INFORMED CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Full Study Title: DIAgnosing **G**DM usi**N**g **O**ral **S**ugar **I**n**S**tead (DIAGNOSIS): Randomized crossover study comparing the standard glucose beverage and: Dex4® tablets for 2-hour oral glucose tolerance testing in pregnant women with a positive screen on the 50g glucose tolerance challenge for gestational diabetes

Principal Investigator: Dr. Baiju Shah, Endocrinology, 416-480-5914

Sponsor: This study is being funded internally by the Women and Babies Program and the Department of Endocrinology. Dex4® will be providing the fast acting dextrose tablets for this study.

Emergency Contact Number: Dr. Baiju Shah, Endocrinology, 416-480-5914 or 416-480-4244.

INFORMED CONSENT

You are being asked to consider participating in a research study. A research study is a way of gathering information on a treatment, procedure or medical device or to answer a question about something that is not well understood.

This form explains the purpose of this research study, provides information about the study procedure, the tests involved, possible risks and benefits, and the rights of participants.

Please read this form carefully and ask any questions you may have. You may have this form and all information concerning the study explained to you. If you wish, someone may be available to verbally translate this form into your preferred language. The study staff will tell you if there are any study timelines for making your decision as to whether or not to participate.

Please ask the study staff or one of the investigators to clarify anything you do not understand or would like to know more about. Make sure all questions are answered to your satisfaction before deciding whether to participate in this research study.

Participating in this study is your choice (voluntary). You have the right to choose not to participate, or to stop participating in this study at any time.

INTRODUCTION

You are being asked to consider participating in this study because you are a woman pregnant with one baby between 24-32 weeks' gestation and have screened positive on the 50g Oral Glucose Challenge Test. Women who have taken medications in the past

4 weeks that can impact glucose metabolism (such as steroids, terbutaline or metformin) are not eligible for the study.

In Canada, pregnant woman routinely have screening for gestational diabetes, which involves consuming glucose beverage (a beverage that is high in sugar) and having a blood test for sugar after 1 hour. If the blood test comes back abnormal (positive) then a second test is needed to confirm the diagnosis. For the second test, women are asked to fast for 8 hours and then consume 75g of glucose beverage and blood tests for sugar values are taken at fasting and 1 and 2 hours after drinking the glucose beverage. The blood tests are interpreted by a doctor to determine if you have gestational diabetes. It is important to diagnose gestational diabetes, as treatment can prevent birth complications such as a larger baby and trauma during delivery.

Unfortunately, up to 30% of women do not tolerate glucose beverage and experience side effects such as nausea, vomiting, bloating, abdominal pain, diarrhea, sweating, and headache which may prevent them from completing testing. If women cannot complete screening, the diagnosis of gestational diabetes may be missed, increasing the risk of complications for mothers and their babies. The purpose of this study is to find an alternative to the glucose beverage drink that allows more women to complete screening for gestational diabetes.

Dex4® tablets are used for the treatment of low blood sugar levels, but they have not been approved by Health Canada for glucose tolerance testing. Health Canada has allowed the use of Dex4® tablets in this research study.

WHAT IS THE USUAL TREATMENT?

Usually, routine prenatal care consists of a 50g Oral Glucose Challenge Test between 24 and 28 weeks gestation. Women who have an out of range result from the 50g glucose test continue to do the 75g Oral Glucose Tolerance Test (OGTT) to determine glucose tolerance (this is the test that has three blood tests fasting and 1 and 2 hours after drinking glucose beverage). The 75g OGTT is the gold-standard for diagnosing gestational diabetes.

If you decide to participate in this study, you will receive both a standard OGTT using glucose beverage and an alternative OGTT using Dex4® tablets. A doctor will carefully evaluate the results to diagnose glucose tolerance based on the test results of the OGTT using glucose beverage.

WHY IS THIS STUDY BEING DONE?

