Informed Consent for Clinical Research Study

Study Title: Medtronic PERIcardial SurGical AOrtic Valve ReplacemeNt Pivotal Trial (PERIGON)

Investigator: **[Insert Investigator's Name]**

Sponsor: Medtronic

People who offer to take part in an experiment (also called a research study or clinical trial) need to know what is expected of them. They also should know why the research is being done. It is important that you know you have rights in place to help protect you when you think about taking part.

Study Purpose
This study is to test how safe and how well the Medtronic Model 400 aortic valve bioprosthesis (Model 400 valve) works.

Subject Selection
Your doctor would like to replace your diseased aortic valve during surgery. Because a surgery is already planned to replace your valve, you were picked as a possible study subject.

Responsibilities of Study Participants
If you decide to participate in this study, we will ask you to do the following:

- Keep your contact information up to date (address, telephone number, etc.).
- Provide truthful information about your medical history and current health.
- Return for follow-up visits and tests as required.
- Tell the study team about any problems you have during the study.
- Tell the study team if you have been in another study during the last 30 days or if you are in another study now.

Background

The aortic valve is one of the four heart valves that control the flow of blood into and out of the heart. The aortic valve lets oxygen-containing blood be pumped out of the heart into the aorta. The aorta is the main artery that takes blood from the heart to the body.

Because your aortic valve is diseased, it needs to be replaced by an artificial valve. There are two main types of replacement heart valves:

- biological valves which are made of animal tissue (pig, horse or cow tissue)
- mechanical valves which are made out of man-made materials such as pyrolytic carbon (a material that is similar to graphite).

This replacement is done by open-heart surgery and using a heart-lung machine. A heart-lung machine is needed because the heart must be stopped during the operation. The heart-lung machine takes over the function of the heart during this part of the operation. The damaged valve is removed, and the new one is put into place and attached with a fine thread (suture).

The sponsor of this study, Medtronic, has developed a new heart valve called Model 400. This valve is very similar to other stented valves that are implanted through open-heart surgery. It is made of bovine (cow) tissue. The Model 400 valve is investigational because it has not yet been approved by the US Food and Drug Administration (FDA).

Size of the Study
At least 300 subjects, and up to 1300 subjects will be implanted with the Model 400 valve from up to 40 hospitals worldwide in the United States, Canada, and Europe.

Patient Eligibility
If you decide to be in this study, the study doctor and study nurse will collect information about you and your medical history. Information about any medication you are taking and other information in your medical records related to your condition or treatment may be used in this study. You will have the following tests to determine if the study valve is a good choice for you:

- Transthoracic echocardiography (TTE): a test that uses sound waves to take pictures of your heart and measure the degree of narrowing of your aortic valve; a probe is placed on the outside of your chest;
- Blood tests: about two tablespoons to determine your general health;
- An electrocardiogram (ECG): a test that records electrical impulses of your heart; patches are placed on the outside of your chest.

These procedures and tests are not experimental for patients with aortic valve disease, they are considered standard of care. If you have already had any of these tests done, your doctor may determine they may be used for the study and do not need to be repeated.

If your doctor decides you are suitable for the study, you will have surgery to implant the Model 400 valve. However, after reviewing your test results your study doctor may decide that you are not suitable for the study and/or it is not possible to implant the Model 400 valve.

Study Procedures and Duration

None of the procedures in this study are experimental. The study valve is an investigational valve which means you can only receive the valve if you are part of this study or by special permission.

Your part in the study begins when you sign this informed consent form and is expected to last for about 5 years or until study closure. The total trial duration, which is the time for all subjects to complete the study, is expected to be about 8 years.

If you agree to be in this study, you will be asked to have the visits and phone calls at the times listed below.

- Baseline
- Implant (when the study valve is put into your body)
- Discharge (before you are discharged from the hospital or 30 days after implant if you are still in the hospital)
- 3-6 Month office visit
- 12 Month office visit
- 18 Month phone call
- 2 Year office visit
- 30 Month phone call
- 3 Year office visit
- 4 Year office visit
- 5 Year office visit

At these study visits you will receive regular medical tests for people who are having, or have had, aortic valve replacement. None of the study procedures (listed below) are experimental. All are standard of care for patients with aortic valve replacement.

