EFFECTIVE

March 20th, 2023

MCW/FH IRB

Medical College of Wisconsin and Froedtert Hospital
INTRODUCTION TO THE INFORMED CONSENT

Name of Subject: _____

Hyperglycemia and Mitochondrial Function in the Endothelium of Humans

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You are invited to take part in this research. You can decide whether to take part in this project or not. You are free to say yes or no. If there is anything that you do not understand, please ask questions.

Definitions

Hyperglycemia: state of high blood glucose

J-wire: in this study, a device used to enter the vein and obtain cells

Endothelial Cell Biopsy: the passing of J-wires through the blood vessels to obtain cells lining the vessel

Purpose

This project is being done to observe the effect that hyperglycemia has on blood vessel function.

Length

- You will be in this research project approximately 1-2 weeks.

Procedures *or* Activities

List of visits:

- Screening Visit
  - Total Number: 1
  - Total Time: 1 hour
- Study Visit
  - Total Number: 1
  - Total Time:4-5 hours

Procedures/Activities that will occur at various visits:

Invasive Procedures/Activities

- Blood sample will be drawn at multiple time points
- Endothelial cell biopsy will be performed using J Wires

Non-invasive Procedures/Activities

- Medical history questionnaire

Risks

This is a brief list of the most commonly seen side effects/risks The ***full consent form*** after this introduction contains a more complete list of potential research risks.

[Drug/Device/Intervention] risks:

- Temporary pain or discomfort at blood draw/ IV placement
- Bruising at blood draw site
- Low blood sugar levels leading to sweatiness and lightheadedness

Benefits

This project will not help you, but we hope the information from this project will allow us to gather information that will help those in the future.

My Other Options

You do not have to join this project. You are free to say yes or no.

- Whether or not you join this project, you are free to seek services from this or other agencies.
- Whether or not you join this project, your usual medical services will not change.

If you have more questions about this project at any time, you can call Michael E. Widlansky at 414-456-6777.

If you have questions about your rights as a participant, want to report any problems or complaints, or offer input, you can call the MCW/Froedtert Hospital Research Subject Advocate at 414-955-8844.

CONSENT TO PARTICIPATE IN RESEARCH

A1. INTRODUCTION – WHY ARE WE ASKING YOU TO PARTICIPATE?

You are invited to participate in a research study because you are a person without diabetes and can participate in a study looking at the effect of elevated glucose levels on the health of blood vessels.

A total of about 80 people are expected to participate in this research here, at the Medical College of Wisconsin.

The Director of the project is Dr. Widlansky in the Department of Medicine. A research team works with Dr. Widlansky. You can ask who these people are.

Dr. Widlansky receives financial support from the Department of Medicine and The National Institutes of Health to conduct this study.

A2. DO I HAVE TO PARTICIPATE?

You can decide whether to take part in this research or not. You are free to say yes or no. [If you say no, your regular medical care will not change.] Even if you join this project, you do not have to stay in it. You may stop at any time.

A3. WHY IS THIS PROJECT BEING DONE?

The purpose of this study is to look at the effect that hyperglycemia has on blood vessel function. The term hyperglycemia refers to a blood sugar level that is higher than the normal range. Prior research shows that high blood sugar levels in sick, hospitalized patients are a marker for abnormally functioning blood vessels. The abnormality in the blood vessel function can lead to heart attacks and strokes. Our preliminary research work has shown blood vessels do not function as well when they are exposed to sugar levels that are higher than normal.

The results found in this study will be used to increase our understanding of how high sugar levels can affect the blood vessel function. The understanding of this mechanism will help us improve our management of the complications caused from diabetes (such as heart attacks or strokes).

B1. WHAT WILL HAPPEN IF I PARTICIPATE?

Summary of Study Procedures:
We will need to make sure you are eligible before enrolling you in the full study. You will have the following tests, described below, and be asked the following information. This is to help us determine if you qualify for the study. This visit will take about 1 hour.

- If you are a woman of childbearing age, we will ask you to take a urine pregnancy test to make sure you are not pregnant before proceeding with the study to limit any risk to the baby.

