Consent to Participate in a Research Study
Adult Subjects, SEARCH 3 Registry Study Visit

UNC IRB Study #10-2341
Consent Form Version Date: 5/16/2011

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

SEARCH Carolina Site Principal Investigators:
University of North Carolina-Chapel Hill, Coordinating Site: Elizabeth Mayer-Davis, PhD (919-966-1991)
Greenville Hospital System, Data Collection Site: James Amrhein, MD (864-454-5100)
Medical University of South Carolina, Data Collection Site: Deborah Bowlby, MD (843-792-6807)
University of South Carolina, Data Collection Site: Anwar Merchant, ScD (803-777-6095)
Funding Source and/or Sponsor: Centers for Disease Control and Prevention and National Institutes of Health/NIDDK
Study Contact telephone number: local numbers given above or studywide toll-free at 866-595-2397
Study Contact email: search.study@unc.edu

What are some general things you should know about research studies?
You are being asked to take part in a research study. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason.

Research studies are designed to obtain new knowledge that may help other people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Deciding not to be in the study or leaving the study before it is done will not affect your relationship with the researcher or your health care provider. If you are a patient with an illness, you do not have to be in the research study in order to receive health care.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?
The purpose of this research study is to learn about diabetes in children and young adults. Diabetes is the third most common life-long disease in people under 20 years of age. The total number of cases of diabetes in this age group is increasing. Also, types of diabetes that have not been seen in young people are now being seen. These changes have resulted in gaps in knowledge about the total number of cases and types of diabetes in the United States, the type

of care young people with diabetes receive, and the effect diabetes has on their lives. This research study will gather information to answer these questions.

You are being asked to be in the study because you have diabetes and were under age 20 and living in South Carolina around the time you developed diabetes.

Are there any reasons you should not be in this study?
You should not complete a study visit if you are currently pregnant. You may take part in the study visit when it has been at least four months after the end of your pregnancy.

How many people will take part in this study?
A total of approximately 900 people at five sites across the US will take part in the Registry Study visit, including approximately 211 people from the Carolina SEARCH site.

How long will your part in this study last?
The Registry Study visit will take about 40 minutes. We may contact you every year to be sure we have your correct contact information. If you agree to have a sample of your blood, urine or DNA stored following the Registry Study visit, it will be saved for 10 years after the end of funding for follow-up of SEARCH participants. After this time, stored samples will be destroyed.

What will happen if you take part in the study?
A research team member will set up an appointment for you in the early morning. You will come to the appointment after not having anything to eat or drink other than water for 8-12 hours. You will not take your usual diabetes medicines until after you have been given breakfast during the appointment.

Laboratory Tests
When you arrive, blood will be taken from your arm to measure blood sugar, hemoglobin A1c (a measure of long-term blood sugar control), different types of cholesterol (fat), c-peptide (a measure of your own insulin production), and islet cell antibodies (markers in the blood for type 1 diabetes). A genetic marker for diabetes risk (HLA genes) will also be tested. The total amount of blood drawn will be based on weight tables and will not exceed 3 tablespoons. A urine sample will also be obtained and tested to see if diabetes is affecting your kidneys. If you agree, results commonly used in clinical practice (hemoglobin A1c, cholesterol, c-peptide, islet cell antibodies, and urine albumin/creatinine) will be shared with your doctor.

Mark the line that best matches your choice:
_____ OK to share results of the tests with my doctor
_____ Not OK to share results of the test with my doctor

A sample of your blood, urine, and DNA may be saved after the visit, if you agree.

After these tests are done, you will be given breakfast.

Physical Exam and Questionnaires

After eating, we will ask you some questions about the medicines you use and a physical examination will be done by trained study staff. The physical examination will include height, weight, waist measurement, blood pressure, and examination of the skin on the neck. Then you will do a brief form to update your contact information.

Contact in the Future

The researchers will call you as new studies are developed in the future to let you know about new studies and ask you to take part in these studies. As with this study, taking part in any future study is voluntary. Taking part in the present study does not mean that you are agreeing to take part in any future study.

Mark the line that best matches your choice:

_____ OK to contact me in the future to tell me about other studies

_____ Not OK to contact me in the future to tell me about other studies

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. You will not benefit personally from being in this research study.

What are the possible risks or discomforts involved with being in this study?

The risks from drawing blood from a vein in the lower arm include mild pain, bruising at the site of the blood draw, and occasionally fainting. To lower the chance of these risks, blood will be drawn by experienced staff and a local numbing medicine may be placed on the skin before the blood is drawn to decrease any pain. The total amount of blood that will be obtained will be no more than 3 tablespoons (45cc) depending on your age and body size. When drawing your blood, our research staff will follow all necessary safety precautions. In the highly unlikely event that our research staff is accidentally exposed to your bodily fluids (blood or urine), we will abide by the South Carolina law that provides for testing of blood to minimize threats to the health of the staff. You will be notified should this testing be necessary and the results will be reported as required by law.

The blood tests require that you not eat any food overnight. In order to limit low or high blood sugars, your blood sugar will be checked and your diabetes medication or a fast-acting carbohydrate will be given as needed.

Some of the tests will look for the presence or risk of developing of the complications of diabetes. If these tests identify complications of diabetes or risk of developing the complications, the results may make you anxious. If this happens, you will be referred to your diabetes care provider or a local mental health professional.

Other possible risks include loss of privacy or confidentiality. Loss of privacy might happen if someone could overhear or see you taking part in the study. To limit this, we will do the study

visit in a private location. Information collected will be stored in a locked filing cabinet or in a password-protected electronic file.

In addition, there may be uncommon or previously unknown risks that might occur. You should report any problems to the researchers.

If you choose not to be in the study, how does this affect your medical care?
You can still receive evaluation and treatment for your condition if you do not participate in this study. Discuss any alternative treatments with your regular doctor and/or the study doctor before you decide to participate in the study. Your decision is entirely up to you. If you decide not to participate in the study, you will not be penalized or lose any benefits and your decision will not affect your relationship with your doctor or hospital.

What if we learn about new findings or information during the study?
You will be given any new information gained during the course of the study that might affect your willingness to continue your participation.

How will your privacy be protected?
SEARCH staff will keep the information collected, tests done, and samples stored strictly private. This is so because the study has been given a Certificate of Confidentiality. This means anything you tell us will not have to be given out to anyone, even if a court orders us to do so, unless you say it's okay. But under the law, we must report to the state suspected cases of child abuse or if you tell us you are planning to cause serious harm to yourself or others.

When you enter the study, a special number will be given to you. The number will be used to identify the information and laboratory tests that will be done during this study. The special number and the information collected during this study will be sent to Wake Forest University in order to study the information. Blood and urine specimens will be sent to the University of Washington for testing or storage. The list containing the special number assigned to you will be kept in a password-protected database at the Carolina SEARCH site. Thus, no one other than the study investigators (Dr. Mayer-Davis at the University of North Carolina (UNC), Dr. Amrhein at Greenville Hospital System (GHS), Dr. Bowlby at the Medical University of South Carolina (MUSC), Dr. Merchant at the University of South Carolina (USC)) and the SEARCH Carolina research team will be able to link any of the information collected in the study to you. Paper forms collected during the study will be stored in a locked filing cabinet.

No subjects will be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill and your local data collection site (GHS, MUSC, or USC) will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the UNC-Chapel Hill or your local data collection site (GHS, MUSC, or USC), research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

What will happen if you are injured by this research?
All research involves a chance that something bad might happen to you. This may include the risk of personal injury. In spite of all safety measures, you might develop a reaction or injury from being in this study. If such problems occur, the researchers will help you get medical care, but any costs for the medical care will be billed to you and/or your insurance company. The University of North Carolina at Chapel Hill and your local data collection site (GHS, MUSC or USC) have not set aside funds to pay you for any such reactions or injuries, or for the related medical care. However, by signing this form, you do not give up any of your legal rights.

What if you want to stop before your part in the study is complete?
You can withdraw from this study at any time, without penalty.

Will you receive anything for being in this study?
You will be receiving $80 in Walmart gift cards for taking part in this study.

If you traveled a significant distance to complete this study visit, you will be provided additional incentive to assist with travel costs. This additional incentive will be: one $20 Walmart gift card if you traveled 80-120 miles round trip or two $20 Walmart gift cards if you traveled more than 120 miles round trip. Travel distance will be determined based on your current home address and the location of the SEARCH visit.

Will it cost you anything to be in this study?
There will be no costs for being in the study

What if you are a student at UNC, MUSC or USC?
You may choose not to be in the study or to stop being in the study before it is over at any time. This will not affect your class standing or grades. You will not be offered or receive any special consideration if you take part in this research.

What if you are an employee at MUSC, GHS, or USC?
Taking part in this research is not a part of your job duties, and refusing will not affect your job. You will not be offered or receive any special job-related consideration if you take part in this research.

Who is sponsoring this study?
This research is funded by the Centers for Disease Control and Prevention and the National Institutes of Health. This means that the research team is being paid by the sponsor for doing the study. The researchers do not, however, have a direct financial interest with the sponsor or in the final results of the study.

What if you have questions about this study?
You have the right to ask, and have answered, any questions you may have about this research. If you have questions, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research subject?
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at Greenville Hospital System (864-455-8997; email: jhayes@ghs.org) or at UNC-Chapel Hill (919-966-3113; email: IRB_subjects@unc.edu.

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Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

Principal Investigators: Elizabeth Mayer-Davis, PhD (UNC-Chapel Hill Coordinating Site); James Amrhein, MD (GHS data collection site);
Deborah Bowlby, MD (MUSC data collection site);
Anwar Merchant, ScD (USC data collection site)

Subject's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_____ _____
Signature of Research Subject Date

_____
Printed Name of Research Subject

_____ _____
Signature of Research Team Member Obtaining Consent Date

_____
Printed Name of Research Team Member Obtaining Consent

Assent to Participate in a Research Study
Adolescent Subjects age 15-17, Cohort Study Visit

UNC IRB Study #10-2341
Assent Form Version Date: 5/16/2011

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Cohort Study Visit

SEARCH Carolina Site Principal Investigators:
University of North Carolina-Chapel Hill, Coordinating Site: Elizabeth Mayer-Davis, PhD (919-966-1991)
Greenville Hospital System, Data Collection Site: James Amrhein, MD (864-454-5100)
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University of South Carolina, Data Collection Site: Anwar Merchant, ScD (803-777-6095)
Funding Source and/or Sponsor: Centers for Disease Control and Prevention and National Institutes of Health/NIDDK
Study Contact telephone number: local numbers given above or studywide toll-free at 866-595-2397
Study Contact email: search.study@unc.edu

What are some general things you should know about research studies?
You are being asked to take part in a research study. Your parent, or guardian, needs to give permission for you to be in this study. You do not have to be in this study if you don't want to, even if your parent has already given permission. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason.

