Document Type: Informed Consent Form

Official Title: Whole Egg Intake and the Mediterranean Diet

NCT Number: NCT02737293

IRB Approval Date: 08/07/2020

INFORMED CONSENT

TITLE: Whole Egg Intake and the Mediterranean Diet

PROJECT DIRECTOR: Matthew Picklo, PhD

DEPARTMENT: USDA Grand Forks Human Nutrition Research Center (GFHNRC)

STATEMENT OF RESEARCH

A person who is to join in the research must give his or her informed consent to such involvement. This consent must be based on an understanding of the nature and risks of the research. This document provides information that is important for this knowledge. Research projects include only subjects who choose to take part. Please take your time in making your decision as to whether to join. If you have questions at any time, please ask. You do not have to take part in the study.

WHAT IS THE PURPOSE OF THIS STUDY?

This project will evaluate the daily intake of whole eggs in the Mediterranean Diet (Med Diet). Cholesterol levels are normally related to cardiovascular disease (CVD) risk. Dietary fat and the total diet makeup are well known modifiers of CVD risk. The Mediterranean Diet has been shown to decrease blood lipids (fats) and reduce inflammation. Cholesterol intake from eggs may not be as bad as once thought and, in fact, may help to improve the blood lipid (fat) levels. This study is being done to test how the addition of eggs to a Med Diet affects blood lipids and other risk markers for CVD.

HOW MANY PEOPLE WILL PARTICIPATE?

We need 38 people to take part in this study at the USDA Grand Forks Human Nutrition Research Center.

ELIGIBILITY: You may join if you are a non-nicotine using, overweight (BMI 25-39.9 kg/m^2) individual between 20-75 years of age.

You cannot join if you:

- Have diabetes
- Have elevated cholesterol
- Have high triglyceride levels

Approval Date: 8/7/2020

Expiration Date: 8/6/2021

University of North Dakota IRB

Date:_____
Subject Initials:_____

- Have uncontrolled high blood pressure
- Have used tobacco products or nicotine in any form including snuff, pills and patches, or e-cigarettes in the previous 6 months
- Use certain prescription medications or use over-the-counter lipid lowering drugs (such as statins) or anti-inflammatory medications (such as aspirin, ibuprofen or Alleve) on a regular basis
- Take omega 3 supplements, plant sterols or sterol esters
- Have an egg allergy
- Are pregnant or lactating
- Have been diagnosed with an eating disorder

HOW LONG WILL I BE IN THIS STUDY?

The study will last 20-28 weeks depending on the time between each test diet. Each treatment will last 4 weeks with at least a 4-8 week period off between each of the 3 treatments.

A briefing meeting will take about one hour. Screening for the study should not take more than 2 hours and includes a separately scheduled blood draw and resting metabolic rate measurement.

At the beginning (Day 1) and end (Day 29) of each treatment period, blood draws will be obtained and you will have a measurement of your endothelial function. These should take about 60 minutes each visit for a total of 6 hours over the length of the study.

You will need to pick up food daily (M-F) while on the diets. This will take about 30 hours for the entire study. Daily pickup of food and daily weight will take 30 minutes for each of 12 treatment weeks. At the start, you will meet with a registered dietitian (RD) to be taught diet record keeping (online or on paper) and the importance of dietary compliance in a ½ hour session. You will complete a 3-day diet record during each of 2 washout periods. After completing the diet record, you will meet with a RD to review your entries. Each record will take roughly 30 minutes to complete for a total of 3 hours. Each session should take about 30 minutes for a total of about 1 hour.

Your participation in the study may be stopped if for any reason it is unsafe for you to continue with the research (e.g. illness, pregnancy, abnormal lab values).

WHAT WILL HAPPEN DURING THIS STUDY?

Application: You may apply to join the study by completing the on-line application on Survey Monkey or by paper application. Eligible applicants will be invited to an information/screening appointment.