- You will be asked more detailed questions about your medical history. A list of the current medications you are taking will be reviewed. This is to better determine if you are eligible for the study.
- We will measure your height, weight and abdominal girth. We will measure your blood pressure and heart rate three times. These measurements are taken to help us determine if you qualify for the study.
- We will obtain a sample of blood (about 2 tablespoons) from a surface vein in your arm or hand. This blood will be used to make measurements to determine your eligibility for the study.

If you qualify after the screening visit you will be asked to complete the study visit, which will take place 1-2 weeks after the screening visit and will be about 3-4 hours in length. The study visit will include the following procedures:

- Two intravenous lines (IV) will be placed in veins in both of your arms during the visit. One at the initial start of the study, and the second will be placed later during the visit.
- An initial blood sample (about 2-4 tablespoons) will be drawn once the first IV is placed.
- A J-Wire procedure will be done in the IV(s) placed in your arm. For this procedure, we will pass 3 thin wires into the catheter in your vein. This procedure is called an endothelial cell biopsy and the thin wire will scrape the cells lining the blood vessel. The wires will be quickly removed. This allows us to make measurements of what changes in blood sugar do to some of the cells that line your blood vessel. The J-wire procedure will be performed a total of three times during the study visit, for a total of 9 wires (3 wires per procedure).
- Once the IV is placed and the first J-wire procedure is completed, you will be given an oral glucose test. This means you will be asked to drink a sweet 75g (2.6 ounce) glucose drink that has been prepared by a nutritionist, in order to raise your blood sugar levels.
- The study team will monitor your blood sugar levels for 2 hours after you drink the glucose drink. A small amount of blood will be taken from the IV in your arm once an hour (for a total of two times) to check your blood sugar levels.

B2. HOW LONG WILL I BE IN THE PROJECT?

There will be two visits to the research center; the initial screening visit, and the study visit. The screening visit will take about an hour, and the study visit will take approximately 4 hours. The visits will be approximately 1-2 weeks apart, and total of approximately 6 hours of time commitment.

B3. CAN I STOP BEING IN THE PROJECT?

You may stop at any time. If you decide to leave the project, please let the research team know.

The research doctor may stop your participation in the project at any time for any reason without your consent. He / She will tell you if this happens.

C1. WHAT HEALTH RISKS OR PROBLEMS CAN I EXPECT FROM THE PROJECT?

We watch everyone in the project for unexpected problems [side effects]. **You need to tell the research fellow or a member of the research team immediately if you experience any problems or become too upset.**

- ⇒ **Questionnaires:** You may feel that some of the questions we ask are stressful or upsetting. If you do not wish to answer a question, you may skip it and go to the next question, or you may stop immediately.
- ⇒ **Blood Draw:** The side effects that you might experience as a consequence of donating a blood sample for this project include possible discomfort and bruising at the needle entry site. Rare complications of any venipuncture (drawing blood from a vein) include fainting, arterial puncture, peripheral nerve injury, local infection, and local blood clot. There may be other unanticipated risks, but every precaution will be taken to assure your personal safety and to minimize discomfort. The person drawing your blood will observe you for side effects, but please inform him or her if you experience any discomfort or feel faint.
- ⇒ **Low Blood Sugar:** Your blood sugar will be monitored throughout the study, however, there is a small risk that if your blood sugar is low you may feel lightheaded or lead to sweatiness. If you experience any of these symptoms, please notify a member of the study staff.
- ⇒ **Nausea:** Few people may feel nauseous after drinking the glucose drink. This is a small risk, and is up to your discretion if you wish to continue with the study.
- ⇒ **Infection:** There is always a small risk of infection when obtaining blood/ cell samples. Our study team takes all precautions to ensure that this does not happen. However, if you feel the site may be infected, please contact the study staff as soon as possible.

Another risk may be loss of confidentiality. Every effort will be made to keep your research records confidential but we cannot guarantee it. Depending on the kind of information being collected, if your research information were accidentally seen, it might be used in a way that could embarrass you or affect your ability to get insurance. If you have questions, you can talk to the project director about whether this could apply to you.