Research studies are designed to obtain new knowledge that may help other people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Deciding not to be in the study or leaving the study before it is done will not affect your relationship with the researcher or your health care provider. If you are a patient with an illness, you do not have to be in the research study in order to receive health care.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?
The purpose of this research study is to learn about diabetes in children and young adults. Diabetes is the third most common life-long disease in people under 20 years of age. The total number of cases of diabetes in this age group is going up. Also, types of diabetes that have not

been seen in young people are now being seen. Specifically, this project is interested in studying the following questions:

a. How common are long-term problems related to diabetes, including: retinopathy (damage to back of the eye), nephropathy (kidney damage), neuropathy (nerve damage), and damage to the heart and blood vessels?
b. How common are short-term problems, including hypoglycemia (low blood sugar) and diabetic ketoacidosis (DKA)?
c. What type of medical care are young people with diabetes receiving and how does diabetes affect the lives of these individuals?

You are being asked to be in the study because you have diabetes, already did an in-person visit with SEARCH and have had diabetes for at least five years.

Are there any reasons you should not be in this study?

You should not do a study visit if you are pregnant. You may take part in the study visit when it has been at least four months after the end of your pregnancy.

How many people will take part in this study?

A total of approximately 3900 people at five sites across the US will take part in the Cohort Study visit, including approximately 821 people from the Carolina SEARCH site.

How long will your part in this study last?

The Cohort Study visit will take about 3 ½ hours. We may contact your parent every year to be sure we have your correct contact information. If you agree to have a sample of your blood, urine or DNA stored after the Cohort Study visit, it will be saved for 10 years after the end of funding for follow-up of SEARCH participants. After this time, stored samples will be destroyed.

What will happen if you take part in the study?

A study team member will set up a time for your study visit in the morning. You will be asked to not have anything to eat or drink other than water for 8-12 hours before your visit. You will not take your usual diabetes medicines until after you have been given breakfast after your blood draw.

Laboratory Tests

Blood draw: When you arrive, blood will be taken from your arm to test blood sugar, hemoglobin A1c (a measure of long-term blood sugar control), different types of fat, c-peptide (a measure of your own insulin production), islet cell antibodies (markers in the blood for type 1 diabetes), cystatin-C and serum creatinine (measures of kidney function), and several new blood markers associated with risk for developing heart disease or stroke (apolipoprotein B, C-reactive protein, interleukin-6, leptin, and adiponectin).

The total amount of blood drawn will be based on weight tables and will not exceed 3 tablespoons. The blood draw takes about 10 minutes. If you need numbing medicine for the blood draw, SEARCH staff can provide that for you. If you agree, results commonly used in

clinical practice (hemoglobin A1c, cholesterol, c-peptide, and urine albumin/creatinine will be shared with your doctor.

Mark the line that best matches your choice:

_____ OK to share results of the tests with my doctor
_____ Not OK to share results of the test with my doctor

Urine Collection: Two weeks before your scheduled appointment, you will be mailed a container with detailed instructions to collect an overnight, timed urine sample 2-7 days before your visit. You will be asked to bring this urine container with you on the day of your visit.

A urine sample will also be collected at the start of the visit. We will mark the time that you give this urine sample on a sheet of paper. After the blood and urine samples are obtained, you can take your pills or insulin and you will be given a snack. If you need to urinate again during the visit, you will be asked to collect that urine in a container and leave it with the study personnel at the end of the visit. We will mark the time you last gave a urine sample.

Your urine will be tested for albumin and creatinine (small particles of protein) to see how well your kidneys are working.

A sample of your blood, urine, and DNA may be saved after the visit, if you agree.

After these tests are done, you will be given breakfast.

Physical Exam

The physical exam will include height, weight, waist measurement, blood pressure, and examination of the skin of the neck. This will be done by trained study staff. The time to complete this part of the visit is approximately 30 minutes.

Questionnaires

The questionnaires can be completed either at home before the visit or at the visit. If you prefer, a separate visit may be scheduled to complete the forms. You and your parent will be asked questions about your diabetes, medical care, current medications, family history of diabetes, education, family income level, health insurance, and the effect diabetes has had on your life.

If you are 8-17 years of age, you will also be asked about stage of sexual development. If you are 10-17 years of age, you will be asked about diabetes-related topics that might be a source of fighting between you and your parent. The estimated time to complete these questionnaires is 40-60 minutes.

Additional questions for children 10 years or older

If you are 10 years of age or older, you will also be asked to answer a separate written series of questions dealing with the following health issues – physical activity, smoking, eating and sleeping patterns, depression, and whether you have ever been pregnant. You will also be asked what might be done to prevent low blood sugars, what worries you

might have in relation to low blood sugars, and practices that are consistent with eating problems. This will take about 40 minutes to do. This information will not be shared with your parent/guardian unless health issues are identified that need to be treated. The reason for this is to increase the likelihood that you will answer the questions more accurately.

Nerve and Heart Function Tests

Nerve Tests: Diabetic neuropathy is a complication of diabetes that results from damage to the nerves. We will be looking for signs of early nerve damage by asking you to complete a short questionnaire, doing an examination of your feet, and doing an electrocardiogram (ECG) test of your heart.

We will ask you to answer 15 questions about foot sensation including pain, numbness, and temperature sensitivity. We will examine your feet to measure the ability to feel vibrations, reflexes, and the ability to feel light touches to the feet. The examiner will test the vibration sense by placing a vibrating instrument on the big toe. The examiner will use a rubber "hammer" to test the reflexes in the ankle. To test your sense of touch, the examiner will touch your toe several times with a thin piece of plastic. Doing the foot nerve tests will take about 10 minutes. The results of the tests will be sent to the University of Michigan for analysis.

In order to check the accuracy of our measurements, the foot test will be repeated for approximately 5% (1 in 20) of participants. Participants will be randomly selected to receive the repeat measurements. If you are selected for repeat measurements of the feet and you agree to have the measurements performed, the visit will last about 10 minutes longer. You may refuse to have the repeat measures, but still complete the foot examination.

____ You **have** been selected for the repeat measurements of the feet.
____ You **have not** been selected for repeat measurements of the feet.

Heart Rate Variability: Heart Rate Variability (HRV) is a measurement to assess the health of nerves in the heart. The test uses an ECG, or electrocardiogram. This is a machine that doctors routinely use to study the heart; your doctor may have used it with you before. The examiner will place an EKG lead on each of your arms and on the left leg or two EKG leads on the chest and one on the stomach. It is important for the EKG leads to pick up a good signal of the heartbeats. In some cases it may be necessary for us to shave hair from a small area of skin to improve the heart signal. You will be asked to lie down and rest for 5 minutes before the test begins. We will then record the pattern of your heart beats for 10 minutes.

Blood Vessel Test: We will perform a test to measure how your blood vessels function. The test is called an arterial stiffness test. You will be asked to wear loose shorts or to put on a patient gown. A trained member of the research team will measure the pulse in the groin area, but will not expose your private parts. At your request a chaperone will be present during these procedures.

The following test will then be performed:

After a 5-minute rest period, your blood pressure and heart rate will be measured using a blood pressure cuff placed on the upper arm. This test will be repeated 3 times.

A staff member will then measure the distance from your neck to the bottom of your sternum (breast bone), from the sternum to your wrist, from the sternum to the top of your thigh, and from the thigh to your foot. Electrodes (sticky pads) will then be placed on your chest.

Your wrist will be touched with a small instrument shaped like a pen and the stiffness of your blood vessels will be measured. The pen instrument detects pressure changes with a tiny, highly-sensitive pressure sensor in the flat end of the device that is shaped like a pencil eraser. It does not use radiation (X-rays), sound waves (ultrasound), or needles. This test is painless and will be repeated 3 times.

Then the same pen-shaped instrument will be touched on the side of your neck, the top of your thigh, and your foot to measure the speed at which blood travels from the heart to that area of the body. This test will be repeated 3 times. The blood vessel tests will take about one hour.

This test is designed to be short, simple, and painless. This is a test that doctors use every day, and it is not dangerous. But if you feel uncomfortable at any time during any of these tests, just tell the examiner and he/she will immediately stop the tests.

In order to check the accuracy of our measurements, the blood vessel tests will be repeated for approximately 5% (1 in 20) of participants. Participants will be randomly selected to receive repeat measurements. If you are selected for repeat measurements of the blood vessel tests and you agree to have the measurements performed, your visit will last about 30 minutes longer. You may refuse to have the repeat measures, but still complete the blood vessel testing. You will receive additional compensation for your time if you have the repeat measures done.

____ You **have** been selected for repeat measurements of the blood vessels.
____ You **have not** been selected for repeat measurements of the blood vessels.

Eye Photographs

Diabetic retinopathy is a complication of diabetes that results from damage to the blood vessels at the back of the eye (retina). We will be taking 2 pictures of each of your eyes. These pictures will be sent to the Ocular Epidemiology Reading Center in Madison, Wisconsin to be read by trained eye specialists who will study the blood vessels and look for possible problems.

You will be asked to sit in a darkened room before a special camera with your chin in a chin rest. After your pupils have dilated (opened) naturally, we will take 2 photographs of the back of each of your eyes (retinas). No drops will be put in the eyes; and the camera will not touch the eyes. After each picture is taken, you may see a white or colored spot, which will disappear within a few minutes and cause no damage to the eye. We will pause for a few minutes between photographs to allow your eyes time to re-adjust to the darkened room so the pupils will dilate once again.

You will also be asked for the name and phone number of your eye doctor, and whether or not you have ever had eye injections or laser treatments on the back of your eyes. Doing the eye

photographs will take about 20 minutes. We will send you the results of your eye photographs. If you agree, results will be shared with your doctor.

Mark the line that best matches your choice:

_____ OK to share results of the tests with my doctor
_____ Not OK to share results of the test with my doctor

Contact in the Future

The researchers will call your parent as new studies are developed in the future to let you know about new studies and ask you to take part in these studies. As with this study, taking part in any future study is voluntary. Taking part in the present study does not mean that you are agreeing to take part in any future study.

Mark the line that best matches your choice:

_____ OK to contact me in the future to tell me about other studies
_____ Not OK to contact me in the future to tell me about other studies

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. You will not benefit personally from being in this research study.

What are the possible risks or discomforts involved with being in this study?