Demographic Information
Your doctor will collect your gender, year of birth and race

Medical History
Your doctor will review any surgeries you have had as well as any previous or current illnesses

Physical Exam
Your doctor will review your body for signs of disease

New York Heart Association (NYHA) Classification
Your doctor will classify how much your heart disease affects your daily living and activities

Electrocardiogram (ECG)
A test that measures your heart's rhythm. During the test ECG wires will be attached with gel to your chest.

Blood samples
Blood will be taken from your arm to check for anything abnormal with your blood, like infection or anemia (low blood iron). This helps the doctors evaluate if you need additional medication or medical treatment.

If you are taking Coumadin or warfarin you will also have blood taken for an INR, which is a test to make sure your blood is not too thin.

During the study, about 8 blood samples will be collected. The total amount of blood drawn for the study is 60mL or about 4 tablespoons.

Echocardiogram (echo)
Test using sound waves from a probe outside your body on your chest to make images of your heart

Transesophageal Echocardiogram (TEE)
Test using sound waves from a probe inserted in your esophagus [food tube] to make images of your heart. This test will be done during the valve implant.

Medication Collection
You will be asked if you are currently taking any of the following medicines:

- Aspirin
- Anticoagulants
- Anti-platelets

Tests done at each visit are as follows:

Baseline / Eligibility

1. Medical history
2. Demographic collection
3. Physical exam, including NYHA classification
4. ECG
5. Blood samples
6. Echo
7. Medication collection
8. Pregnancy test for women of child bearing age who can have children.

Implant Procedure

1. Procedure details including the condition of the removed valve and any additional procedures or interventions will be collected
2. Transesophageal echocardiogram
3. Health problem review
4. Medication collection

Discharge, 3-6 month, 12 month and yearly follow-up visits

1. NYHA classification
2. ECG
3. Blood samples
4. Echo
5. Medication collection
6. Review for changes in health

18 and 30 Month Phone Call

1. Medication collection

2. Review for changes in health

If you choose to exit the study prior to finishing all of the required visits the study doctor may contact you to review your health and medications for any changes before you exit the study. If you are seen by your doctor between study visits for a problem, your doctor may choose to do some of the tests in the chart below.

The chart below is a list of all required visits and the tests required at each visit.

Data Collected	**Testing Intervals**							
	Baseline/ Eligibility	Implant	Discharge or ≤ 30 days	3-6 Months	1 Year (365 days)	Yearly years 2-5	18 & 30 month phone call	Exit
Physical exam	X							
Medical history	X							
NYHA classification	X		X	X	X	X		
ECG	X		X	X	X	X		
Blood samples	X		X	X	X	X		
Echo	X		X	X	X	X		
Transesophageal echocardiogram (TEE)		X						
Health problem review	X	X	X	X	X	X	X	X
Medication collection	X	X	X	X	X	X	X	X
Operation Information		X						

Risks and Discomforts

Every surgery contains risks. General surgical risks include problems from the anesthesia, side effects from the medication used, bleeding at the operation site, heart attack and infections.

The main risk with the Model 400 valve is like the risk of approved heart valves. This means that the artificial heart valve may have a problem at some time after the operation.
This may include the following events:

- pain in the chest,
- irregular heartbeat,
- infection of the heart,
- heart failure (failure of the heart to pump blood with normal efficiency),
- destruction of the red blood cells,
- bleeding related to the implant surgery or caused by blood thinning medication,
- a leak near the artificial heart valve,
- heart attack (a blood clot in the vessels that supply blood to your heart that causes part of the heart muscle to die),
- something that goes wrong with the artificial valve after implant (for example, a valve size that is too big or small for your heart),

- backflow of blood through the artificial valve due to imperfect closing of the valve leaflets (flaps),
- stroke (sudden death of brain cells in a localized area due to not enough blood flow),
- wear and tear of the artificial valve, which may cause it to not work correctly and may lead to your symptoms coming back,
- loose blood clots in the blood stream that can result in strokes, decreased blood flow, and blood clotting on or around the artificial heart valve.