C2. RISKS TO WOMEN WHO COULD BECOME PREGNANT

The intervention in this project might affect a baby, before or after the baby is born. We do not know if the intervention cause(s) harm to a baby, so we do not want anyone who might be pregnant to enter the project. You should not become pregnant or nurse a baby while in this project. You must tell the research doctor right away if you think you are pregnant. You will be asked to have a pregnancy test to be sure you are not pregnant at the start of the project, as well as during the project at the second visit..

If you become pregnant during the project, you will be dropped from participation for safety reasons.

C3. ARE THERE ANY BENEFITS TO TAKING PART IN THE PROJECT?

- ⇒ This project will not help you, but we hope the information from this project will help people in the future.

D1. ARE THERE ANY COSTS TO BEING IN THE PROJECT?

⇒ There are no costs to you for any of the visits or services you receive in this project. If you have questions regarding costs, please contact Dr. Widlansky.
⇒ *:* If you participate in this research, the costs of any necessary emergency medical treatment in the event of a research-related injury will be billed to you or your health insurance.

D2. WILL I BE PAID FOR PARTICIPATING IN THE PROJECT?

Participants will receive a total of **$175** for completion of the entire study.

For participation in the screening visit you will receive **$25**.

For completion of the study visit, you will receive **$150**

To pay you, we need your social security number. Any payment mey be reportable as income on your taxes.

D3. WHAT OTHER HEALTHCARE CHOICES DO I HAVE?

You do not have to join this project. You are free to say yes or no.

D4. WILL I BE GIVEN NEW INFORMATION ABOUT THE PROJECT?

⇒ If we learn any important new information [about the intervention] that might change your mind about being in the project, we will tell you about it right away. You can then decide if you want to stay in the project.

D5. WHAT HAPPENS IF I AM INJURED BECAUSE I TOOK PART IN THE PROJECT?

Emergency medical treatment for injuries directly related to your participation in this research project will be provided to you. You or your health insurance will be billed for the costs of this emergency treatment. MCW will decide on a case by case basis if they will reimburse you or your insurer for emergency treatment costs. If your research-related injury requires medical care beyond this emergency treatment, you or your insurer will be responsible for the costs of this follow-up care.

At this time, there is no plan for any additional financial payments.

If you believe that you have been injured because of your participation in this project, contact the research doctors right away. Contact information: Dr. Widlansky 414-456-6716

Nothing in this consent form affects any legal rights you may have nor does it release the investigator, the sponsor, the institution, or its agents from liability for negligence.

D6. WHO CAN ANSWER MY QUESTIONS ABOUT THE PROJECT?

- If you have more questions about this project at any time, you can call Dr. Widlansky at 414-456-6777
- If you have questions about your rights as a research participant, want to report any problems or complaints, or offer input, you can call the MCW/Froedtert Hospital Research Subject Advocate at 414-955-8844.

E. PERMISSION TO COLLECT, USE AND SHARE HEALTH INFORMATION

E1. What health information will be collected and used for this project?

To be in this research project, the research team needs your permission to access, collect and use some of your health information. If you say no, you cannot be in the project. This information may come from questions we ask, forms we ask you to fill out, [or your medical record], as described below. We will only collect and use information needed for the project.

The protected health information (PHI) originates from services you will or have received at one or more of the following locations: the Medical College of Wisconsin (MCW); BloodCenter of Wisconsin (BCW); Children's Hospital of Wisconsin (CHW); any Froedtert Health Affiliate-Froedtert Memorial Lutheran Hospital (FMLH), Inc.; Community Memorial Hospital (CMH) Menomonee Falls, Inc.; St. Joseph's Community Hospital (SJH) West Bend, Inc.; Froedtert & The Medical College of Wisconsin Community Physicians Clinics, Inc. (FMCWCP); the West Bend Surgery Center, LLC; and the Froedtert Surgery Center, LLC.