The risks from drawing blood include mild pain, bruising at the site of the blood draw, and occasionally fainting. To lower the chance of these risks, blood will be drawn by experienced staff and a local numbing medicine may be used before the blood is drawn to decrease any pain. The total amount of blood that will be drawn will be no more than 3 tablespoons (45cc) depending on your age and body size. When drawing your blood, our research staff will follow all necessary safety precautions. In the highly unlikely event that our study staff is accidentally exposed to your bodily fluids (blood or urine), we will abide by the South Carolina law that provides for testing of blood to minimize threats to the health of the staff. You will be notified should this testing be necessary and the results will be reported as required by law.

You need to not eat any food overnight before you have the blood tests. In order to limit low or high blood sugars, your blood sugar will be checked and your diabetes medicine or a fast-acting carbohydrate will be given as needed.

There are no known risks associated with the nerve tests. There are no known risks related to taking photographs of the eye. Although you will see a flash of light when the picture is taken, this flash is not harmful. People who are light sensitive may experience some minor discomfort from the camera flash, but the discomfort will not last. When the pen-shaped blood vessel device is placed on your skin you may feel some pressure for a few seconds.

Some of the tests will look for the presence or risk of getting problems related to diabetes. If these tests identify problems from diabetes or risk of getting these problems, the results may

make you worried. If this happens, you will be referred to your diabetes care provider or a local mental health professional.

Other possible risks include loss of privacy or confidentiality. Loss of privacy might happen if someone could overhear or see you taking part in the study. To limit this, we will do the study visit in a private location. Information collected will be stored in a locked filing cabinet or in a password-protected electronic file.

In addition, there may be uncommon or previously unknown risks that might occur. You should report any problems to the researchers.

If you choose not to be in the study, how does this affect your medical care?
Whether you decide to take part or decline to take part in this study, your decision will not affect your medical care.

What if we learn about new findings or information during the study?
You will be given any new information gained during the study that might affect your willingness to continue to take part.

How will your privacy be protected?
SEARCH staff will keep the information collected, tests done, and samples stored strictly private. This is so because the study has been given a Certificate of Confidentiality. This means anything you tell us will not have to be given out to anyone, even if a court orders us to do so, unless you say it's okay. But under the law, we must report to the state suspected cases of child abuse or if you tell us you are planning to cause serious harm to yourself or others.

When you enter the study, a special number will be given to you. The number will be used to identify the information and laboratory tests that will be done during this study. The special number and the information collected during this study will be sent to Wake Forest University in order to study the information. Blood and urine specimens will be sent to the University of Washington for testing or storage. The nerve test results and your special number will be sent to the University of Michigan and Wake Forest University. The eye test results and your special number will be sent to the Ocular Epidemiology Reading Center (OERC) at the University of Wisconsin-Madison and Wake Forest University. The list containing the special number assigned to you will be kept in a password-protected database at the Carolina SEARCH site. So, no one other than the study investigators (Dr. Mayer-Davis at the University of North Carolina at Chapel Hill (UNC), Dr. Amrhein at Greenville Hospital System (GHS), Dr. Bowlby at the Medical University of South Carolina (MUSC), Dr. Merchant at the University of South Carolina (USC)) and the SEARCH Carolina research team will be able to link any of the information collected in the study to you. Paper forms collected during the study will be stored in a locked filing cabinet.

No subjects will be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely,

but if disclosure is ever required, UNC-Chapel Hill and your local data collection site (GHS, MUSC, or USC) will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of UNC-Chapel Hill or your local data collection site (GHS, MUSC or USC) , research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

What will happen if you are injured by this research?
All research involves a chance that something bad might happen to you. This may include the risk of personal injury. In spite of all safety measures, you might develop a reaction or injury from being in this study. If such problems occur, the researchers will help you get medical care.

What if you want to stop before your part in the study is complete?
You can withdraw from this study at any time, or your parents can withdraw you, without penalty.

Will you receive anything for being in this study?
You will get $80 in Walmart gift cards for taking part in this study. Your parents will also get $40 in Walmart gift cards at the end of the visit. You will get an additional $20 Walmart gift card if you are selected and do the repeat measure of the blood vessel test.

Your parents will also get additional incentive to assist with travel costs, if you and your parent traveled a significant distance to do the study visit. This additional incentive will be: one $20 Walmart gift card if you traveled 80-120 miles round trip or two $20 Walmart gift cards if you traveled more than 120 miles round trip. Travel distance will be determined based on your current home address and the location of the SEARCH visit.

Who is sponsoring this study?
This research is funded by the Centers for Disease Control and Prevention and the National Institutes of Health. This means that the research team is being paid by the sponsor for doing the study. The researchers do not, however, have a direct financial interest with the sponsor or in the final results of the study.

What if you have questions about this study?
You have the right to ask, and have answered, any questions you may have about this research. If you have questions, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research subject?
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at Greenville Hospital System (864-455-8997; email jhayes@ghs.org) or at UNC-Chapel Hill (919-966-3113; email: IRB_subjects@unc.edu).

- -

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Cohort Study Visit

Principal Investigators: Elizabeth Mayer-Davis, PhD (UNC-Chapel Hill Coordinating Site); James Amrhein, MD (GHS data collection site), Deborah Bowlby, MD (MUSC data collection site); Anwar Merchant, ScD (USC data collection site)

Subject's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_____	_____
Your signature if you agree to be in the study	Date
_____	
Printed name if you agree to be in the study	
_____	_____
Signature of Research Team Member Obtaining Assent	Date
_____	
Printed Name of Research Team Member Obtaining Assent	

Assent to Participate in a Research Study
Adolescent Subjects age 15-17, Registry Study Visit

UNC IRB Study #10-2341
Assent Form Version Date: 5/16/2011

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

SEARCH Carolina Site Principal Investigators:
University of North Carolina-Chapel Hill, Coordinating Site: Elizabeth Mayer-Davis, PhD (919-966-1991)
Greenville Hospital System, Data Collection Site: James Amrhein, MD (864-454-5100)
Medical University of South Carolina, Data Collection Site: Deborah Bowlby, MD (843-792-6807)
University of South Carolina, Data Collection Site: Anwar Merchant, ScD (803-777-6095)
Funding Source and/or Sponsor: Centers for Disease Control and Prevention and National Institutes of Health/NIDDK
Study Contact telephone number: local numbers given above or studywide toll-free at 866-595-2397
Study Contact email: search.study@unc.edu

What are some general things you should know about research studies?
You are being asked to take part in a research study. Your parent, or guardian, needs to give permission for you to be in this study. You do not have to be in this study if you don't want to, even if your parent has already given permission. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason.

Research studies are designed to obtain new knowledge that may help other people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Deciding not to be in the study or leaving the study before it is done will not affect your relationship with the researcher or your health care provider. If you are a patient with an illness, you do not have to be in the research study in order to receive health care.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?
The purpose of this research study is to learn about diabetes in children and young adults. Diabetes is the third most common life-long disease in people under 20 years of age. The total number of cases of diabetes in this age group is increasing. Also, types of diabetes that have not

been seen in young people are now being seen. These changes have resulted in gaps in knowledge about the total number of cases and types of diabetes in the United States, the type of care young people with diabetes receive, and the effect diabetes has on their lives. This research study will gather information to answer these questions.

You are being asked to be in the study because you have diabetes and were under age 20 and living in South Carolina around the time you developed diabetes.

Are there any reasons you should not be in this study?
You should not do a study visit if you are pregnant. You may take part in the study visit when it has been at least four months after the end of your pregnancy.

How many people will take part in this study?
A total of about 900 people at five sites across the US will take part in the Registry Study visit, including about 211 people from the Carolina SEARCH site.

How long will your part in this study last?
The Registry Study visit will take about 40 minutes. We may contact your parent every year to be sure we have your correct contact information. If you agree to have a sample of your blood, urine or DNA stored after the Registry Study visit, it will be saved for 10 years after the end of funding for follow-up of SEARCH participants. After this time, stored samples will be destroyed.

What will happen if you take part in the study?
A study team member will set up a time for your study visit in the morning. You will be asked to not have anything to eat or drink other than water for 8-12 hours before your visit. You will not take your usual diabetes medicines until after you have been given breakfast after your blood draw.

Laboratory Tests
When you arrive, blood will be taken from your arm to test blood sugar, hemoglobin A1c (a measure of long-term blood sugar control), different types of fat, c-peptide (a measure of your own insulin production), and islet cell antibodies (markers in the blood for type 1 diabetes). A genetic marker for diabetes risk (HLA genes) will also be tested. The total amount of blood drawn will be based on weight tables and will not exceed 3 tablespoons. You will also be asked to give a urine sample so we can see if diabetes is affecting your kidneys. If you agree, results commonly used in clinical practice (hemoglobin A1c, cholesterol, c-peptide, islet cell antibodies, and urine albumin/creatinine) will be shared with your doctor.

Mark the line that best matches your choice:
_____ OK to share results of the tests with my doctor
_____ Not OK to share results of the test with my doctor

A sample of your blood, urine, and DNA may be saved after the visit, if you agree.

After these tests are done, you will be given breakfast.

Physical Exam and Questionnaires
After eating, we will ask you about the medicines you use and a physical examination will be done by trained study staff. The physical exam will include height, weight, waist measurement, blood pressure, and examination of the skin on the neck. Then you or your parent will do a brief form to update your contact information.

Contact in the Future
The researchers will call your parent as new studies are developed in the future to let you know about new studies and ask you to take part in these studies. As with this study, taking part in any future study is voluntary. Taking part in the present study does not mean that you are agreeing to take part in any future study.

Mark the line that best matches your choice:

_____ OK to contact me in the future to tell me about other studies
_____ Not OK to contact me in the future to tell me about other studies

What are the possible benefits from being in this study?
Research is designed to benefit society by gaining new knowledge. You will not benefit personally from being in this research study.

What are the possible risks or discomforts involved with being in this study?
The risks from drawing blood include mild pain, bruising at the site of the blood draw, and occasionally fainting. To lower the chance of these risks, blood will be drawn by experienced staff and a local numbing medicine may be used before the blood is drawn to decrease any pain. The total amount of blood that will be drawn will be no more than 3 tablespoons (45cc) depending on your age and body size. When drawing your blood, our research staff will follow all necessary safety precautions. In the highly unlikely event that our study staff is accidentally exposed to your bodily fluids (blood or urine), we will abide by the South Carolina law that provides for testing of blood to minimize threats to the health of the staff. You will be notified should this testing be necessary and the results will be reported as required by law.

You need to not eat any food overnight before you have the blood tests. In order to limit low or high blood sugars, your blood sugar will be checked and your diabetes medicine or a fast-acting carbohydrate will be given as needed.

Some of the tests will look for the presence or risk of getting problems from diabetes. If these tests identify problems from diabetes or risk of getting these problems, the results may make you worried. If this happens, you will be referred to your diabetes care provider or a local mental health professional.