Approval Date: 8/7/2020

Expiration Date: 8/6/2021

University of North Dakota IRB

Date:_____

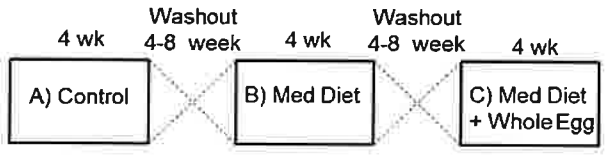
Subject Initials:_____

Screening/Baseline Visit: Dr. Matthew Picklo or a designee will review the study and answer your questions at the information visit. If you want to join the study, you will fill out the health history questionnaire. A food frequency questionnaire will be administered to decide your usual dietary intake. We will check your blood sugar by finger stick. Your eligibility will be determined by height, weight and blood pressure, glucose, insulin, cholesterol, HDL and LDL.

Pre-testing visit: Total energy needs will be estimated to define the calorie level required for the test meals served. In order to do this, resting energy expenditure (REE) will be measured using a metabolic cart. You will be asked to rest for 30 minutes. At that time, a plastic hood will be placed over your head and your breath will be measured for another 30 minutes. We will ask you to remain still during this testing.

The REE will then be multiplied by a factor for physical activity which has been determined from an activity questionnaire (Stanford Activity Brief Questionnaire) that you will complete.

Dietary Intervention: If you are eligible for the study and interested in joining, you will be randomized into one of three treatment groups (A, B,C). Randomization means that the order of your diet treatments will be by chance (like flipping a coin). Each treatment will last 4 weeks followed by at least a 4-8 week washout period. Treatment A will be a control diet based on the average American diet. Treatment B, the Med Diet, will meet the typical Mediterranean diet pattern and will have a higher total fat content. Treatment C, the Med Diet + Whole Egg, will be the Med Diet with the addition of 1 whole egg (50g)/1000 Kcal.



We will give you a sample menu to review before you decide if you want to join in the study. All meals will be prepared in the GFHNRC Metabolic Kitchen and packed for pick up. We will ask you to pick up your prepared food daily on Monday – Friday. We will package your weekend meals for you to pick up on Friday. You will eat only those foods provided during each 4-week diet treatment period.

Testing Visits: You will be admitted to the GFHNRC on the morning of testing days (days 1 and 29 of each treatment). You will be asked to fast for ≥10 hours before this visit and to refrain from strenuous exercise for 2 days prior. Blood will be drawn for laboratory biochemical endpoints. We will perform a test of your endothelial function. This will take around 1½ hour of your time.

Date:_____
Subject Initials:_____

The outline of all study visits in shown below:

Figure 1. Study Overview

			4 Wk	Wash-Out 4-8 Wk	4 Wk	Wash-Out 4-8 Wk	4 Wk	
	Screen		a) Control		b) Med Diet		c) Med Diet + Whole Egg	
	1	2	Day 1	Day 29	Day 1	Day 29	Day 1	Day 29
Height	x							
Weight	x		x	x	x	x	x	x
Diet History Questionnaire		x						
Fasting Blood Sugar	x							
Resting Energy Expenditure		x						
Blood Pressure	x		x	x	x	x	x	x
Lipids	x		x	x	x	x	x	x
Glucose	x		x	x	x	x	x	x
Insulin			x	x	x	x	x	x
Lipoprotein Particle Size			x	x	x	x	x	x
Inflammatory Markers			x	x	x	x	x	x
Endothelial Function			x	x	x	x	x	x
Diet Records				x		x		

WHAT ARE THE RISKS OF THIS STUDY?

Blood Draws: The needle stick may hurt. There is a small risk of bruising. You may feel lightheaded or faint during or right after a blood draw. This is more likely to happen if you have had problems with fainting during blood draws in the past. Let us know. Trained staff will use sterile techniques when drawing blood. However, there is a chance that the site may become infected. A maximum of 400 milliliters (about 27 tablespoons) will be drawn over the 20-28 weeks of the trial. This is similar to the pint or 475 milliliters that blood banks draw every 8 weeks.