The health information we will collect and use for this project is:

- ⇨ Health information collected during this project, such as, questionnaires
- ⇨ Blood pressures, height, weight, etc.
- ⇨ Blood work results

E2. Who will see the health information collected for this project?

The only people allowed to handle your health information are those on the research team at MCW/Froedtert Hospital, those on the Institutional Review Board (IRB) and those who check on the research activities to make sure the hospital's rules are followed.

If the costs of any necessary emergency medical treatment in the event of a research-related injury are billed to your health insurance, your health information may need to be disclosed to the insurer for billing purposes.

We may record your research information, including results of tests, procedures or questionnaires done for research, in your Froedtert Hospital and/or Medical College of Wisconsin medical record or BloodCenter blood donor record. As a result, this research information may be seen by people allowed to see your medical records for healthcare

operations or treatment, by those you allow to see your medical records by giving written permission, and by others when required by law.

We will not use your personal health information for a different project without your permission or the permission of a hospital research review board (IRB). Once all personal identification is removed from your health information and/or biospecimens, the information and/or biospecimens may be used for future research or distributed to another investigator for future research without additional informed consent from you or your legally authorized representative. The information might also be used or released for other purposes without asking you. Results of the project may be presented in public talks or written articles, but no information will be presented that identifies you.

E3. What are the risks of sharing this health information?

One risk of taking part in a research project is that more people will handle your personal health information collected for this project. The research team will make every effort to protect the information and keep it confidential, but it is possible that an unauthorized person might see it. Depending on the kind of information being collected, it might be used in a way that could embarrass you or affect your ability to get insurance. If you have questions, you can talk to the research doctor about whether this could apply to you.

E4. How long will you keep the health information for this project?

If you sign this form, we plan to keep your information for 10 years after the research project ends in case we need to check it again for this project.

E5. Can I cancel my permission to share this health information?

If you change your mind later and do not want us to collect or share your health information, you need to send a letter to Michael Widlansky at:

Medical College of Wisconsin
8701 Watertown Plank Road
Milwaukee, WI 53226-0509

The letter must say that you have changed your mind and do not want the researcher to collect and share your health information. At that time, we may decide that you cannot continue to be part of the project. We may still use the information we have already collected.

E6. Certificate of Confidentiality
To help us protect your privacy, we have obtained a Certificate of Confidentiality from the National Institutes of Health. The study team can use this Certificate to legally refuse to disclose information that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings, for example, if there is a court subpoena. The study team will use the Certificate to resist any demands for information that would identify you, except as explained below.

The Certificate cannot be used to resist a demand for information from personnel of the United States federal or state government agency sponsoring the project and that will be used for

auditing or program evaluation of agency funded projects or for information that must be disclosed in order to meet the requirements of the federal Food and Drug Administration (FDA). You should understand that a Certificate of Confidentiality does not prevent you or a member of your family from voluntarily releasing information about yourself or your involvement in this research. If an insurer, medical care provider, or other person obtains your written consent to receive research information, then the researchers will not use the Certificate to withhold that information.

CONSENT TO PARTICIPATE

By signing my name below, I confirm the following:

- I have read (or had read to me) this entire consent document. All of my questions have been answered to my satisfaction.
- The project's purpose, procedures, risks and possible benefits have been explained to me.
- I agree to let the research team use and share the health information and other information gathered for this project.
- I voluntarily agree to participate in this research project. I agree to follow the procedures as directed. I have been told that I can stop at any time.

IMPORTANT: You will receive a signed and dated copy of this consent form. Please keep it where you can find it easily. It will help you remember what we discussed today.

Signature line instructions:
*Generally, the subject's signature is sufficient. Thus, the following signature lines are **optional** to include: Legally Authorized Representative, Witness, Principal Investigator or designated representative. These should only be included when the Investigator chooses to include them, or when required by the Sponsor.*

Subject's Name *please print*	**Subject's Signature**	**Date**
*** Name of person discussing/ obtaining consent** *please print*	**Signature of person discussing/obtaining consent**	**Date**