Other possible risks include loss of privacy or confidentiality. Loss of privacy might happen if someone could overhear or see you taking part in the study. To limit this, we will do the study

visit in a private location. Information collected will be stored in a locked filing cabinet or in a password-protected electronic file.

In addition, there may be uncommon or previously unknown risks that might occur. You should report any problems to the researchers.

If you choose not to be in the study, how does this affect your medical care?
Whether you decide to take part or decline to take part in this study, your decision will not affect your medical care.

What if we learn about new findings or information during the study?
You will be given any new information gained during the study that might affect your willingness to continue to take part.

How will your privacy be protected?
SEARCH staff will keep the information collected, tests done, and samples stored strictly private. This is so because the study has been given a Certificate of Confidentiality. This means anything you tell us will not have to be given out to anyone, even if a court orders us to do so, unless you say it's okay. But under the law, we must report to the state suspected cases of child abuse or if you tell us you are planning to cause serious harm to yourself or others.

When you enter the study, a special number will be given to you. The number will be used to identify the information and laboratory tests that will be done during this study. The special number and the information collected during this study will be sent to Wake Forest University in order to study the information. Blood and urine specimens will be sent to the University of Washington for testing or storage. The list containing the special number assigned to you will be kept in a password-protected database at the Carolina SEARCH site. So, no one other than the study investigators (Dr. Mayer-Davis at the University of North Carolina (UNC), Dr. Amrhein at Greenville Hospital System (GHS), Dr. Bowlby at the Medical University of South Carolina (MUSC), Dr. Merchant at the University of South Carolina (USC)) and the SEARCH Carolina research team will be able to link any of the information collected in the study to you. Paper forms collected during the study will be stored in a locked filing cabinet.

No subjects will be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill and your local data collection site (GHS, MUSC, or USC) will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of UNC-Chapel Hill or your local data collection site (GHS, MUSC, or USC), research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

What will happen if you are injured by this research?
All research involves a chance that something bad might happen to you. This may include the risk of personal injury. In spite of all safety measures, you might develop a reaction or injury

from being in this study. If such problems occur, the researchers will help you get medical care.

What if you want to stop before your part in the study is complete?
You can withdraw from this study at any time, or your parents can withdraw you, without penalty.

Will you receive anything for being in this study?
You will get $40 in Walmart gift cards for taking part in this study. Your parents will also get $40 in Walmart gift cards at the end of the visit.

Your parents will also get additional incentive to assist with travel costs, if you and your parent traveled a significant distance to do the study visit. This additional incentive will be: one $20 Walmart gift card if you traveled 80-120 miles round trip or two $20 Walmart gift cards if you traveled more than 120 miles round trip. Travel distance will be determined based on your current home address and the location of the SEARCH visit.

Who is sponsoring this study?
This research is funded by the Centers for Disease Control and Prevention and the National Institutes of Health. This means that the research team is being paid by the sponsor for doing the study. The researchers do not, however, have a direct financial interest with the sponsor or in the final results of the study.

What if you have questions about this study?
You have the right to ask, and have answered, any questions you may have about this research. If you have questions, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research subject?
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at Greenville Hospital System (864-455-8997;email jhayes@ghs.org) or at UNC-Chapel Hill (919-966-3113; email: IRB_subjects@unc.edu).

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Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

Principal Investigators: Elizabeth Mayer-Davis, PhD (UNC-Chapel Hill Coordinating Site);
James Amrhein, MD (GHS data collection site);
Deborah Bowlby, MD (MUSC data collection site);
Anwar Merchant, ScD (USC data collection site)

Subject's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_____ _____
Your signature if you agree to be in the study Date

_____
Printed name if you agree to be in the study

_____ _____
Signature of Research Team Member Obtaining Assent Date

_____
Printed Name of Research Team Member Obtaining Assent

Assent to Participate in a Research Study
Minor Subjects (7-14 yrs), SEARCH 3 Cohort Study Visit

UNC IRB Study #10-2341
Consent Form Version Date: 5/16/2011

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Cohort Study Visit

People in charge of the study:
University of North Carolina-Chapel Hill, Coordinating Site: Elizabeth Mayer-Davis, PhD (919-966-1991)
Greenville Hospital System, Data Collection Site: James Amrhein, MD (864-454-5100)
Medical University of South Carolina, Data Collection Site: Deborah Bowlby, MD (843-792-6807)
University of South Carolina, Data Collection Site: Anwar Merchant, ScD (803-777-6095)
Study Contact telephone number: local numbers given above or studywide toll-free at 866-595-2397
Study Contact email: search.study@unc.edu

The people named above are doing a research study.

These are some things we want you to know about research studies:
Your parent needs to say it is okay for you to be in this study. You do not have to be in this study if you don't want to, even if your parent says it is okay for you to be in the study.

You may stop being in the study at any time. If you decide to stop, no one will be angry or upset with you.

Sometimes good things happen to people who take part in studies, and sometimes things we may not like happen. We will tell you more about these things below.

Why are they doing this research study?
The reason for doing this study is to learn about diabetes in children and young adults. Diabetes is the third most common life-long disease in people under 20 years of age. The total number of cases of diabetes in this age group is going up. Also, types of diabetes that have not been seen in young people are now being seen. Specifically, this project is interested in studying the following questions:

a. How common are long-term problems from having diabetes, like problems with the eyes, nerves, or other parts of the body?
b. How common are short-term problems from having diabetes, like low blood sugar?
c. What type of medical care are young people with diabetes getting and how does diabetes affect them?

Why are you being asked to be in this research study?
You are being asked to be in this study because you have diabetes, you already did a visit with SEARCH, and you have had diabetes for at least five years.

How many people will take part in this study?
A total of about 3900 people at five sites in the U.S. will take part in this study, including about 821 people from South Carolina.

What will happen during this study?
During this study we will ask to:

- Measure you and check your blood pressure. This will be a lot like when they measure you at your doctor's office.
- Take some blood from your arm with a needle and do some special tests that tell us about your diabetes.
- Take some blood from your arm with a needle and look at some of the genes that we know have something to do with diabetes. A sample from this blood will be kept in a freezer until we do tests on it.
- Test some of your urine to see if diabetes is changing the way your kidneys work.
- Have you and your parent answer some questions about having diabetes and how you take care of your diabetes
- Have you (if you are 10 or older) answer some questions about what you eat, your physical activity, when you sleep, what you do when your blood sugar is low, and things related to diabetes that might cause fighting between you and your parents
- Take pictures of the back of your eyes
- Look at your feet and ask you some questions about your feet. Some people may be asked to do this two times. If you are asked to do this twice, you can say no.
- Use a small machine to test your heart, blood vessels, and nerves. Some people may be asked to do this two times. If you are asked to do this twice, you can say no.

This study visit will last about 3 ½ hours.

Who will be told the things we learn about you in this study?
SEARCH staff will keep the things we learn private, but we must report to the state if we feel you are being hurt or if you tell us you are planning to hurt yourself or others. If you tell us you are planning to hurt yourself or others, we will also tell your parents.

When you start in SEARCH, a special number is given to you. The number is used to mark all the forms and blood tests we do with you. The special number and the forms will be sent to Wake Forest University. Blood and urine will be sent to the University of Washington to test or store. The nerve test results and your special number will be sent to the University of Michigan and Wake Forest University. The eye test results and your special number will be sent to the reading center at the University of Wisconsin-Madison and Wake Forest University. The list showing the special number given to you will be kept in a file and saved with a password. Only

the people listed on the first page or others working with the Carolina study site will be able to see this list.

What are the good things that might happen?
People may have good things happen to them because they are in research studies. These are called "benefits." You will not benefit from being in this research study.

What are the bad things that might happen?
Sometimes things happen to people in research studies that may make them feel bad. These are called "risks." These are the risks of this study:

- It may hurt when you have your blood drawn and you may get a bruise. We can put some medicine on your skin to make it hurt less.
- You need to come to the visit without eating anything the night before your visit. This may affect your blood sugar. We will test your blood sugar and you may take your diabetes medicine or eat a snack to help your blood sugar.
- When you have the picture of your eye done, it will not hurt, but you will see a bright flash and this may bother you for a minute or two.
- When we use the machine to test your blood vessels, you will feel a little pushing on your skin. This will not hurt.

Not all of these things may happen to you. None of them may happen or things may happen that the researchers don't know about. You should report any problems to the researcher

What if you or your parents don't want you to be in this study?
It is okay if you or your parents don't want to be in this study. This will not affect the care you get.

Will you get any money or gifts for being in this research study?
You will get $80 in Walmart gift cards for being in this study. Your will also get another $20 Walmart gift card if you are asked to do and do the blood vessel test two times.

Your parents will get $40 in Walmart gift cards for being in the study.

Who should you ask if you have any questions?
If you have questions you should ask the people listed on the first page of this form. If you have other questions, complaints or concerns about your rights while you are in this research study you may contact the Institutional Review Board at Greenville Hospital System (864-455-8997; email: jhayes@ghs.org) or at UNC-Chapel Hill (919-966-3113;email: IRB_subjects@unc.edu).

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Cohort Study Visit

Principal Investigators: Elizabeth Mayer-Davis, PhD (UNC-Chapel Hill Coordinating Site);
James Amrhein, MD (GHS data collection site);
Deborah Bowlby, MD (MUSC data collection site);
Anwar Merchant, ScD (USC data collection site)

If you sign your name below, it means that you agree to take part in this research study.

_____ _____
Sign your name here if you want to be in the study Date

_____
Print your name here if you want to be in the study

_____ _____
Signature of Research Team Member Obtaining Assent Date

_____
Printed Name of Research Team Member Obtaining Assent

Assent to Participate in a Research Study
Minor Subjects (7-14 yrs), SEARCH 3 Registry Study Visit

UNC IRB Study #10-2341
Consent Form Version Date: 5/16/2011

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

People in charge of the study:
University of North Carolina-Chapel Hill, Coordinating Site: Elizabeth Mayer-Davis, PhD (919-966-1991)
Greenville Hospital System, Data Collection Site: James Amrhein, MD (864-454-5100)
Medical University of South Carolina, Data Collection Site: Deborah Bowlby, MD (843-792-6807)
University of South Carolina, Data Collection Site: Anwar Merchant, ScD (803-777-6095)
Study Contact telephone number: local numbers given above or studywide toll-free at 866-595-2397
Study Contact email: search.study@unc.edu

The people named above are doing a research study.

These are some things we want you to know about research studies:
Your parent needs to say it is okay for you to be in this study. You do not have to be in this study if you don't want to, even if your parent says it is okay for you to be in the study.

You may stop being in the study at any time. If you decide to stop, no one will be angry or upset with you.