The purpose of this study is to compare the effects (good and bad) of Dex4® tablets, as an alternative form of fast acting carbohydrates (dextrose), compared to the best available existing therapy, glucose beverage. We want to test if the blood sugar results are similar enough when women have either dextrose in the form of Dex4® tablets or liquid glucose beverage, and which test the women prefer.

WHAT WILL HAPPEN DURING THIS STUDY?

If you agree to participate in this study, you will:

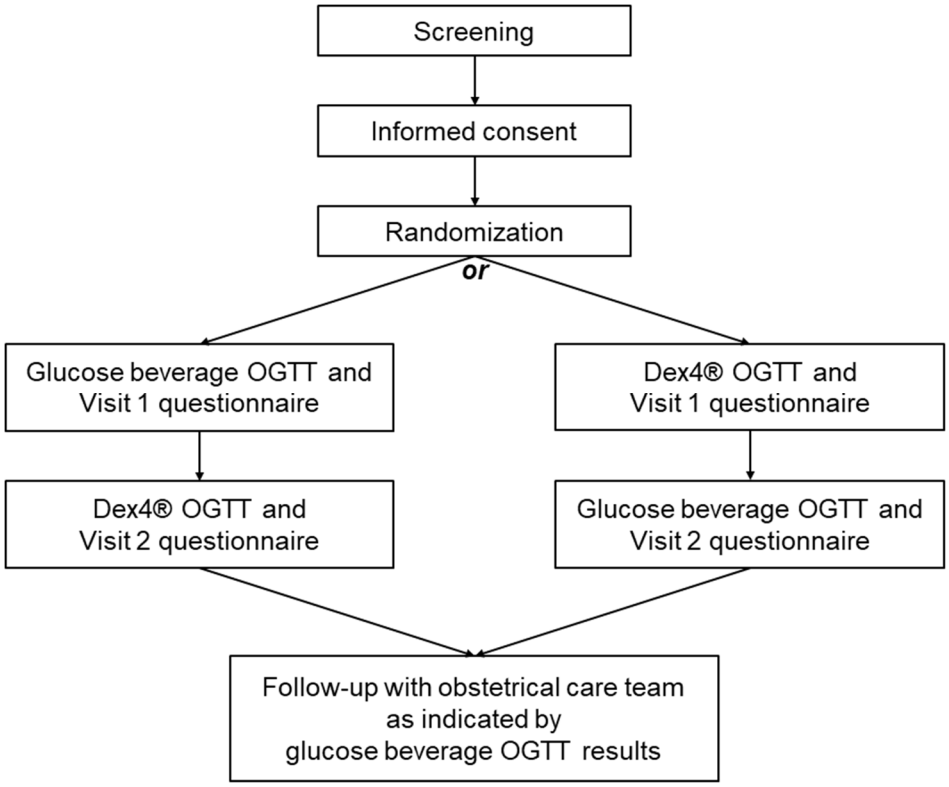
1. Sign the Participant Consent Form after reviewing it with a team member
2. Take the standard (glucose beverage) OGTT test
3. Take the alternative (Dex4® tablets) OGTT test
4. Follow-up regarding glucose tolerance results

Participants in this study will be randomly (by chance) scheduled to take either the standard OGTT test (glucose beverage) first or the alterative OGTT test (21 Dex4® tablets) first. There will be an equal chance of taking either test first. After completion of the first OGTT, you will undergo the other OGTT within a few days (maximum 7 days). During the time between the two tests, you will be asked to refrain from drinking alcohol, and performing nonroutine exercise. There will be 2 visits related to this study: one for the standard OGTT (2.5 hours) and one for the alternative OGTT (2.5 hours). If you choose not to participate in the study, you would still be recommended to have the standard OGTT as part of usual care. Both OGTT tests will be done after fasting from midnight. Each OGTT test will require three 2 mL blood draws from a vein in your arm.

