A Cohort Study of Weight Loss and Gliosis

NCT0357887

4/19/2023

INSTRUCTIONS

- **If you are requesting a determination** about whether your activity is human subjects research or qualifies for exempt status, you may skip all questions except those marked with a ◯. For example **1.1** must be answered.
- **Answer all questions**. If a question is not applicable to your research or if you believe you have already answered a question elsewhere in the application, state "NA" (and if applicable, refer to the question where you provided the information). If you do not answer a question, the IRB does not know whether the question was overlooked or whether it is not applicable. This may result in unnecessary "back and forth" for clarification. Use non-technical language as much as possible.
- To check a box, place an "X" in the box. To fill in a text box, make sure your cursor is within the gray text box bar before typing or pasting text.
- The word "you" refers to the researcher and all members of the research team, unless otherwise specified.
- For collaborative research, describe only the information that is relevant to you unless you are requesting that the UW IRB provide the review and oversight for your collaborators as well.
- You may reference other documents (such as a grant application) if they provide the requested information in non-technical language. Be sure to provide the document name, page(s), and specific sections, and upload it to ***Zipline***. Also, describe any changes that may have occurred since the document was written (for example, changes that you've made during or after the grant review process). In some cases, you may need to provide additional details in the answer space as well as referencing a document.

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1 OVERVIEW

Study Title: Weight Effects on Brain Health Study (WEB Study)

1.1 Home institution. Identify the home institution of the lead researcher as listed on the IRB application. Provide any helpful explanatory information.

In general, the home institution is the institution (1) that provides the researcher's paycheck and that considers him/her to be a paid employee, or (2) at which the researcher is a matriculated student. Scholars, faculty, fellows, and students who are visiting the UW and who are the lead researcher: identify your home institution and describe the purpose and duration of your UW visit, as well as the UW department/center with which you are affiliated while at the UW.

Note that many UW clinical faculty members are paid employees of non-UW institutions.

*The UW IRB provides IRB review and oversight for only those researchers who meet the criteria described in the **POLICY: Use of the UW IRB**.*

University of Washington

1.2 Consultation history. Have you consulted with anyone at HSD about this study?

It is not necessary to obtain advance consultation. If you have: answering this question will help ensure that the IRB is aware of and considers the advice and guidance you were provided.

[x] **No**
[ ] **Yes** → If yes, briefly describe the consultation: approximate date, with whom, and method (e.g., by email, phone call, in-person meeting).

1.3 Similar and/or related studies. Are there any related IRB applications that provide context for the proposed activities?

Examples of studies for which there is likely to be a related IRB application: Using samples or data collected by another study; recruiting subjects from a registry established by a colleague's research activity; conducting Phase 2 of a multi-part project, or conducting a continuation of another study; serving as the data coordinating center for a multi-site study that includes a UW site.

Providing this information (if relevant) may significantly improve the efficiency and consistency of the IRB's review.

[x] **No**
[ ] **Yes** → If yes, briefly describe the other studies or applications and how they relate to the proposed activities. If the other applications were reviewed by the UW IRB, please also provide: the UW IRB number, the study title, and the lead researcher's name.

1.4 Externally-imposed urgency or time deadlines. Are there any externally-imposed deadlines or urgency that affect your proposed activity?

HSD recognizes that everyone would like their IRB applications to be reviewed as quickly as possible. To ensure fairness, it is HSD policy to review applications in the order in which they are received. However, HSD will assign a higher priority to research with externally-imposed urgency that is beyond the control of the researcher. Researchers are encouraged to communicate as soon as possible with their HSD staff contact person when there is an urgent situation (in other words, before submitting the IRB application). Examples: a researcher plans to test an experimental vaccine that has just been developed for a newly emerging epidemic; a researcher has an unexpected opportunity to collect data from students when the end of the school year is only four weeks away.

HSD may ask for documentation of the externally-imposed urgency. A higher priority should not be requested to compensate for a researcher's failure to prepare an IRB application in a timely manner. Note that IRB review requires a certain minimum amount of time; without sufficient time, the IRB may not be able to review and approve an application by a deadline.

☐ No

☒ Yes → If yes, briefly describe the urgency or deadline as well as the reason for it.

We have received a just-in-time request from NIH for this application.

1.5 Objectives Using lay language, describe the purpose, specific aims, or objectives that will be met by this specific project. If hypotheses are being tested, describe them. You will be asked to describe the specific procedures in a later section.

If your application involves the use of a HUD "humanitarian" device: describe whether the use is for "on-label" clinical patient care, "off-label" clinical patient care, and/or research (collecting safety and/or effectiveness data).

1. To determine in obese humans undergoing Behavioral Weight Loss whether the severity of hypothalamic gliosis at baseline predicts the degree of weight loss in treatment and/or maintenance of weight loss over time
2. To test in obese humans whether larger weight losses are associated with greater improvements in hypothalamic gliosis and if RYGB/sleeve gastrectomy (may be referred to as bariatric surgery in this application) provides an added benefit for reducing gliosis.