Sometimes good things happen to people who take part in studies, and sometimes things we may not like happen. We will tell you more about these things below.

Why are they doing this research study?
The reason for doing this study is to find out how many young people have diabetes in your area. We want to learn more about the types of diabetes young people have. We want to learn more about your health, and how diabetes affects you and your family.

Why are you being asked to be in this research study?
You are being asked to be in this study because you have diabetes and you found out you had diabetes when you were a child.

How many people will take part in this study?
A total of about 900 people at five sites in the U.S. will take part in this study, including about 211 people from South Carolina.

What will happen during this study?

During this study we will ask to:

- Measure you and check your blood pressure. This will be a lot like when they measure you at your doctor's office.
- Take some blood from your arm with a needle and do some special tests that tell us about your diabetes.
- Take some blood from your arm with a needle and look at some of the genes that we know have something to do with diabetes. A sample from this blood will be kept in a freezer until we do tests on it.
- Test some of your urine to see if diabetes is changing the way your kidneys work.

This study visit will last about 40 minutes.

Who will be told the things we learn about you in this study?

SEARCH staff will keep the things we learn private, but we must report to the state if we feel you are being hurt or if you tell us you are planning to hurt yourself or others. If you tell us you are planning to hurt yourself or others, we will also tell your parents.

When you start in SEARCH, a special number is given to you. The number is used to mark all the forms and blood tests we do with you. The special number and the forms will be sent to Wake Forest University. Blood and urine will be sent to the University of Washington to test or store. The list showing the special number given to you will be kept in a file and saved with a password. Only the people listed on the first page or others working with the Carolina study site will be able to see this list.

What are the good things that might happen?

People may have good things happen to them because they are in research studies. These are called "benefits." You will not benefit from being in this research study.

What are the bad things that might happen?

Sometimes things happen to people in research studies that may make them feel bad. These are called "risks." These are the risks of this study:

- It may hurt when you have your blood drawn and you may get a bruise. We can put some medicine on your skin to make it hurt less.
- You need to come to the visit without eating anything the night before your visit. This may affect your blood sugar. We will test your blood sugar and you may take your diabetes medicine or eat a snack to help your blood sugar.

Not all of these things may happen to you. None of them may happen or things may happen that the researchers don't know about. You should report any problems to the researcher

What if you or your parents don't want you to be in this study?

It is okay if you or your parents don't want to be in this study. This will not affect the care you get.

Will you get any money or gifts for being in this research study?
You will receive $40 in Walmart gift cards for being in this study.

Who should you ask if you have any questions?
If you have questions you should ask the people listed on the first page of this form. If you have other questions, complaints or concerns about your rights while you are in this research study you may contact the Institutional Review Board at Greenville Hospital System (864-455-8997; email: jhayes@ghs.org) or at UNC-Chapel Hill (919-966-3113; email:IRB_subjects@unc.edu.

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

Principal Investigators: Elizabeth Mayer-Davis, PhD (UNC-Chapel Hill Coordinating Site);
James Amrhein, MD (GHS data collection site);
Deborah Bowlby, MD (MUSC data collection site);
Anwar Merchant, ScD (USC data collection site)

If you sign your name below, it means that you agree to take part in this research study.

_____ _____
Sign your name here if you want to be in the study Date

_____
Print your name here if you want to be in the study

_____ _____
Signature of Research Team Member Obtaining Assent Date

_____
Printed Name of Research Team Member Obtaining Assent

Parental Permission for a Minor Child to Participate in a Research Study
SEARCH 3 Cohort Study Visit

UNC IRB Study #10-2341
Consent Form Version Date: 5/16/2011

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Cohort Study Visit

SEARCH Carolina Site Principal Investigators:
University of North Carolina-Chapel Hill, Coordinating Site: Elizabeth Mayer-Davis, PhD (919-966-1991)
Greenville Hospital System, Data Collection Site: James Amrhein, MD (864-454-5100)
Medical University of South Carolina, Data Collection Site: Deborah Bowlby, MD (843-792-6807)
University of North Carolina, Data Collection Site: Anwar Merchant, ScD (803-777-6095)
Funding Source and/or Sponsor: Centers for Disease Control and Prevention and National Institutes of Health/NIDDK
Study Contact telephone number: local numbers given above or studywide toll-free at 866-595-2397
Study Contact email: search.study@unc.edu

What are some general things you and your child should know about research studies?

You are being asked to allow your child to take part in a research study. To join the study is voluntary. You may refuse to give permission, or you may withdraw your permission for your child to be in the study, for any reason. Even if you give your permission, your child can decide not to be in the study or to leave the study early.

Research studies are designed to obtain new knowledge that may help other people in the future. Your child may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Deciding not to be in the study or leaving the study before it is done will not affect your or your child's relationship with the researcher or with the health care provider. If your child is a patient with an illness, your child does not have to be in the research study in order to receive health care.

Details about this study are discussed below. It is important that you and your child understand this information so that you and your child can make an informed choice about being in this research study. You will be given a copy of this permission form. You and your child should ask the researchers named above, or staff members who may assist them, any questions you or your child have about this study at any time.

What is the purpose of this study?

The purpose of this research study is to learn about diabetes in children and young adults. Diabetes is the third most common life-long disease in people under 20 years of age. The total

number of cases of diabetes in this age group is increasing. Also, types of diabetes that have not been seen in young people are now being seen. Specifically, this project is interested in studying the following questions:

a. How common are long-term complications related to diabetes, including: retinopathy (damage to back of the eye), nephropathy (kidney damage), neuropathy (nerve damage), and damage to the heart and blood vessels?
b. How common are short-term complications, including hypoglycemia (low blood sugar) and diabetic ketoacidosis (DKA)?
c. What type of medical care are young people with diabetes receiving and how does diabetes affect the lives of these individuals?

Your child is being asked to be in the study because he/she has diabetes, previously did an in-person visit with the SEARCH study and has had diabetes for at least five years.

Are there any reasons your child should not be in this study?

Your child should not complete a study visit if currently pregnant. She may take part in the study visit when it has been at least four months after the end of the pregnancy.

How many people will take part in this study?

A total of approximately 3900 people at five sites across the US will take part in the Cohort Study visit, including approximately 821 people from the Carolina SEARCH site.

How long will your child's part in this study last?

The Cohort Study visit will take about 3 ½ hours. We may contact you every year to be sure we have your correct contact information. If you and your child agree to have a sample of blood, urine or DNA stored following the Cohort Study visit, it will be saved for 10 years after the end of funding for follow-up of SEARCH participants. After this time, stored samples will be destroyed.

What will happen if your child takes part in the study?

A research team member will set up an appointment for your child in the early morning. Your child will come to the appointment after not having anything to eat or drink other than water for 8-12 hours. Your child will not take your usual diabetes medicines until after he/she has been given breakfast during the appointment.

Laboratory Tests

Blood draw: When you arrive, blood will be taken from your child's arm to measure blood sugar, hemoglobin A1c (a measure of long-term blood sugar control), different types of cholesterol (fat), c-peptide (a measure of your child's own insulin production), islet cell antibodies (markers in the blood for type 1 diabetes), cystatin-C and serum creatinine (measures of kidney function), and several new blood markers associated with risk for developing heart disease or stroke (apolipoprotein B, C-reactive protein, interleukin-6, leptin, and adiponectin).

The total amount of blood drawn will be based on weight tables and will not exceed 3 tablespoons. The blood draw takes about 10 minutes. If your child needs numbing medicine for

the blood draw, SEARCH staff can provide that. If you agree, results commonly used in clinical practice (hemoglobin A1c, cholesterol, c-peptide, and urine albumin/creatinine) will be shared with your child's doctor.

Mark the line that best matches your choice:

_____ OK to share results of the tests with my child's doctor
_____ Not OK to share results of the test with my child's doctor

Urine Collection: Two weeks before your child's scheduled appointment, you will be mailed a container with detailed instructions to collect an overnight, timed urine sample 2-7 days before your child's visit. You will be asked to bring this urine container with you on the day of your child's visit.

A urine sample will also be collected at the start of the visit. We will mark the time that your child gives this urine sample on a sheet of paper. After the blood and urine samples are obtained, your child can take his/her diabetes pills or insulin and will be given a snack. If your child needs to urinate again during the visit, he/she will be asked to collect that urine in a container and leave it with the study personnel at the end of the visit. We will mark the time you last gave a urine sample.

Your child's urine will be tested for albumin and creatinine (small particles of protein) to see how well your kidneys are working.

A sample of your child's blood, urine, and DNA may be saved after the visit, if you and your child agree.

After these tests are done, your child will be given breakfast.

Physical Exam

The physical exam will include height, weight, waist measurement, blood pressure, and examination of the skin of the neck. This will be done by trained study staff. The time to complete this part of the visit is approximately 30 minutes.

Questionnaires:

The questionnaires can be completed either at home before the visit or at the visit. If you prefer, a separate visit may be scheduled to complete the forms. You and your child will be asked questions about your child's diabetes, medical care, current medications, family history of diabetes, education, family income level, health insurance, and the effect diabetes has had on your life.

If your child is 8-17 years of age, he/she will also be asked about stage of sexual development. If your child is 10-17 years of age, he/she will be asked about diabetes-related topics that might be a source of conflict between you and your child. The estimated time to complete these questionnaires is 40-60 minutes.

Additional questions for children 10 years or older

If your child is 10 years of age or older, your child will be asked to answer a separate written series of questions dealing with the following health issues – physical activity, smoking, eating and sleeping patterns, depression, and whether your child has ever been pregnant. Your child will also be asked what might be done to prevent low blood sugars, what worries he/she might have in relation to low blood sugars, and practices that are consistent with eating problems. This will take about 40 minutes to do. As a parent/guardian, this information will not be shared with you unless health issues are identified that need to be treated. The reason for this is to increase the likelihood that your child will answer the questions more accurately.

Nerve and Heart Function Tests

Nerve Tests: Diabetic neuropathy is a complication of diabetes that results from damage to the nerves. We will be looking for signs of early nerve damage by asking your child to complete a short questionnaire, doing an examination of your child's feet, and doing an electrocardiogram (ECG) test of your child's heart.

We will ask your child to answer 15 questions about foot sensation including pain, numbness, and temperature sensitivity. We will examine your child's feet to measure the ability to feel vibrations, reflexes, and the ability to feel light touches to the feet. The examiner will test the vibration sense by placing a vibrating instrument on the big toe. The examiner will use a rubber "hammer" to test the reflexes in the ankle. To test your child's sense of touch, the examiner will touch your child's toe several times with a thin piece of plastic. Doing the foot nerve tests will take about 10 minutes. The results of the tests will be sent to the University of Michigan for analysis.

