MC1723 / 17-008401

Characterizing Chemo-Radiotherapy Treatment-Related Cardiac Change

NCT04183218

Document Date: 10/21/2022

MAYO CLINIC

Name and Clinic Number

Approval Date: **October 21, 2022**
Not to be used after: **October 20, 2023**

RESEARCH PARTICIPANT CONSENT AND PRIVACY AUTHORIZATION FORM

Study Title: MC1723, Characterizing Chemo-Radiotherapy Treatment-Related Cardiac Changes

IRB#: 17-008401

Principal Investigator: Dr. Carlos Vargas

Please read this information carefully. It tells you important things about this research study. A member of our research team will talk to you about taking part in this research study. If you have questions at any time, please ask us.

Take your time to decide. Feel free to discuss the study with your family, friends, and healthcare provider before you make your decision.

To help you decide if you want to take part in this study, you should know:

- Taking part in this study is completely voluntary.
- You can choose not to participate.
- You are free to change your mind at any time if you choose to participate.
- Your decision won't cause any penalties or loss of benefits to which you're otherwise entitled.
- Your decision won't change the access to medical care you get at Mayo Clinic now or in the future if you choose not to participate or discontinue your participation.

For purposes of this form, Mayo Clinic refers to Mayo Clinic in Arizona, Florida and Rochester, Minnesota; Mayo Clinic Health System; and all owned and affiliated clinics, hospitals, and entities.

If you decide to take part in this research study, you will sign this consent form to show that you want to take part. We will give you a copy of this form to keep.

If you are signing this consent form for someone else, "you" in the consent form refers to the participant.

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CONTACT INFORMATION

You can contact …	At …	If you have questions about …
Principal Investigator: Carlos Vargas, M.D.	**Phone:** (480) 342-4800 **Institution Name and Address:** Mayo Clinic Arizona 5777 E. Mayo Blvd. Phoenix, AZ 85054	▪ Study tests and procedures ▪ Research-related injuries or emergencies ▪ Any research-related concerns or complaints ▪ Withdrawing from the research study ▪ Materials you receive ▪ Research-related appointments
Mayo Clinic Institutional Review Board (IRB)	**Phone:** (507) 266-4000 **Toll-Free:** (866) 273-4681	▪ Rights of a research participant
Research Participant Advocate (The RPA is independent of the Study Team)	**Phone:** (507) 266-9372 **Toll-Free:** (866) 273-4681 **E-mail:** researchparticipantadvocate@mayo.edu	▪ Rights of a research participant ▪ Any research-related concerns or complaints ▪ Use of your Protected Health Information ▪ Stopping your authorization to use your Protected Health Information ▪ Withdrawing from the research study
Patient Account Services	**Toll Free:** (844) 217-9591	▪ Billing or insurance related to this research study

1. Why are you being asked to take part in this research study?

You are being asked to take part in this research study because you plan to receive radiation or chemo-radiation treatment for lung or esophageal cancer as a part of your clinical care.
Due to the location of your lung and esophageal cancer and its close distance to the heart, researchers would like to learn about the effect the treatment may have on your heart. This study will monitor heart rhythm during your standard clinical care with radiation or chemo-radiation treatment to understand any possible early cardiac changes.

The plan is to have about 24 people take part in this study at Mayo Clinic.

2. Why is this research study being done?

The purpose of this study is to observe cardiac changes after radiation or chemo-radiation for the treatment of lung or esophageal cancer. One goal of the study is to identify any cardiac changes that otherwise would remain unnoticed, and facilitate the treatment of these early cardiac changes as part of the patient's standard care. The study will assess the value and utility of continuous cardiac monitoring with an implanted cardiac device. Our hope is to identify cardiac changes that otherwise would remain unnoticed, and facilitate the treatment of these early cardiac changes as part of standard care.

3. Information you should know

Who is Funding the Study?
This study will be supported by Mayo Benefactor funding. The cardiac monitoring device will be provided by Medtronic, Inc.

4. How long will you be in this research study?

You will be in the study for approximately one year. This will include the implantation of a cardiac monitoring device and continuous heart monitoring that will be submitted electronically. Other research test and procedures will be collected at the same time you have regular appointments at Mayo Clinic for your standard care.

