

This common procedure may also be used to treat a heart problem. It may be done as a planned procedure if you have had chest pain in the past. Or it may be done right away to treat a suspected heart attack.

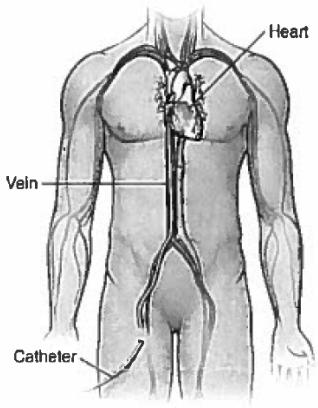
Before the procedure

- Tell your healthcare team what medicines you take and about any allergies you have.
- Don't eat or drink anything after midnight the night before the procedure, or as instructed by your healthcare team.

During the procedure

- Hair may be trimmed where the catheter will be inserted.
- You may be given medicine to relax before the procedure.
- You will receive a local anesthetic to prevent pain at the insertion site.
- A healthcare provider inserts a tube called a sheath into a blood vessel in your groin or arm.
- Through the sheath, a long, thin tube called a catheter is placed inside the artery. The catheter is then guided toward your heart.
- To do different tests or check other parts of the heart, the healthcare provider inserts a new catheter or moves the catheter or X-ray machine. For some tests, a contrast dye is injected through the catheter.

Catheter placement



The catheter may be placed in the arm or the groin.

After the procedure

- Your healthcare providers will tell you how long to lie down and keep the insertion site still.
- If the insertion site was in your groin, you may need to lie down with your leg still for 2 or more hours. If a suture or closure device such as a collagen plug is used on the artery site to close the site, you may be able to move sooner. This depends on any bleeding that occurs.
- A nurse will check the insertion site and your blood pressure.
- You may be asked to drink fluid to help flush the contrast liquid out of your system.
- Have someone drive you home from the hospital.
- It's normal to find a small bruise or lump at the insertion site. This should go away within a few weeks.

When to call your healthcare provider

Call your healthcare provider right away if you have any of the following:

- Chest pain (angina)
- Pain, swelling, redness, bleeding, or fluid leaking at the insertion site
- Severe pain, coldness, or a bluish color in the leg or arm that held the catheter
- Blood in your urine, black or sticky stools, or any other kind of bleeding
- Fever of 100.4°F (38.0°C) or higher, or as advised by your healthcare provider

Appendix B – State-Trait Anxiety Inventory (STAI)

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1
Please provide the following information:

Name_____ Date_____ S_____
Age_____ Gender (*Circle*) **M** F T_____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel *right* now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

Name_____ Date_____

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel.

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
21. I feel pleasant	1	2	3	4
22. I feel nervous and restless	1	2	3	4
23. I feel satisfied with myself	1	2	3	4
24. I wish I could be as happy as others seem to be	1	2	3	4
25. I feel like a failure	1	2	3	4
26. I feel rested	1	2	3	4
27. I am "calm, cool, and collected"	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
29. I worry too much over something that really doesn't matter	1	2	3	4
30. I am happy	1	2	3	4
31. I have disturbing thoughts	1	2	3	4
32. I lack self-confidence	1	2	3	4
33. I feel secure	1	2	3	4
34. I make decisions easily	1	2	3	4
35. I feel inadequate	1	2	3	4
36. I am content	1	2	3	4
37. Some unimportant thought runs through my mind and bothers me	1	2	3	4
38. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
39. I am a steady person	1	2	3	4
40. I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

Appendix C – Wellness Self Assessments

Subject ID:

Pre VR Experience Wellness Self-Assessment

Please identify if you are currently experiencing any of the following
and rate the degree of severity of the symptom(s) on a scale from 1 (mild) – 5 (severe):

1. Headache:
   ☐ No ☐ Yes

   1 2 3 4 5

2. Altered/Blurred/Double Vision:
   ☐ No ☐ Yes

   1 2 3 4 5

3. Nausea:
   ☐ No ☐ Yes

   1 2 3 4 5

4. Dizziness/Disorientation:
   ☐ No ☐ Yes

   1 2 3 4 5

5. Fatigue:
   ☐ No ☐ Yes

   1 2 3 4 5

Subject ID:

Post VR Experience Wellness Self-Assessment

Please identify if you are currently experiencing any of the following
and rate the degree of severity of the symptom(s) on a scale from 1 (mild) – 5 (severe):

1. Headache:
   ☐ No ☐ Yes

   1 2 3 4 5

2. Altered/Blurred/Double Vision:
   ☐ No ☐ Yes

   1 2 3 4 5

3. Nausea:
   ☐ No ☐ Yes

   1 2 3 4 5

4. Dizziness/Disorientation:
   ☐ No ☐ Yes

   1 2 3 4 5

5. Fatigue:
   ☐ No ☐ Yes

   1 2 3 4 5

Subject ID:

Retrospective VR Experience Wellness Self-Assessment

Please identify if you recall any of the following within 24 hours after your VR experience and rate the degree of severity of the symptom(s) on a scale from 1 (mild) – 5 (severe):

1. Headache:
   ☐ No ☐ Yes

   1 2 3 4 5

2. Altered/Blurred/Double Vision:
   ☐ No ☐ Yes

   1 2 3 4 5

3. Nausea:
   ☐ No ☐ Yes

   1 2 3 4 5

4. Dizziness/Disorientation:
   ☐ No ☐ Yes

   1 2 3 4 5

5. Fatigue:
   ☐ No ☐ Yes

   1 2 3 4 5

Appendix C – Preparedness Survey

Please circle your level of agreement with the following statements:

1. I know about the *reason for my planned procedure*.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

2. I understand the *purpose* of my planned procedure.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

3. I understand the *general activities* around my planned procedure.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

4. I felt prepared about how and where to park my car.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

5. I felt prepared about how and where to register for my procedure.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

6. I felt prepared about how to find my way to my destination.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

7. I felt prepared about what to expect in the Prep/Recovery room.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

8. I felt prepared about what to expect in the procedure room.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

9. Overall, I felt prepared for what to expect at the Meijer Heart Center for my left heart catheterization procedure.

   Strongly Agree / Agree / Somewhat Agree / Somewhat Disagree / Disagree / Strongly Disagree

10. Due to my preprocedure education by Spectrum Health, I sought out further information.

    Yes No If yes, please identify how (e.g., used the internet, asked friends/family, called the office).

    _____