In order to check the accuracy of our measurements, the foot test will be repeated for approximately 5% (1 in 20) of participants. Participants will be randomly selected to receive the repeat measurements. If your child is selected for repeat measurements of the feet and you agree to have the measurements performed, the visit will last about 10 minutes longer. You child may refuse to have the repeat measures, but still complete the foot examination.

____ Your child **has** been selected for the repeat measurements of the feet.
____ Your child **has not** been selected for repeat measurements of the feet.

Heart Rate Variability: Heart Rate Variability (HRV) is a measurement to assess the health of nerves in the heart. The test uses an ECG, or electrocardiogram. This is a machine that doctors routinely use to study the heart; your doctor may have used it with you or your child before. The examiner will place an EKG lead on each of your child's arms and on the left leg or two EKG leads on the chest and one on the stomach. It is important for the EKG leads to pick up a good signal of the heartbeats. In some cases it may be necessary for us to shave hair from a small area of skin to improve the heart signal. Your child will be asked to lie down and rest for 5 minutes before the test begins. We will then record the pattern of your child's heartbeats for 10 minutes.

Blood Vessel Test: We will perform a test to measure how your child's blood vessels function. The test is called an arterial stiffness test. Your child will be asked to wear loose shorts or to put on a patient gown. A trained member of the research team will measure the pulse in the groin area, but will not expose your child's private parts. At your or your child's request a chaperone will be present during these procedures.

The following test will then be performed:

After a 5-minute rest period, your child's blood pressure and heart rate will be measured using a blood pressure cuff placed on the upper arm. This test will be repeated 3 times.

A staff member will then measure the distance from your child's neck to the bottom of your child's sternum (breast bone), from the sternum to your child's wrist, from the sternum to the top of your child's thigh, and from the thigh to your child's foot. Electrodes (sticky pads) will then be placed on your child's chest.

Your child's wrist will be touched with a small instrument shaped like a pen and the stiffness of your child's blood vessels will be measured. The pen instrument detects pressure changes with a tiny, highly-sensitive pressure sensor in the flat end of the device that is shaped like a pencil eraser. It does not use radiation (X-rays), sound waves (ultrasound), or needles. This test is painless and will be repeated 3 times.

Then the same pen-shaped instrument will be touched on the side of your child's neck, the top of your child's thigh, and your child's foot to measure the speed at which blood travels from the heart to that area of the body. This test will be repeated 3 times. The blood vessel tests will take about one hour.

This test is designed to be short, simple, and painless. This is a test that doctors use every day, and it is not dangerous. But if your child feels uncomfortable at any time during any of these tests, just tell the examiner and he/she will immediately stop the tests.

In order to check the accuracy of our measurements, the blood vessel tests will be repeated for approximately 5% (1 in 20) of participants. Participants will be randomly selected to receive repeat measurements. If your child is selected for repeat measurements of the blood vessel tests and you/your child agree to have the measurements performed, your child's visit will last about 30 minutes longer. You/your child may refuse to have the repeat measures, but still complete the blood vessel testing. Your child will receive additional compensation for your time if you have the repeat measures done.

____ Your child **has** been selected for repeat measurements of the blood vessels.
____ Your child **has not** been selected for repeat measurements of the blood vessels.

Eye Photographs

Diabetic retinopathy is a complication of diabetes that results from damage to the blood vessels at the back of the eye (retina). We will be taking 2 pictures of each of your child's eyes. These pictures will be sent to the Ocular Epidemiology Reading Center in Madison, Wisconsin to be read by trained eye specialists who will study the blood vessels and look for possible problems.

Your child will be asked to sit in a darkened room before a special camera with your child's chin in a chin rest. After your child's pupils have dilated (opened) naturally, we will take 2 photographs of the back of each of your child's eyes (retinas). No drops will be put in the eyes; and the camera will not touch the eyes. After each picture is taken, your child may see a white or colored spot, which will disappear within a few minutes and cause no damage to the eye. We will pause for a few minutes between photographs to allow your child's eyes time to re-adjust to the darkened room so the pupils will dilate once again.

You will also be asked for the name and phone number of your child's eye doctor, and whether or not your child has ever had eye injections or laser treatments on the back of the eyes. Doing the eye photographs will take about 20 minutes. We will send you the results of your child's eye photographs. If you agree, results will be shared with your child's doctor.

Mark the line that best matches your choice:

_____ OK to share results of the tests with my child's doctor

_____ Not OK to share results of the test with my child's doctor

Contact in the Future

The researchers will call you as new studies are developed in the future to let you know about new studies and ask you/your child to take part in these studies. As with this study, taking part in any future study is voluntary. Taking part in the present study does not mean that you are agreeing to take part in any future study.

Mark the line that best matches your choice:

_____ OK to contact me/my child in the future to tell me about other studies

_____ Not OK to contact me/my child in the future to tell me about other studies

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. Your child will not benefit personally from being in this research study.

What are the possible risks or discomforts involved with being in this study?

The risks from drawing blood from a vein in the lower arm include mild pain, bruising at the site of the blood draw, and occasionally fainting. To lower the possibility of these risks, blood will be drawn by experienced staff and a local numbing medicine may be placed on the skin before the blood is drawn to decrease any pain. The total amount of blood that will be obtained will be no more than 3 tablespoons (45cc) depending on your child's age and body size. When drawing your child's blood, our research staff will follow all necessary safety precautions. In the highly unlikely event that our research staff is accidentally exposed to your child's bodily fluids (blood or urine), we will abide by the South Carolina law that provides for testing of blood to minimize threats to the health of the staff. You will be notified should this testing be necessary and the results will be reported as required by law.

The blood tests require that your child not eat any food overnight. In order to limit low or high blood sugars, your child's blood sugar will be checked and his/her diabetes medication or a fast-acting carbohydrate will be given as needed.

There are no known risks associated with the nerve tests. There are no known risks associated with taking photographs of the eye. Although your child will see a flash of light when the picture is taken, this flash is not harmful. People who are light sensitive may experience some minor discomfort from the camera flash, but the discomfort will not last. When the pen-shaped blood vessel device is placed on your child's skin he/she may feel some pressure for a few seconds.

Some of the tests will look for the presence or risk of developing of the complications of diabetes. If these tests identify complications of diabetes or risk of developing the complications, the results may make you or your child anxious. If this happens, you will be referred to your child's diabetes care provider or a local mental health professional.

Other possible risks include loss of privacy or confidentiality. Loss of privacy might happen if someone could overhear or see you taking part in the study. To limit this, we will do the study visit in a private location. Information collected will be stored in a locked filing cabinet or in a password-protected electronic file.

In addition, there may be uncommon or previously unknown risks that might occur. You should report any problems to the researchers.

If you choose not to give permission for your child to be in the study, how does this affect your child's medical care?

You can still receive evaluation and treatment for your condition if you do not participate in this study. Discuss any alternative treatments with your regular doctor and/or the study doctor before you decide to participate in the study. Your decision is entirely up to you. If you decide not to participate in the study, you will not be penalized or lose any benefits and your decision will not affect your relationship with your doctor or hospital.

What if we learn about new findings or information during the study?

You and your child will be given any new information gained during the course of the study that might affect your willingness to continue your child's participation in the study.

How will your child's privacy be protected?

SEARCH staff will keep the information collected, tests done, and samples stored strictly private. This is so because the study has been given a Certificate of Confidentiality. This means anything you or your child tells us will not have to be given out to anyone, even if a court orders us to do so, unless you say it's okay. But under the law, we must report to the state suspected cases of child abuse or if you tell us you are planning to cause serious harm to yourself or others.

When you enter the study, a special number will be given to your child. The number will be used to identify the information and laboratory tests that will be done during this study. The special number and the information collected during this study will be sent to Wake Forest

University in order to study the information. Blood and urine specimens will be sent to the University of Washington for testing or storage. The nerve test results and your child's special number will be sent to the University of Michigan and Wake Forest University. The eye test results and your child's special number will be sent to the Ocular Epidemiology Reading Center (OERC) at the University of Wisconsin-Madison and Wake Forest University. The list containing the special number assigned to your child will be kept in a password-protected database at the Carolina SEARCH site. Thus, no one other than the study investigators (Dr. Mayer-Davis at the University of North Carolina (UNC), Dr. Amrhein at Greenville Hospital System (GHS), Dr. Bowlby at the Medical University of South Carolina (MUSC), Dr. Merchant at the University of South Carolina (USC)) and the SEARCH Carolina research team will be able to link any of the information collected in the study to your child. Paper forms collected during the study will be stored in a locked filing cabinet.

No subjects will be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill and your local data collection site (GHS, MUSC, or USC) will take steps allowable by law to protect the privacy of personal information. In some cases, your child's information in this research study could be reviewed by representatives of UNC-Chapel Hill or your local data collection site (GHS, MUSC, or USC), research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

What will happen if your child is injured by this research?

All research involves a chance that something bad might happen. This may include the risk of personal injury. In spite of all safety measures, your child might develop a reaction or injury from being in this study. If such problems occur, the researchers will help your child get medical care, but any costs for the medical care will be billed to you and/or your insurance company. The University of North Carolina at Chapel Hill and your local data collection site (GHS, MUSC, or USC) have not set aside funds to pay you for any such reactions or injuries, or for the related medical care. However, by signing this form, you and your child do not give up any of your legal rights.

What if you or your child wants to stop before your child's part in the study is complete?

You can withdraw your child from this study at any time, without penalty.

Will you or your child receive anything for being in this study?

You will get $40 in Walmart gift cards at the end of the Cohort Study Visit. Your child will get $80 in Walmart gift cards at the end of the Cohort Study Visit. Your child will get an additional $20 Walmart gift card if he/she is selected and completes the repeat measure of the blood vessel test.

If you traveled a significant distance to complete this study visit, you will be provided additional incentive to assist with travel costs. This additional incentive will be: one $20 Walmart gift card if you traveled 80-120 miles round trip or two $20 Walmart gift cards if you traveled more than

120 miles round trip. Travel distance will be determined based on your current home address and the location of the SEARCH visit.

Will it cost you anything for your child to be in this study?
There will be no costs for being in the study

What if you are a student at MUSC or USC?
You may choose not to give permission for your child to be in the study or to stop being in the study before it is over at any time. This will not affect your class standing or grades. You will not be offered or receive any special consideration if your child takes part in this research.

What if you are an employee at MUSC, GHS, or USC?
Your child's taking part in this research is not a part of your job duties, and refusing to give permission will not affect your job. You will not be offered or receive any special job-related consideration if your child takes part in this research.

Who is sponsoring this study?
This research is funded by the Centers for Disease Control and Prevention and the National Institutes of Health. This means that the research team is being paid by the sponsor for doing the study. The researchers do not, however, have a direct financial interest with the sponsor or in the final results of the study.