5. What will happen to you while you are in this research study?

If you agree to participate in the study, you will be asked to participate in the following:

Pre-Treatment
Before the start of your standard of care radiation or chemo-radiation therapy, we will do some tests and procedures to see if you are eligible to take part in this research study. The Principal Investigator will review the results of these tests and procedures. If you aren't eligible, the Principal Investigator will tell you why. At this visit we will:

- Conduct a cardiac evaluation; this will show how your heart is working
- Conduct a pulmonary function test; this will show how your lungs are working
- Ask you about and review your medical and cardiac history
- Conduct a 12-lead Electrocardiogram (ECG)
- Conduct an Echocardiogram (ECHO)
- Provide you with a Holter monitor (a portable device to monitor your heart activity) if clinically indicated
- Implant a Reveal LINQ cardiac monitoring device to take recordings on your cardiac rhythm that will be sent to your physician in real time wirelessly. The cardiac monitoring device will be implanted by a cardiologist in the upper left side of the chest beneath the skin, using a minimally invasive standard technique that involves local anesthesia. It will monitor for heart palpitations, fainting, chest pain, and cardiac arrhythmias. The device dimensions are 44.8 mm x 7.2 mm x 4.0 mm.
- Draw a blood sample for general health lab tests, cardiac lab tests, and storage*
- Collect a dried blood sample for RNA analysis that will be mailed directly to The Translational Genomics Research Institute (TGen). The study team will show you how to collect this sample at home for future submissions
- Perform a cardiac MRI

Treatment
Standard of care radiation or chemo-radiation therapy will be performed at the discretion of your treating physician.

Post-Treatment: 1 month, 3 months, 9 months, and 12 months after the completion of your radiation or chemo-radiation therapy
At these visits we will:

- Collect cardiac recordings, your heart will be monitored using the cardiac monitoring device as a part of your clinical care. Cardiac recordings will be taken and reviewed for analysis in the research study.
- Draw a blood sample for general health lab tests, cardiac lab tests, and storage*
- You will collect a dried blood sample at home and mail it to TGEN for RNA analysis
- Ask you about your general health
- Perform a cardiac MRI (3 month and 12 month visits only)
- Pulmonary function test (12 month visit only)

The following assessments will occur only at the 3 month visit:

- Conduct a 12-lead Electrocardiogram (ECG)
- Conduct an Echocardiogram (ECHO)

*Blood samples will be stored at Mayo Clinic for future biomarker studies to be correlated with other cardiac and imaging findings.

Unscheduled Visit(s)
If clinically indicated, your physician may recommend additional testing:

- Conduct a cardiac evaluation; this will show how your heart is working
- Conduct a 12-lead Electrocardiogram (ECG)
- Conduct an Echocardiogram (ECHO)
- Provide you with a Holter monitor (a portable device to monitor your heart activity) if clinically indicated
- Draw a blood sample for general health lab tests and cardiac lab tests
- Removal of the Reveal LINQ cardiac monitoring device

6. What are the possible risks or discomforts from being in this research study?

Blood draw and dried blood collection risks
The risks of drawing blood include pain, bruising, lightheadedness, and/or fainting, or rarely, infection at the site of the needle stick.

Cardiac Device implant/removal risks
Implant and explant risks include pain, bruising, bleeding, and/or infection at the site of the implant. Potential complications include device rejection phenomena (including local tissue reaction), device migration, and erosion through the skin.

Cardiac MRI risks
There is no radiation associated with MRI, but people who have metal devices like pacemakers cannot have an MRI and will not be able to participate in the study. Some people with claustrophobia may feel too closed in and may not tolerate MRI scanning. If you feel too confined in the MRI scanner you can inform the technologist and the MRI scan will be stopped. The MRI machine makes loud knocking sounds when it is scanning. Because of this you will be asked to wear earplugs while getting your MRI scan. The earplugs minimize discomfort from noise and keep the MRI noise within the safety range.

Gadolinium (Cardiac MRI contrast) risks
The contrast agent you will receive is FDA-approved and used routinely for MRI exams. It contains a material called gadolinium, a rare metal. About 1 in 100 people may notice discomfort, tingling or warmth in the lips, metallic taste in the mouth, tingling in the arm, nausea, or headache. These side effects usually last only for a short time and go away as your body adjusts to the gadolinium. There is a small risk of an allergic reaction to gadolinium. However, a severe allergic reaction occurs in less than one in 300,000 people. The needle placed in your vein to give you the gadolinium may cause minor pain, bruising and/or infection at the injection site. Studies have shown that small amounts of gadolinium may remain in the body of patients who have received these injections. The effect of this, if anything, is unknown at this time.

Standard of Care Risks
Your doctor will discuss the risks of cardiac evaluation, ECG, ECHO, radiation therapy treatment, and pulmonary function tests, as these tests and procedures are part of your standard clinical care.