After completion of both tests, you will be asked to complete a questionnaire about your diet and exercise habits, your health, and your preference between glucose beverage and the Dex4® tablets. In total you will be asked to complete 2 questionnaires, which should take 5-10 minutes each. Since the Dex4® tablets test has not yet been validated for the diagnosis of gestational diabetes (that is the purpose of this study) the results of your glucose beverage test will be sent to your doctor after you have completed both tests, and they will inform you if you have gestational diabetes.

Participating in this study will not impact your care.

Study plan: Another way to find out what will happen during this study is to read the study plan below. Start reading at the top and read down the list, following the arrows.



HOW MANY PEOPLE WILL TAKE PART IN THIS STUDY?

It is anticipated that about 28 people will participate in this study. All participants will be from Sunnybrook Health Sciences Centre. The length of this study for participants is 1 week. The entire study is expected to take about 3 months to complete and the results should be known 4 months.

WHAT ARE THE RESPONSIBILITIES OF STUDY PARTICIPANTS?

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

- Follow the instructions of the Principal Investigator and study staff
- Take the Dex4® tablets and glucose beverage as instructed
- Keep your study appointments. If it is necessary to miss an appointment, please contact the research study staff to reschedule as soon as you know you will miss the appointment.
- Tell the Principal Investigator or study staff of any side effects, doctor visits, or hospitalization you may have.

Standard OGTT (2.5 hours)

- Fast from at least midnight prior to doing the test (water is permitted but not fruit juices, coffee, tea or milk)
- Drink a glucose beverage
- Remain in the testing area for 2 hours after consuming the drink and have blood drawn at the 1 hour mark and the 2 hour mark

Time between Tests (1 week at most)

- Refrain from alcohol intake and nonroutine exercise

Alternative OGTT (2.5 hours)

- Fast from at least midnight the day before prior to doing the test
- Chew 21 Dex4® tablets
- Remain in the testing area for 2 hours after consuming the drink and have blood drawn at the 1 hour mark and the 2 hour mark

You will either complete the standard OGTT first or the alternative OGTT first, depending on your randomization. All participants will complete both tests. After finishing the first test, you will complete a questionnaire about your pregnancy, health, diet, and exercise habits, and side effects from the firsts test. After completing the second test, you will complete a questionnaire about the side effects from the second test, and answer a question about your preference between the two tests. You have a choice of not answering any questions. All study visits will be at Sunnybrook Health Sciences Centre.

Note that the collection of blood is a necessary part of this study and will be used for research purposes only and will not be sold. Approximately 6 mL of blood will be drawn at each visit. Blood draws are considered to be safe. There are no known major risks to having your blood drawn. You may experience a slight sting when the needle first pierces the skin. Blood samples will be stored at Sunnybrook Health Sciences Centre, Toronto, Canada. The blood samples will be discarded once study testing is completed. You will be informed of the results if your standard (glucose beverage) blood tests. Your blood sample will be labelled with a study identification number. Your blood sample will not contain your name, address or any information that directly identifies you.

CALENDAR OF VISITS

Boxes marked with an X show what will happen at each visit

	Screening (24-32 weeks gestation)	**Visit 1** (24-32 weeks gestation)	**Visit 2** (within 1 week of visit 1)
Time	30 minutes	2.5 hours	2.5 hours
Informed consent	X		
Medical history	X		
Height and weight	X		
First OGTT		X	
Questionnaire 1		X	
Second OGTT			X
Questionnaire 2			X

WHAT ARE THE RISKS OR HARMS OF PARTICIPATING IN THIS STUDY?

You may experience side effects from participating in this study. The study will determine if side effects are less common with Dex4® tablets than with the glucose

beverage. Some side effects are known and are listed below, but there may be other side effects that are not expected. If you decide to take part in this study, you should contact Dr. Baiju Shah in the Department of Endocrinology at (416)-480-5914 about any side effects or study-related injuries that you experience.