What if you or your child has questions about this study?
You and your child have the right to ask, and have answered, any questions you may have about this research. If there are questions, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you or your child has questions about his/her rights as a research subject?
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you or your child has questions or concerns about your child's rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at Greenville Hospital Sytsem (864-455-8997; email jhayes@ghs.org) or at UNC-Chapel Hill (919-966-3113;email: IRB_subjects@unc.edu).
- -

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Cohort Study Visit

Principal Investigators: Elizabeth Mayer-Davis, PhD (UNC-Chapel Hill Coordinating Site);
James Amrhein, MD (GHS data collection site);
Deborah Bowlby, MD (MUSC data collection site);
Anwar Merchant, ScD (USC data collection site)

Parent's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily give permission to allow my child to participate in this research study.

_____
Printed Name of Research Subject (Child)

_____ _____
Signature of Parent Date

_____
Printed Name of Parent

_____ _____
Signature of Research Team Member Obtaining Permission Date

_____
Printed Name of Research Team Member Obtaining Permission

Parental Permission for a Minor Child to Participate in a Research Study
SEARCH 3 Registry Study Visit

UNC IRB Study #10-2341
Consent Form Version Date: 5/16/2011

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

SEARCH Carolina Site Principal Investigators:
University of North Carolina-Chapel Hill, Coordinating Site: Elizabeth Mayer-Davis, PhD (919-966-1991)
Greenville Hospital System, Data Collection Site: James Amrhein, MD (864-454-5100)
Medical University of South Carolina, Data Collection Site: Deborah Bowlby, MD (843-792-6807)
University of South Carolina, Data Collection Site: Anwar Merchant, ScD (803-777-6095)
Funding Source and/or Sponsor: Centers for Disease Control and Prevention and National Institutes of Health/NIDDK
Study Contact telephone number: local numbers given above or studywide toll-free at 866-595-2397
Study Contact email: search.study@unc.edu

What are some general things you and your child should know about research studies?

You are being asked to allow your child to take part in a research study. To join the study is voluntary. You may refuse to give permission, or you may withdraw your permission for your child to be in the study, for any reason. Even if you give your permission, your child can decide not to be in the study or to leave the study early.

Research studies are designed to obtain new knowledge that may help other people in the future. Your child may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Deciding not to be in the study or leaving the study before it is done will not affect your or your child's relationship with the researcher or with the health care provider. If your child is a patient with an illness, your child does not have to be in the research study in order to receive health care.

Details about this study are discussed below. It is important that you and your child understand this information so that you and your child can make an informed choice about being in this research study. You will be given a copy of this permission form. You and your child should ask the researchers named above, or staff members who may assist them, any questions you or your child have about this study at any time.

What is the purpose of this study?

The purpose of this research study is to learn about diabetes in children and young adults. Diabetes is the third most common life-long disease in people under 20 years of age. The total

number of cases of diabetes in this age group is increasing. Also, types of diabetes that have not been seen in young people are now being seen. These changes have resulted in gaps in knowledge about the total number of cases and types of diabetes in the United States, the type of care young people with diabetes receive, and the effect diabetes has on their lives. This research study will gather information to answer these questions.

Your child is being asked to be in the study because he/she has diabetes and was under age 20 and living in South Carolina around the time the diabetes started.

Are there any reasons your child should not be in this study?
Your child should not complete a study visit if currently pregnant. She may take part in the study visit when it has been at least four months after the end of the pregnancy.

How many people will take part in this study?
A total of approximately 900 people at five sites across the US will take part in the Registry Study visit, including approximately 211 people from the Carolina SEARCH site.

How long will your child's part in this study last?
The Registry Study visit will take about 40 minutes. We may contact you every year to be sure we have your correct contact information. If you and your child agree to have a sample of blood, urine or DNA stored following the Registry Study visit, it will be saved for 10 years after the end of funding for follow-up of SEARCH participants. After this time, stored samples will be destroyed.

What will happen if your child takes part in the study?
A research team member will set up an appointment for your child in the early morning. Your child will come to the appointment after not having anything to eat or drink other than water for 8-12 hours. Your child will not take your usual diabetes medicines until after he/she has been given breakfast during the appointment.

Laboratory Tests
When you arrive, blood will be taken from your child's arm to measure blood sugar, hemoglobin A1c (a measure of long-term blood sugar control), different types of cholesterol (fat), c-peptide (a measure of your child's own insulin production), and islet cell antibodies (markers in the blood for type 1 diabetes). A genetic marker for diabetes risk (HLA genes) will also be tested. The total amount of blood drawn will be based on weight tables and will not exceed 3 tablespoons. A urine sample will also be obtained and tested to see if diabetes is affecting your child's kidneys. If you agree, results commonly used in clinical practice (hemoglobin A1c, cholesterol, c-peptide, islet cell antibodies, and urine albumin/creatinine) will be shared with your child's doctor.

Mark the line that best matches your choice:
_____ OK to share results of the tests with my child's doctor
_____ Not OK to share results of the test with my child's doctor

A sample of your child's blood, urine, and DNA may be saved after the visit, if you and your child agree.

After these tests are done, your child will be given breakfast.

Physical Exam and Questionnaires

After eating, we will ask you some questions about the medicines your child uses and a physical examination will be done on your child by trained study staff. The physical examination will include height, weight, waist measurement, blood pressure, and examination of the skin on the neck. Then you will do a brief form to update your contact information.

Contact in the Future

The researchers will call you as new studies are developed in the future to let you know about new studies and ask your child to take part in these studies. As with this study, taking part in any future study is voluntary. Taking part in the present study does not mean that you are agreeing to take part in any future study.

Mark the line that best matches your choice:

_____ OK to contact me/my child in the future to tell me about other studies
_____ Not OK to contact me/my child in the future to tell me about other studies

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. Your child will not benefit personally from being in this research study.

What are the possible risks or discomforts involved with being in this study?

The risks from drawing blood from a vein in the lower arm include mild pain, bruising at the site of the blood draw, and occasionally fainting. To lower the possibility of these risks, blood will be drawn by experienced staff and a local numbing medicine may be placed on the skin before the blood is drawn to decrease any pain. The total amount of blood that will be obtained will be no more than 3 tablespoons (45cc) depending on your child's age and body size. When drawing your child's blood, our research staff will follow all necessary safety precautions. In the highly unlikely event that our research staff is accidentally exposed to your child's bodily fluids (blood or urine), we will abide by the South Carolina law that provides for testing of blood to minimize threats to the health of the staff. You will be notified should this testing be necessary and the results will be reported as required by law.

The blood tests require that your child not eat any food overnight. In order to limit low or high blood sugars, your child's blood sugar will be checked and his/her diabetes medication or a fast-acting carbohydrate will be given as needed.

Some of the tests will look for the presence or risk of developing of the complications of diabetes. If these tests identify complications of diabetes or risk of developing the complications, the results may make you or your child anxious. If this happens, you will be referred to your child's diabetes care provider or a local mental health professional.

Other possible risks include loss of privacy or confidentiality. Loss of privacy might happen if someone could overhear or see you taking part in the study. To limit this, we will do the study visit in a private location. Information collected will be stored in a locked filing cabinet or in a password-protected electronic file.

In addition, there may be uncommon or previously unknown risks that might occur. You should report any problems to the researchers.

If you choose not to give permission for your child to be in the study, how does this affect your child's medical care?

You can still receive evaluation and treatment for your condition if you do not participate in this study. Discuss any alternative treatments with your regular doctor and/or the study doctor before you decide to participate in the study. Your decision is entirely up to you. If you decide not to participate in the study, you will not be penalized or lose any benefits and your decision will not affect your relationship with your doctor or hospital.

What if we learn about new findings or information during the study?

You and your child will be given any new information gained during the course of the study that might affect your willingness to continue your child's participation in the study.

How will your child's privacy be protected?

SEARCH staff will keep the information collected, tests done, and samples stored strictly private. This is so because the study has been given a Certificate of Confidentiality. This means anything you or your child tells us will not have to be given out to anyone, even if a court orders us to do so, unless you say it's okay. But under the law, we must report to the state suspected cases of child abuse or if you tell us you are planning to cause serious harm to yourself or others.

When you enter the study, a special number will be given to your child. The number will be used to identify the information and laboratory tests that will be done during this study. The special number and the information collected during this study will be sent to Wake Forest University in order to study the information. Blood and urine specimens will be sent to the University of Washington for testing or storage. The list containing the special number assigned to your child will be kept in a password-protected database at the Carolina SEARCH site. Thus, no one other than the study investigators (Dr. Mayer-Davis at the University of North Carolina (UNC), Dr. Amrhein at Greenville Hospital System (GHS), Dr. Bowlby at the Medical University of South Carolina (MUSC), Dr. Merchant at the University of South Carolina (USC)) and the SEARCH Carolina research team will be able to link any of the information collected in the study to your child. Paper forms collected during the study will be stored in a locked filing cabinet.

No subjects will be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill and your local data collection site (GHS,

MUSC, or USC) will take steps allowable by law to protect the privacy of personal information. In some cases, your child's information in this research study could be reviewed by representatives of UNC-Chapel Hill or your local data collection site (GHS, MUSC, or USC), research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

What will happen if your child is injured by this research?
All research involves a chance that something bad might happen. This may include the risk of personal injury. In spite of all safety measures, your child might develop a reaction or injury from being in this study. If such problems occur, the researchers will help your child get medical care, but any costs for the medical care will be billed to you and/or your insurance company. The University of North Carolina at Chapel Hill and your local data collection site (GHS, MUSC, or USC) have not set aside funds to pay you for any such reactions or injuries, or for the related medical care. However, by signing this form, you and your child do not give up any of your legal rights.

What if you or your child wants to stop before your child's part in the study is complete?
You can withdraw your child from this study at any time, without penalty.

Will you or your child receive anything for being in this study?
You and your child will both get $40 in Walmart gift cards at the end of the Registry Study Visit.

If you traveled a significant distance to complete this study visit, you will be provided additional incentive to assist with travel costs. This additional incentive will be: one $20 Walmart gift card if you traveled 80-120 miles round trip or two $20 Walmart gift cards if you traveled more than 120 miles round trip. Travel distance will be determined based on your current home address and the location of the SEARCH visit.

Will it cost you anything for your child to be in this study?
There will be no costs for being in the study

What if you are a student at MUSC or USC?
You may choose not to give permission for your child to be in the study or to stop being in the study before it is over at any time. This will not affect your class standing or grades. You will not be offered or receive any special consideration if your child takes part in this research.