1.6 Study design. Provide a one-sentence description of the general study design and/or type of methodology.

Your answer will help HSD in assigning applications to reviewers and in managing workload. Examples: a longitudinal observational study; a double-blind, placebo-controlled randomized study; ethnographic interviews; web scraping from a convenience sample of blogs; medical record review; coordinating center for a multi-site study.

A longitudinal observational study of patients before and after weight loss via lifestyle change or bariatric surgery. The lifestyle program is part of this research and the surgery patients are a clinical population undergoing surgery at UW.

1.7 Intent. Check all the descriptors that apply to your activity. You must place an "X" in at least one box.

This question is essential for ensuring that your application is correctly reviewed. Please read each option carefully.

Descriptor
☐ 1. Class project or other activity whose purpose is to provide an educational experience for the researcher (for example, to learn about the process or methods of doing research).

☐ 2. Part of an institution, organization, or program's own internal operational monitoring.

☐ 3. Improve the quality of service provided by a specific institution, organization, or program.

☒ 4. Designed to expand the knowledge base of a scientific discipline or other scholarly field of study, and produce results that:

- Are expected to be applicable to a larger population beyond the site of data collection or the specific subjects studied, or
- Are intended to be used to develop, test, or support theories, principles, and statements of relationships, or to inform policy beyond the study.

☐ 5. Develop information about a drug or device through its prospective use and assignment to subjects, which will then be submitted to the Food and Drug Administration (FDA) in support of a marketing or research application for an investigational drug or device, or for changes to the purpose, population, or dose for an already-approved drug or device.

☐ 6. Focus directly on the specific individuals about whom the information or biospecimens are collected through oral history, journalism, biography, or historical scholarship activities, to provide an accurate and evidence-based portrayal of the individuals.

☐ 7. A quality improvement or program improvement activity conducted to improve the implementation (delivery or quality) of an accepted practice, or to collect data about the implementation of the practice for clinical, practical, or administrative purposes. This does not include the evaluation of the efficacy of different accepted practices, or a comparison of their efficacy.

☐ 8. Public health surveillance activities conducted, requested, or authorized by a public health authority for the sole purpose of identifying or investigating potential public health signals or timely awareness and priority setting during a situation that threatens public health.

☐ 9. Preliminary, exploratory, or research development activities (such as pilot and feasibility studies, or reliability/validation testing of a questionnaire)

☐ 10. Expanded access use of a drug or device not yet approved for this purpose

☐ 11. Use of a Humanitarian Use Device

☐ 12. Other. Explain:

1.8 Background, experience, and preliminary work. Answer this question **only** if your proposed activity has one or more of the following characteristics. The purpose of this question is to provide the IRB with information that is relevant to its risk/benefit analysis.

- Involves more than minimal risk (physical or non-physical)
- Is a clinical trial, or
- Involves having the subjects use a drug, biological, botanical, nutritional supplement, or medical device.

"Minimal risk" means that the probability and magnitude of harm or discomfort anticipated in the research are not greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

a. Background. Provide the rationale and the scientific or scholarly background for your proposed activity, based on existing literature (or clinical knowledge). Describe the gaps in current knowledge that your project is intended to address.

Do not provide scholarly citations. Limit your answer to less than one page, or refer to an attached document with background information that is no more than three pages long.

The long-term health benefits of obesity treatment are limited by the weight regain that almost universally follows a weight loss intervention, frustrating patients and clinicians alike. In lay terms, a new, higher "set point" seems to occur after people gain weight, and research shows that processes of energy homeostasis, directed by neurons in the arcuate nucleus of the hypothalamus, vigorously defend the higher level of adiposity for years, promoting weight regain after behavioral weight loss. Bariatric surgery, however, results in weight loss that is more durable over time. These phenomena remain incompletely understood. The current proposal endeavors to address this crucial scientific gap by investigating the brain's role in the persistence of obesity and weight regain after weight loss. Specifically, studies in rodents show that diet-induced weight gain requires an inflammatory and cellular response, known as gliosis, within the arcuate nucleus of the hypothalamus and that this gliosis persists with continued dietary exposure. Importantly, gliosis is detectable in mice and humans by magnetic resonance imaging (MRI). Using MRI, the investigators discovered the first evidence of hypothalamic gliosis in obese humans. The investigators have also shown that hypothalamic gliosis is improved by Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy surgery, suggesting that the efficacy and durability of weight loss via bariatric surgery could be partially explained by its ability to reverse gliosis. New findings show that hypothalamic gliosis negatively impacts brain regulation of appetite. Based on such findings, the proposed research investigates novel questions about the possible implications of hypothalamic gliosis for clinical weight management. First, it will determine whether the extent of hypothalamic gliosis present when people with obesity start a behavioral weight loss program is related to their success in treatment or weight regain after treatment. Second, the current proposal also addresses the question of whether gliosis is reduced to a greater extent when weight loss occurs by RYGB or sleeve gastrectomy than by lifestyle change alone. Finally, this investigation uses a rodent study to test the role of 2 different hypothalamic glial cell types in weight regain after weight loss. In sum, basic science advances have identified hypothalamic cellular responses that facilitate weight gain during times of nutritional abundance, but this biological process is also capable of forming glial scars that are detrimental to neuronal functioning. The current research therefore investigates the implications of hypothalamic gliosis for humans undergoing obesity treatment. Achieving a better understanding of the role of the brain in successful obesity treatment could open new avenues for research, intervention, and prevention to alleviate the health risks of obesity.

b. Experience and preliminary work. Briefly describe experience or preliminary work or data (if any) that you or your team have that supports the feasibility and/or safety of this study.