This study is looking at an alternative way to test for gestational diabetes. Any treatment that is required if you are diagnosed with gestational diabetes will be routinely provided by your treating doctor. The effects or discomforts of tests/procedures that are part of this study but are part of your normal clinical care will be reviewed by your treating doctor.

There are no known major risks to having your blood drawn. There is a possibility of pain, bruising, swelling or infection related to drawing blood. These discomforts are minimal and brief.

While rare, allergies to corn based products such as dextrose can result in allergic reaction symptoms such as itching, facial swelling and anaphylaxis upon consumption.

You will be told about any new information that might reasonably affect your willingness to continue to participate in this study as soon as the information becomes available to the study staff.

SUMMARY OF POSSIBLE SIDE EFFECTS:
Nausea
Vomiting
Bloating
Headache
Sweating
Diarrhea

WHAT ARE THE BENEFITS OF PARTICIPATING IN THIS STUDY?

You may or may not benefit directly from participating in this study. However, detection and treatment of gestational diabetes has been shown to improve the health of both the mother and the baby. Your participation may or may not help other women testing for gestational diabetes in the future.

WHAT OTHER CHOICES ARE THERE?

If you decide not to participate in this study, you may decide to undergo standard screening for gestational diabetes or to forego any kind of gestational diabetes screening (however this is not recommended). You can further discuss these treatment options with your obstetrician or the study investigator(s) before deciding whether to participate in this study.

CAN PARTICIPATION IN THIS STUDY END EARLY?

The investigator may decide to remove you from this study without your consent for any of the following reasons:

- The investigator(s) decide(s) that continuing in this study would be harmful to you.
- You are unable or unwilling to follow the study procedures
- The pregnancy is terminated

If you are removed from this study, the investigator will discuss the reasons with you and plans will be made for your continued care outside of the study.

You can also choose to end your participation at any time without having to provide a reason. If you choose to withdraw, your choice will not have any effect on your current or future medical treatment or health care. If you withdraw voluntarily from the study or at the request of your family doctor, you are encouraged to contact Dr. Baiju Shah in the Department of Endocrinology at (416)-480-5914 immediately. You may be asked questions about your experience with the study.

If you withdraw your consent, the information about you and (type of sample/tissue) that was/were collected before you left the study will still be used. No new information about you will be collected (and no further testing of your (type of sample/tissue) will be done) without your permission.

WHAT ARE THE COSTS OF PARTICIPATING IN THIS STUDY?

Participating in this study may result in added costs to you for transportation and parking. You will be provided a 4-hour Sunnybrook parking pass for study visit days.

WHAT HAPPENS IF I HAVE A RESEARCH RELATED INJURY?

If you become sick or injured as a direct result of your participation in this study, your medical care will be provided. Financial compensation for such things as lost wages, disability or discomfort due to this type of injury is not routinely available.

By signing this consent form, you do not give up any of your legal rights.

ARE STUDY PARTICIPANTS PAID TO PARTICIPATE IN THIS STUDY?

You will not be paid to participate in this study.

HOW WILL MY INFORMATION BE KEPT CONFIDENTIAL?

You have the right to have any information about you that is collected, used or disclosed for this study to be handled in a confidential manner.

If you decide to participate in this study, the investigator(s) and study staff will look at your personal health information and collect only the information they need for this

study. “Personal health information” is health information about you that could identify you because it includes information such as your;

- name,
- age,
- new and existing medical records, or
- the types, dates and results of various tests and procedures.

You have the right to access, review and request changes to your personal health information.

The following people may come to the hospital to look at your personal health information to check that the information collected for the study is correct and to make sure the study followed the required laws and guidelines:

- Representatives of the Sunnybrook Research Institute, Sunnybrook Health Sciences Centre or the Sunnybrook Research Ethics Board, because they oversee the ethical conduct of research studies at Sunnybrook; and

Access to your personal health information will take place under the supervision of the Principal Investigator.