These problems could lead to:

- another operation to fix the artificial valve,
- removal of the artificial valve,
- permanent disability,
- death.

Risks are reduced through careful exams before surgery and close monitoring during and after surgery.

There may be other discomforts and risks related to the device and/or this study that are not known at this time.

If you are or you become pregnant, there may be risks to you or your unborn child that are not yet known.

Benefits of Study Participation
There may or may not be direct medical benefit to you. We hope the information learned from this study may benefit other patients with your condition in the future.

Alternatives to Study Participation
You do not have to be in this study to receive a heart valve replacement. Other options to heart valve replacement with the Model 400 valve include:

- replacement with a mechanical valve,
- replacement with a commercially available tissue valve,
- valve repair, or
- continued care with mediations alone with no valve replacement surgery at all.

The treatment options that are best or most appropriate for you should be discussed with your physician.

Who is Paying for the Clinical Study?
The study site will receive payment from Medtronic, Inc. for work involved in collecting study data and managing the clinical study at this site.

Costs
All testing and services performed only for the purposes of the study will be provided at no cost to you.

However, you or your health insurance or Medicare is responsible for all costs that are part of your usual medical care that would have happened if you were not in the clinical study.

Costs associated with the implant procedure and any follow-up visits will be billed to your health insurance or Medicare. If your health insurance or Medicare requires any co-payment, co-insurance, or deductible, you will be responsible for making that payment.

We don't ask your health insurance company or Medicare if they will pay, so it is recommended that you contact your health insurance company or Medicare to see what they will and will not pay for on your behalf. Your study doctor or study nurse can provide you with information about how to do this.

Anything not paid by either the study sponsor or your health insurance company will be billed directly to you for payment.

If you have questions about what these costs might be, you should ask the study doctor or study nurse.

Compensation
You will be paid $25.00 to cover your local mileage, public transportation (e.g. bus or taxi), and/or and parking expenses for each study visit. You will receive the payment after you complete the study visit. The study nurse or study doctor will tell you how you will be paid.

Reimbursement for airfare, lodging, meals and ground transportation expenses may also be made by the study sponsor. Your study doctor or study nurse can request this from the sponsor and must have written authorization for these expenses before approving your travel. Your study doctor or study nurse will tell you how to get reimbursement for these travel expenses.

Payment for Research-Related Injury
The study sponsor has agreed to pay back the study site for the costs of medical or surgical care it provides for any illness or injury related to the clinical study under the following conditions:

- The illness or injury must be related to a defect or malfunction of the Model 400 valve, or to a defect in the protocol for the study.

And,

- The illness or injury cannot be caused by the negligence or intentional misconduct of the study site or the study staff.
- The illness of injury cannot be caused because the study site or the study staff did not follow the protocol for the clinical study.
- The illness or injury cannot be caused because you did not follow the study doctor's instructions.
- The illness or injury cannot be caused by procedures that are routine standard of care or the natural progression of your illness.
- The illness or injury must have happened before the clinical study closes at all study sites or before the study closes at this site, whichever is earlier.

- The study site must notify the study sponsor about the illness or injury within one year of the date the clinical study closes at all study sites or before the study closes at this site, whichever is earlier.

If the illness or injury is related to a defect or malfunction of the study valve or to a defect in the protocol, the costs not covered by your health insurance provider will be paid by the study sponsor. The amount the study sponsor will pay back is the amount Medicare pays the study site. If the study sponsor pays these costs you will not have a co-payment.

You do not release the study sponsor, study doctors or the hospital from responsibility for their negligence.

If you have questions regarding illness or injury related to this study, please discuss this with the study doctors and/or study staff.

Device Recovery

If you pass away while you are in the study, the study doctor will ask your family or other authorized representative for permission to retrieve medical records surrounding your death and to remove the study valve. If the study doctor has this permission, the study valve will be explanted and sent back to the sponsor. Your family or other authorized representative does not have to grant this permission.