7. Are there reasons you might leave this research study early?

You may decide to stop at any time. You should tell the Principal Investigator if you decide to stop and you will be advised whether any additional tests may need to be done for your safety.

In addition, the Principal Investigator or Mayo Clinic may stop you from taking part in this study at any time:

- if it is in your best interest,
- if you don't follow the study procedures,
- if the study is stopped.

If you leave this research study early, or are withdrawn from the study, no more information about you will be collected; however, information already collected about you in the study may continue to be used.

We will tell you about any new information that may affect your willingness to stay in the research study.

8. What if you are injured from your participation in this research study?

Where to get help:
If you think you have suffered a research-related injury, you should promptly notify the Principal Investigator listed in the Contact Information at the beginning of this form. Mayo Clinic will offer care for research-related injuries, including first aid, emergency treatment and follow-up care as needed.

Who will pay for the treatment of research related injuries?
Care for such research-related injuries will be billed in the ordinary manner, to you or your insurance. Treatment costs for research-related injuries not covered by your insurance will be paid by Mayo Clinic.

9. What are the possible benefits from being in this research study?

This study will not make your health better. However, the doctors who are a part of your standard care will be able to monitor your heart for any cardiac changes that could require immediate medical attention.

10. What alternative do you have if you choose not to participate in this research study?

This study is only being done to gather information. You may choose not to take part in this study.

11. What tests or procedures will you need to pay for if you take part in this research study?

You won't need to pay for tests and procedures which are done just for this research study. These tests and procedures are:

- Implanting the LINQ cardiac monitoring device
- Removal of cardiac monitoring device (if applicable)
- Cardiac recordings/monitoring
- Cardiac MRI
- Blood draws and biobank storage
- Dried blood kits and shipping materials to TGEN

However, you and/or your insurance will need to pay for all other tests and procedures that you would have as part of your clinical care, including co-payments and deductibles.

- Cardiology evaluation
- Pulmonary function tests
- ECG
- ECHO

- Basic health and cardiac-related blood labs (CBC, troponin, CK, CKMD, pro-BNP, BMP)
- Holter monitor (if clinically indicated)

12. Will you be paid for taking part in this research study?

You won't be paid for taking part in this study.

13. What will happen to your samples?

Your collected whole blood samples will be stored in a biobank at Mayo Clinic Arizona. By participating, you are agreeing to be a part of ongoing health research conducted at Mayo Clinic in Radiation Oncology. Your donation will enable researchers to examine the roots of disease for many years to come.

A group within Radiation Oncology will be in charge of deciding which researchers can have access to the samples and information in the biobank. Even researchers who do not work at Mayo Clinic will have to get permission from this group but they will be required to work with a researcher at Mayo Clinic. Your sample will be sent to the Researcher in a coded format, which protects your identity. Samples and information will only be given to researchers who:

- Present a scientific plan for running their project
- Have had their research plans reviewed by doctors and researchers
- Intend to keep biobank samples and information safe and secure

If the researcher has samples left when the study is over, that researcher must submit a new plan to Radiation Oncology before using the samples in a new research study. The researcher can destroy the leftover samples, or return them. It is unlikely that researchers will have any samples left.

Please read the following statements and mark your choices:

1. I permit my sample to be stored and used in future molecular research at Mayo Clinic:

☐ Yes ☐ No Please initial here: _____Date: _____

2. I permit my sample to be stored and used in future research at Mayo Clinic to learn about, prevent, or treat any other health problems:

☐ Yes ☐ No Please initial here: _____Date: _____

3. I permit Mayo Clinic to give my sample and related information to researchers at other institutions:

☐ Yes ☐ No Please initial here: _____Date: _____

There is a very small chance that some commercial value may result from the use of your donated sample. If that happens, you won't be offered a share in any profits.

You may request to have your sample destroyed by writing to the Principal Investigator. The address is found in the "Contact Information" section of this consent form.

Because we cannot predict how your sample will be used in the future, we cannot promise that samples can be retrieved and destroyed.

In addition, your dried blood samples will be sent to The Translational Genomics Research Institute (TGen) for genetic biomarker analysis, and results will be sent back to the Mayo Clinic study team. Your sample will be sent to TGEN in a coded format, which protects your identity. Your samples will be used for this study. When the study is done, they will be destroyed.

In the event of sudden and unexpected death:
In the event of sudden and unexpected death, we encourage you and your family to have an autopsy to define the cause of death. If an autopsy is performed, do you permit the Principal Investigator to obtain a copy of the autopsy report for review?