Questionnaires: You may feel uncomfortable answering some of the questions on the questionnaires. Only questions required to determine eligibility and to assess information related to the research will be asked. If there is a question(s) you wish to not answer, please inform the staff.

Resting Metabolic Rate Test: You will be asked to lie still for an extended period of time, this may be uncomfortable. The metabolic machine does produce noise, which may be annoying. The clear plastic hood could make you feel claustrophobic. A trained researcher will be available at all times in case you experience any problems.

Endothelial Function (EndoPAT): You will be seated in a comfortable chair with a small probe placed on one finger of each hand. During this test you will have a blood pressure cuff placed around your arm to partially block blood flow for a 5 minute period. The cuff will be removed

Date:_____
Subject Initials:_____

and the finger probes will measure the pulse wave speed and strength to evaluate your blood vessel function. This measurement is to determine your endothelial function. This is a non-invasive measure of cardiovascular disease risk by measuring how your small blood vessels respond to blood flow. The EndoPAT is considered to be a no greater than minimal risk procedure. You will feel tingling in the arm that has the partial blocking with a blood pressure cuff, much like the "pins and needles" associated with "my arm going to sleep".

WHAT ARE THE BENEFITS OF THIS STUDY?

You will not benefit personally from being in this study. However, we hope that, in the future, other people might benefit from this study because the results of the research may yield knowledge related to the role of a Mediterranean Diet and whole egg intake in CVD risk reduction.

WILL IT COST ME ANYTHING TO BE IN THIS STUDY?

You will be expected to provide your transportation to and from the GFHNRC. We do not withhold income, social security, unemployment taxes, or any other taxes because you are not an employee of the GFHNRC. You may have to pay income taxes on the money you receive. You will be asked to complete a W-9 form. All tax questions relating to the taxability of the payment should be directed to your personal tax accountant or to your local Internal Revenue Service Office. If you are not a United States citizen, check your documentation to make sure you can receive money from a non-University source without risking your status in the United States.

IS THERE ANY COMPENSATION?

Reimbursement for the total study is $858 or a 20-month individual membership or a 15 month family membership to Choice Health & Fitness. Screened but ineligible subjects will be paid $15. If you complete the entire study, payment will be made at the end of the trial. In the event that you drop out of the project, you will receive payment for a pro-rated amount for the portions of the study completed.

WHO IS FUNDING THE STUDY?

The Egg Nutrition Center (ENC) and the United States Department of Agriculture are funding this research study.

Date:_____

Subject Initials:_____

CONFIDENTIALITY

The records of this study will be kept private to the extent permitted by law. In any report about this study that might be published, the study results will be in a summarized manner and you will not be identified. None of the study results will have any names attached. Your study record may be reviewed by Government agencies, the UND Research Development and Compliance office, the University of North Dakota Institutional Review Board, and the GFHNRC.

Any information that is obtained in this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by assigning an identification number which will be used to anonymously code your research data for computer entry. This subject ID number will be used on all data collection instruments, including questionnaires and computer records, so that no data can be connected to an individual subject. A master list linking the volunteers' names to the ID numbers will be kept in a separate locked file in the principal investigator's office, or in a computer file with a password protected access restricted to study personnel. This consent and the check information will be kept in a locked file at the GFHNRC. Dr. Matthew Picklo and the staff assigned to the research study will have access to the data. Confidential information may be made available to the US Department of Agriculture as specified in the USDA/ARS Privacy Act System of Records and to the University of North Dakota and as required by law or court order. Clinical trial information will be submitted to the National Institutes of Health/National Library of Medicine to be included in the clinical trial registry data bank (www.clinicaltrials.gov).

COMPENSATION FOR INJURY

In the event that this research activity results in an injury, treatment will be available including first aid and emergency treatment. Payment for any such treatment is to be provided by you (you will be billed) or your third-party payer, if any (health insurance, Medicare, etc.). If you are injured while participating in this research project as a result of the negligence of a United States Government employee who is involved in this research project, you may be able to be compensated for your injury in accordance with the requirements of the Federal Tort Claims Act. Compensation from individuals or organizations other than the United States might also be available to you.