What if you are an employee at MUSC, GHS, or USC?
Your child's taking part in this research is not a part of your job duties, and refusing to give permission will not affect your job. You will not be offered or receive any special job-related consideration if your child takes part in this research.

Who is sponsoring this study?
This research is funded by the Centers for Disease Control and Prevention and the National Institutes of Health. This means that the research team is being paid by the sponsor for doing the

study. The researchers do not, however, have a direct financial interest with the sponsor or in the final results of the study.

What if you or your child has questions about this study?
You and your child have the right to ask, and have answered, any questions you may have about this research. If there are questions, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you or your child has questions about his/her rights as a research subject?
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you or your child has questions or concerns about your child's rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at Greenville Hospital System (864-455-8997; email jhayes@ghs.org or UNC-Chapel Hill (919-966-3113 or by email to IRB_subjects@unc.edu).

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Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

Principal Investigators: Elizabeth Mayer-Davis, PhD (UNC-Chapel Hill Coordinating Site);
James Amrhein, MD (GHS data collection site);
Deborah Bowlby, MD (MUSC data collection site);
Anwar Merchant, ScD (USC data collection site)

Parent's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily give permission to allow my child to participate in this research study.

_____
Printed Name of Research Subject (Child)

_____ _____
Signature of Parent Date

_____
Printed Name of Parent

_____ _____
Signature of Research Team Member Obtaining Permission Date

_____
Printed Name of Research Team Member Obtaining Permission

SEARCH for Diabetes in Youth, Carolina Site
Consent for Storing Biological Specimens With Identifying Information

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UNC IRB Study #10-2341
Consent Form Version Date: 5/16/2011

Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3), Registry Study Visit

SEARCH Carolina Site Principal Investigators:
University of North Carolina-Chapel Hill, Coordinating Site: Elizabeth Mayer-Davis, PhD (919-966-1991)
Greenville Hospital System, Data Collection Site: James Amrhein, MD (864-454-5100)
Medical University of South Carolina, Data Collection Site: Deborah Bowlby, MD (843-792-6807)
University of South Carolina, Data Collection Site: Anwar Merchant, ScD (803-777-6095)
Funding Source and/or Sponsor: Centers for Disease Control and Prevention and National Institutes of Health/NIDDK
Study Contact telephone number: local numbers given above or studywide toll-free at 866-595-2397
Study Contact email: search.study@unc.edu

What are some general things you should know about research?
Research is designed to gain scientific information that may help other people in the future. You may not receive any direct benefit from taking part. There also may be risks.

You may refuse to take part in research. If you are a patient with an illness, you do not have to be in research in order to receive treatment.

Details are discussed below. It is important that you understand this information so that you can make an informed choice. You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this specimen repository or "biobank?"
Research with blood or body fluids (specimens) can help researchers understand how the human body works. Research can also answer other questions by using specimens. Researchers may develop new tests to find diseases, or new ways to treat diseases. In the future, research may help to develop new products, such as drugs. Specimens are commonly used for genetic research. Sometimes researchers collect and store many specimens together and use them for different kinds of research, or share them with other scientists; this is called a specimen repository or "biobank."

The purpose of this particular repository or biobank is to aid in our understanding of causes of diabetes and related conditions. It may also help in the development of new diagnoses, treatment and cures, as well as a better overall scientific understanding of diabetes and related conditions. Specimens to be stored following the SEARCH visit include blood, DNA, and urine.

How will the specimens be collected?

Blood and DNA will be collected during the blood draw for your SEARCH study visit. Urine will also be collected during the study visit.

What will happen to the specimens?

The blood, DNA, and urine will be sent to the study's central laboratory at the University of Washington, Northwest Lipid Research Laboratories for storage. These samples will be labeled with your unique study number. The laboratory will not be able to link the number to you. The list linking the number to you is kept at the SEARCH Carolina site in a password-protected file.

SEARCH will plan to keep your specimens until 10 years after the end of funding for follow-up of SEARCH participants. After this time, stored samples will be destroyed.

SEARCH may share your stored specimens with other investigators to be used for testing related to diabetes or associated complications. This would only be done after the investigators have submitted a proposal to use these specimens to the SEARCH Ancillary Studies Committee. The committee will review the proposal to ensure the proposed testing adequately relates to the goals of SEARCH.

What are Genome Wide Association Studies (GWAS)?

The National Institutes of Health (NIH) has established a national database that will hold information from many individuals across the country, including medical information and genetic information. Your blood and tissues contain genes which are made of DNA that is unique to you. If coded information about you is sent to this national database, access will be controlled and limited to other researchers.

What are the possible benefits to you?

Benefits to you are unlikely. Studies that use specimens from this repository may provide additional information that will be helpful in understanding diabetes and related conditions.

What are the possible risks or discomforts involved with the use of your specimens?

The risks from drawing blood from a vein in the lower arm include mild pain, bruising at the site of the blood draw, and occasionally fainting. To lower the chance of these risks, blood will be drawn by experienced staff and a local numbing medicine may be placed on the skin before the blood is drawn to decrease any pain.

The blood tests require that you not eat any food overnight. In order to limit low or high blood sugars, your blood sugar will be checked and your diabetes medication or a fast-acting carbohydrate will be given as needed.

Other possible risks include loss of privacy and breach of confidentiality. If this research involves genetics, there is also a potential risk for some of your relatives and other members of your ethnic group, since they share some of your genetic makeup.

In addition, there may be uncommon or previously unknown risks that might occur.

Will there be any cost to you for storage of the specimens?
There will be no cost to you for the storage and use of the specimens for research purposes.

Will you receive anything for the use of your specimens?
You will receive gift cards after you finish your SEARCH study visit (as noted on the visit consent form), but you will not get additional gift cards for giving your specimens for storage.

Who owns the specimens?
Any blood, body fluids, or tissue specimens obtained for this purpose become the exclusive property of the University of North Carolina at Chapel Hill and your local data collection site (GHS, MUSC, or USC). These organizations may retain, preserve or dispose of these specimens and may use these specimens for research related to diabetes and its complications. The research may result in commercial applications. There are no plans to compensate you for any future commercial use of these specimens.

How will your privacy be protected?
SEARCH staff will keep the information collected, tests done, and samples stored strictly private. This is so because the study has been given a Certificate of Confidentiality. This means anything you tell us will not have to be given out to anyone, even if a court orders us to do so, unless you say it's okay. But under the law, we must report to the state suspected cases of child abuse or if you tell us you are planning to cause serious harm to yourself or others.

When you enter the study, a special number will be given to you. The number will be used to identify the information and laboratory tests that will be done during this study. Blood and urine specimens will be sent to the University of Washington for testing or storage. Results from testing will be sent to Wake Forest University in order to study the information. The list containing the special number assigned to you will be kept in a password-protected database at the Carolina SEARCH site. Thus, no one other than the study investigators (Dr. Mayer-Davis at the University of North Carolina (UNC), Dr. Amrhein at Greenville Hospital System (GHS), Dr. Bowlby at the Medical University of South Carolina (MUSC), Dr. Merchant at the University of South Carolina (USC)) and the SEARCH Carolina research team will be able to link any of the information collected in the study to you. Paper forms collected during the study will be stored in a locked filing cabinet.

You will not be identified in any report or publication about research using your specimens. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This

is very unlikely, but if disclosure is ever required, UNC-Chapel Hill and your local data collection site (GHS, MUSC, or USC) will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research could be reviewed by representatives of UNC-Chapel Hill or your local data collection site (GHS, MUSC, or USC) , research sponsors, or government agencies for purposes such as quality control or safety.

A Federal law called the Genetic Information Nondiscrimination Act (GINA) generally makes it illegal for health insurance companies, group health plans, and most employers to discriminate against you based on your genetic information. GINA does not protect you against genetic discrimination by companies that sell life insurance, disability insurance, or long-term care insurance. GINA also does not protect you against discrimination based on an already-diagnosed genetic condition or disease.

Will researchers seek approval from you to do future studies involving the specimens?

By signing this consent form, you are giving your permission for researchers to use your specimens as described above. Current and future research is overseen by a committee called the Institutional Review Board (IRB). The role of the IRB is to protect the rights and welfare of research participants. In some cases, the IRB may require that you be re-contacted and asked for your consent to use your specimens in a specific research study. You have the right, at that future time, not to participate in any research study for which your consent is sought. Refusal to participate will not affect your medical care or result in loss of benefits to which you are entitled.

Will you receive results from research involving your specimens?

Most research with your specimens is not expected to yield new information that would be meaningful to share with you personally. There are no plans to re-contact you or other subjects with information about research results.

Can you withdraw the specimens from the research repository?

If you decide that you no longer wish for the specimens to be stored, you should contact the researchers on the front page of this form. It is best to make your request in writing.

Any analysis in progress at the time of your request or already performed prior to your request being received by the researcher will continue to be used as part of the research study. Once the researchers have been notified, your remaining specimens would be destroyed. If you do not make such a request, the specimens may be stored forever. The researchers may choose to destroy the specimens at any time.

What will happen if you are injured by this research?

All research involves a chance that something bad might happen to you. This may include the risk of personal injury. In spite of all safety measures, you might develop a reaction or injury from having your specimen collected. If such problems occur, the researchers will help you get medical care, but any costs for the medical care will be billed to you and/or your insurance company. The University of North Carolina at Chapel Hill and your local data collection site (GHS, MUSC, USC) have not set aside funds to pay you for any such reactions or injuries, or for

the related medical care. However, by signing this form, you do not give up any of your legal rights.

Who is sponsoring this research?

This research is funded by the Centers for Disease Control and Prevention and the National Institutes of Health. This means that the research team is being paid by the sponsor for doing the study. The researchers do not, however, have a direct financial interest with the sponsor or in the final results of the study.

What if you have questions about this research?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research subject?

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at Greenville Hospital System (864-455-8997; email: jhayes@ghs.org) or at UNC Chapel Hill (919-966-3113; e-mail: IRB_subjects@unc.edu.

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Title of Study: SEARCH for Diabetes in Youth 3 (SEARCH 3)

Principal Investigators: Elizabeth Mayer-Davis, PhD (UNC-Chapel Hill Coordinating Site);
James Amrhein, MD (GHS data collection site);
Deborah Bowlby, MD (MUSC data collection site);
Anwar Merchant, ScD (USC data collection site)

Subject's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate. I agree to my specimen(s) being stored with the identifying code(s).

_____ _____
Signature of Research Subject Date

_____
Printed Name of Research Subject

_____ _____
Signature of Parent (if subject is under 18) Date

_____
Printed Name of Parent (if subject is under 18)

_____ _____
Signature of Research Team Member Obtaining Consent Date

_____
Printed Name of Research Team Member Obtaining Consent