I permit the Principal Investigator to obtain a copy of my autopsy report for review:

☐ Yes ☐ No Please initial here: _____Date: _____

14. How will your privacy and the confidentiality of your records be protected?

Mayo Clinic is committed to protecting the confidentiality of information obtained about you in connection with this research study. Your blood samples and medical information will be labeled with a code. Only the Principal Investigator at Mayo Clinic will have the information that matches the code to traditionally-used identifying information, such as your name, address, phone number, or social security number. The Principal Investigator will keep the information that matches the code to this traditionally-used identifying information in a safeguarded database. Only a very few authorized people, who have specifically agreed to protect your identity, will have access to this database. All other researchers and personnel, including those who will be working with your samples and medical information, will not have access to any of the traditionally-used identifying information about you. During the study, you may not have access to some of your medical information obtained or created as part of this study. You will be allowed to access this information once the study is finished.

During this research, information about your health will be collected. Under Federal law called the Privacy Rule, health information is private. However, there are exceptions to this rule, and you should know who may be able to see, use and share your health information for research and why they may need to do so. Information about you and your health cannot be used in this research study without your written permission. If you sign this form, it will provide that permission.

Health information may be collected about you from:

- Past, present and future medical records.
- Research procedures, including research office visits, tests, interviews and questionnaires.

Why will this information be used and/or given to others?

- To do the research.
- To report the results.
- To see if the research was done correctly.

If the results of this study are made public, information that identifies you will not be used.

Who may use or share your health information?

- Mayo Clinic research staff involved in this study.
- The Translational Genomics Research Institute (TGen)
- Medtronic, Inc.

With whom may your health information be shared?

- The Mayo Clinic Institutional Review Board that oversees the research.
- Other Mayo Clinic physicians involved in your clinical care.
- Researchers involved in this study at other institutions.
- Federal and State agencies (such as the Food and Drug Administration, the Department of Health and Human Services, the National Institutes of Health and other United States agencies) or government agencies in other countries that oversee or review research.
- The sponsor(s) of this study and the people or groups it hires to help perform this research.
- A group that oversees the data (study information) and safety of this research.

How your information may be shared with others:

While taking part in this study, you will be assigned a code that is unique to you, but does not include information that directly identifies you. This code will be used if your study information is sent outside of Mayo Clinic. The groups or individuals who receive your coded information will use it only for the purposes described in this consent form.

If the results of this study are made public (for example, through scientific meetings, reports or media), information that identifies you will not be used.

In addition, individuals involved in study oversight and not employed by Mayo Clinic may be allowed to review your health information included in past, present, and future medical and/or research records. This review may be done on-site at Mayo Clinic or remotely (from an off-site location). These records contain information that directly identifies you. However, the individuals will not be allowed to record, print, or copy (using paper, digital, photographic or other methods), or remove your identifying information from Mayo Clinic.

Is your health information protected after it has been shared with others?

Mayo Clinic asks anyone who receives your health information from us to protect your privacy; however, once your information is shared outside Mayo Clinic, we cannot promise that it will remain private and it may no longer be protected by the Privacy Rule.

Your Privacy Rights

You do not have to sign this form, but if you do not, you cannot take part in this research study.

If you cancel your permission to use or share your health information, your participation in this study will end and no more information about you will be collected; however, information already collected about you in the study may continue to be used.

If you choose not to take part or if you withdraw from this study, it will not harm your relationship with your own doctors or with Mayo Clinic.

You can cancel your permission to use or share your health information at any time by sending a letter to the address below:

Mayo Clinic
Office for Human Research Protection
ATTN: Notice of Revocation of Authorization
201 Building 4-60
200 1st Street SW
Rochester, MN 55905

Alternatively, you may cancel your permission by emailing the Mayo Clinic Research Participant Advocate at: researchparticipantadvocate@mayo.edu.

Please be sure to include in your letter or email:

- The name of the Principal Investigator,
- The study IRB number and /or study name, and
- Your contact information.

Your permission lasts until the end of this study, unless you cancel it. Because research is an ongoing process, we cannot give you an exact date when the study will end.

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ENROLLMENT AND PERMISSION SIGNATURES

Your signature documents your permission to take part in this research.

	/ /	: AM/PM
Printed Name	Date	Time

Signature

A witness/family signature documents participant's consent.

	/ /	: AM/PM
Printed Name	Date	Time

Signature

Person Obtaining Consent

- I have explained the research study to the participant.
- I have answered all questions about this research study to the best of my ability.

	/ /	: AM/PM
Printed Name	Date	Time

Signature