“Study data" is health information about you that is collected for the study, but that does not directly identify you.

Any study data about you that is sent outside of the hospital will have a code and will not contain your name or address, or any information that directly identifies you.

Study data that is sent outside of the hospital will be used for the research purposes explained in this consent form

The investigator(s), study staff and the other people listed above will keep the information they see or receive about you confidential, to the extent permitted by applicable laws. Even though the risk of identifying you from the study data is very small, it can never be completely eliminated.

The Principal Investigator will keep any personal information about you in a secure and confidential location for 25 years and then destroy it according to Sunnybrook policy. When the results of this study are published, your identity will not be disclosed.

You have the right to be informed of the results of this study once the entire study is complete. If you would like to be informed of the results of this study, please contact Dr. Baiju Shah in the Department of Endocrinology at (416)-480-5914.

ARE THERE ANY CONFLICTS OF INTEREST/RELATIONSHIPS?

AMG Medical Inc. is providing the Dex4® fast acting dextrose tablets used in this study.

WHAT ARE THE RIGHTS OF PARTICIPANTS IN A RESEARCH STUDY?

You have the right to receive all information that could help you make a decision about participating in this study. You also have the right to ask questions about this study and your rights as a research participant, and to have them answered to your satisfaction, before you make any decision. You also have the right to ask questions and to receive answers throughout this study. Your participation in the research does not release the study investigators from liability for negligence.

If you have any questions about this study you may contact the person in charge of this study (Baiju Shah in the Department of Endocrinology at (416)-480-5914)

The Sunnybrook Research Ethics Board has reviewed this study. If you have questions about your rights as a research participant or any ethical issues related to this study that you wish to discuss with someone not directly involved with the study, you may call the **Chair of the Sunnybrook Research Ethics Board at (416) 480-6100 ext. 88144.**

DOCUMENTATION OF INFORMED CONSENT

You will be given a copy of this informed consent form after it has been signed and dated by you and the study staff.

Full Study Title: DIAgnosing GDM usiNg Oral Sugar InStead (DIAGNOSIS) Randomized crossover study comparing the standard glucose beverage and Dex4® tablets for 2 hour oral glucose tolerance testing in pregnant women with a positive screen on the 50g glucose tolerance challenge for gestational diabetes

Name of Participant: _____

Participant

By signing this form, I confirm that:

- This research study has been fully explained to me and all of my questions answered to my satisfaction
- I understand the requirements of participating in this research study
- I have been informed of the risks and benefits, if any, of participating in this research study
- I have been informed of any alternatives to participating in this research study
- I have been informed of the rights of research participants
- I have read each page of this form
- I authorize access to my personal health information, medical records, and research study data as explained in this form
- I have agreed, or agree to allow the person I am responsible for, to participate in this research study
- I understand that my family doctor may be informed of my participation in this research study
- This informed consent document may be placed in my medical records

_____	_____	_____
Name of participant / substitute decision maker (print)	Signature	Date

Assistance declaration

Was the participant assisted during the consent process? ☐ Yes ☐ No

☐ The consent form was read to the participant, and the person signing below attests that the study was accurately explained to, and apparently understood by, the participant.

☐ The person signing below acted as a translator for the participant in the consent process. He/she attests that they have accurately translated the information for the participant, and believe that that participant has understood the information translated.

Name of person assisting (print)	Signature	Date

Person obtaining consent

By signing this form, I confirm that:
- This study and its purpose has been explained to the participant named above
- All questions asked by the participant have been answered
- I will give a copy of this signed and dated document to the participant

Name of person obtaining consent (print)	Signature	Date

Statement of Investigator

I acknowledge my responsibility for the care and well-being of the above participant, to respect the rights and wishes of the participant as described in this informed consent document, and to conduct this study according to all applicable laws, regulations and guidelines relating to the ethical and legal conduct of research.

Name of person investigator (print)	Signature	Date