IS THIS STUDY VOLUNTARY?

You may choose not to participate or you may discontinue your participation at any time without penalty or loss of benefits to which you are otherwise entitled. Your decision will not affect your current or future relations with the GFHNRC or the University of North Dakota. If you decide not to do any more of the research tests, we ask that you notify the study coordinator or principal investigator.

Approval Date: 8/7/2020

Expiration Date: 8/6/2021

University of North Dakota IRB

Date:_____

Subject Initials:_____

CONTACTS AND QUESTIONS

The researcher conducting this study is Matthew Picklo, PhD. You may ask any questions you have now. If you later have questions, concerns, or complaints about the research please contact recruitment staff at 701-795-8488 or Dr. Matthew Picklo at 701-795-8380.

If you have questions about your rights as a research subject, you may contact the University of North Dakota Institutional Review Board at (701) 777-4279. You may also call this number about any problems, complaints, or concerns you have about this research study. Please call this number if you cannot reach research staff, or you wish to talk with someone who is independent of the research team. General information about being a research subject can be found by clicking "Information for Research Participants" on the web site: http://und.edu/research/resources/human-subjects/research-participants.cfm.

SUPPLEMENTAL INFORMATION ABOUT SAMPLES

Science and technology are advancing very rapidly. There may be additional research possible with this study. Part of this specific study is taking blood samples to be stored for future studies of additional risk markers for CVD. You may still participate in the study if you do not agree to archive samples. If you do not want to allow archival of your blood samples, all remaining samples will be disposed of upon completion of the study.

You are being asked for your permission to let us keep some of the samples that are leftover and use them for future studies. You will not be contacted about any potential use of these samples. The samples will be kept indefinitely. The samples will be stored separately from this consent and there will be no link to any of your personally identifiable information. Despite efforts to keep your personal information confidential, absolute confidentiality cannot be guaranteed. Confidential information may be made available to the US Department of Agriculture as specified in the USDA/ARS Privacy Act System of Records and to the University of North Dakota and as required by law or court order. Clinical trial information will be submitted to the National Institutes of Health/National Library of Medicine to be included in the clinical trial registry data bank (www.clinicaltrials.gov).

Please indicate below if you consent that your samples may be used in future research. You will not be paid an additional amount for this consent. If you choose not to allow the use of your samples for future research, they will be destroyed at the end of the study.

(Please circle one) YES NO

Initials _____

Approval Date: 8/7/2020

Expiration Date: 8/6/2021

University of North Dakota IRB

Date: _____

Subject Initials: _____

SUPPLEMENTAL INFORMATION ABOUT SAMPLES FOR GENETIC RESEARCH

Your samples may be used for genetic research. No individual information about genotypes will be made available to you or to a third party. Genotyping carries no medical or therapeutic value. There is no medical significance linked with the DNA test results. Your samples will not be sold in the future. Your samples will become the property of the GFHNRC and you do not have rights to them. At this time we do not have any genetic analysis planned but we may use your stored blood samples to evaluate genetic markers related to CVD risk. You may still participate in the studies if you do not agree to allow genotyping.

Please indicate below if you consent that your samples may be used in future genetic research. You will not be paid an additional amount for these samples. If you choose not to allow the use of your samples for future research, they will be destroyed at the end of the study.

(Please circle one) YES NO

Initials _____

CONSENT

Your signature indicates that this research study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a copy of this form.

_____

Your Printed Name

_____ _____

Your Signature Date

I have discussed the above points with the subject or, where appropriate, with the participant's legally authorized representative.

_____ _____

Signature of Person Who Obtained Consent Date

Approval Date: 8/7/2020

Expiration Date: 8/6/2021

University of North Dakota IRB

Date:_____

Subject Initials:_____