The clinical study does not require that an autopsy be performed. If an autopsy is performed, a de-identified copy of the autopsy report and a de-identified copy of the death certificate, if available, will be sent to the sponsor as part of the information collected for the clinical study.

Sponsor's Use of Data

If you decide to participate in the clinical study, Medtronic (including, for purposes of this section, its agents and contractors) and others who work with the clinical study, will see health information about you. This consent form and another document called an Authorization to Use and Disclose Health Information govern how your health information is disclosed and used.

The Authorization describes how your health information may be used and/or disclosed by your study doctor (the study investigator), the hospital or clinic, and their respective staffs. You agree to allow access to and use of your health information in accordance with the Authorization, as well as disclosure to Medtronic.

Medtronic will keep your health information confidential in keeping with all applicable laws and regulations. Medtronic may use your health information to conduct this study. Medtronic may use your health information for other purposes, such as:

- Watch over and improve the performance of its device;
- New medical research;
- Proposals for making new medical products or procedures; and
- Other business purposes.

Any reports or publications about the study or any other research will not include your name or a description of you. Any records identifying you will not be made publically available. Information

received during the study will not be used to market to you; your name will not be placed on any mailing lists or sold to anyone for marketing purposes.

The US Food and Drug Administration's regulations, as well as other applicable laws, control Medtronic's work in developing and assuring the safety and quality performance of its medical devices. Medtronic may disclose your health information to the FDA, as well as to other US and foreign government authorities responsible for assuring the safety of medical devices. Medtronic also may disclose your health information to institutional review boards and other persons who are required to watch over the safety and effectiveness of medical products and therapies and the conduct of research. You agree to allow Medtronic to use study data in these ways. You also agree to allow FDA and other governmental authorities to inspect your health information.

To participate in the clinical study, you will need to sign the consent form and the Authorization to Use and Disclose Health Information.

Voluntary Participation
You do not have to be in the study. Your decision to be or not to be in this study will not affect your current or future care with **[insert PI name]** or at **[insert hospital name].**

Right to Withdraw
You may withdraw from the study at any time. Your decision to stop being part of the study will not involve any penalty or lost benefits to which you are entitled. Your withdrawal will not affect your access to health care at **[insert hospital name]**.

If you do decide to withdraw, we ask that you contact **[insert PI name]** to let **[insert him or her]** know that you are withdrawing from the study.

If you choose to stop your participation, the data we have already collected may not be removed from the study data. The study doctor may also ask if it is okay to collect data from routine medical care after you stop.

Termination of Your Participation in the Study
The study doctors may take you out of the clinical study without your permission if:

- There is more risk than benefit
- You miss two follow-up visits in a row
- Medtronic decides to stop the clinical study

If this happens you will be told and the reasons will be explained to you.

New Findings
The study doctor will tell you if we find out new information that might change your willingness to stay in the study. For example, if a new, serious side effect is found the study doctor will contact you. You may be asked to sign a new consent form if this occurs.

Contacts and Questions
The doctor running this study is **[insert PI].** If you have questions later or think you have had a research-related injury, you can contact **[select him or her**] at **[insert contact info].**

This study has been approved by **[insert IRB/EC]** Review Board. This group is in place to protect your rights as a subject. If you have any questions about your rights as a research subject or complaints about this study, please direct them to **[insert IRB/EC contact name and information]**

A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. Law. This Web site will not include information that can identify you. At most, the Web site will include a summary of the results. You can search this Web site at any time.

You will be given a signed copy of this form.

Statement of Consent

I have been able to ask questions. My questions have been answered. By signing this form I am not giving up my legal rights. I have been given enough time to consider participating. I agree to participate.

_____
Printed name of subject

_____ _____
Signature of subject or of subject's legally authorized representative, if applicable — Date

_____ _____
Printed name of person obtaining consent — Role in study

_____ _____
Signature of person obtaining consent — Date