It is not necessary to summarize all discussion that has led to the development of the study protocol. The IRB is interested only in short summaries about experiences or preliminary work that suggest the study is feasible and that risks are reasonable relative to the benefits. Examples: You have already conducted a Phase 1 study of an experimental drug which supports the Phase 2 study you are now proposing to do; you have already done a small pilot study showing that the reading skills intervention you plan to use is feasible in an after-school program with classroom aides; you have experience with the type of surgery that is required to implant the study device; you have a study coordinator who is experienced in working with subjects who have significant cognitive impairment.

[redacted] has already successfully and safely conducted several studies with similar design and procedures.

1.9 Supplements. Check all boxes that apply, to identify Supplements you should complete and upload to the **Supporting Documents** SmartForm in ***Zipline***.

This section is here instead of at the end of the form to reduce the risk of duplicating information in this IRB Protocol form that you will need to provide in these Supplements.

Check all That Apply	Type of Research	Supplement Name
☐	**Department of Defense** The research involves Department of Defense funding, facilities, data, or personnel.	*ZIPLINE* SUPPLEMENT: Department of Defense
☐	**Department of Energy** The research involves Department of Energy funding, facilities, data, or personnel.	*ZIPLINE* SUPPLEMENT: Department of Energy
☐	**Drug, biologic, botanical, supplement** Procedures involve the use of any drug, biologic, botanical or supplement, even if the item is not the focus of your research	*ZIPLINE* SUPPLEMENT: Drugs
☐	**Emergency exception to informed consent** Research that requires this special consent waiver for research involving more than minimal risk	*ZIPLINE* SUPPLEMENT: Exception from Informed Consent for Emergency Research (EFIC)
☐	**Genomic data sharing** Genomic data are being collected and will be deposited in an external database (such as the NIH dbGaP database) for sharing with other researchers	*ZIPLINE* SUPPLEMENT: Genomic Data Sharing
☐	**Medical device** Procedures involve the use of any medical device, even if the device is not the focus of your research, except when the device is FDA-approved and is being used through a clinical facility in the manner for which it is approved	*ZIPLINE* SUPPLEMENT: Devices
☐	**Multi-site study** (You are asking the UW IRB to review one or more sites in a multi-site study.)	*ZIPLINE* SUPPLEMENT: Participating Site in Multi-Site Research
☐	**Participant results sharing** Individual research results will be shared with subjects.	*ZIPLINE* SUPPLEMENT: Participant Results Sharing
☒	None of the above	

2 PARTICIPANTS

2.1 Participants. Describe the general characteristics of the subject populations or groups, including age range, gender, health status, and any other relevant characteristics.

Three groups of subjects will include males and females aged 21-64.

1. Healthy weight controls (HWC)

2. Obese, Lifestyle Cohort (Behavioral Weight Loss, BWL)
3. Obese, Surgical Cohort or Surgical Weight Loss (SWL) (RYGB or sleeve gastrectomy)

2.2 Inclusion and exclusion criteria. Describe the specific criteria you will use to decide who will be included in your study from among interested or potential subjects. Define any technical terms in lay language.

Inclusion Criteria: At the time of screening:
HWC: BMI 18.5-24.9 kg/m2,
BWL: BMI 30-<56 kg/m2,
Bariatric: BMI 30-<56 kg/m2, eligible for RYGB or sleeve gastrectomy and not undergoing revision or reoperation.

Exclusion Criteria:

- Poorly controlled hypertension or coronary artery disease, or chronic disease (e.g. cancer, multiple sclerosis, autoimmune disease, rheumatic disease)
  Blood Pressure > 160/100 mmHG
  Heart Rate > 110 bpm
- Chronic kidney disease (GFR <60 mL/min/1.73 m2),
- Presence of cirrhosis (NALFD/NASH are acceptable),
- Previous or planned (during the study period) obesity treatment with surgery (planned surgery ok for the SWL group) or a weight loss device. However, the following are allowed: (1) liposuction and/or abdominoplasty, if performed > 1 year before screening, (2) lap banding, if the band has been removed > 1 year before screening, (3) intragastric balloon, if the balloon has been removed > 1 year before screening or (4) duodenal-jejunal bypass sleeve, if the sleeve has been removed > 1 year before screening,
- A1c > 8.5% in Bariatric group; A1c ≥ 6.5% for BWL and HWC groups,
- Current use of insulin (insulin ok for Surgical Weight Loss group, also called SWL), DPP-4 inhibitors, thiazolidinediones or medications known to alter metabolic function (e.g. atypical antipsychotics, corticosteroids),
- Pregnancy or breastfeeding,
- MRI contraindications (e.g. implanted metal, claustrophobia), or unable to have MRI or fit in MRI scanner
- Current smoking/daily use of nicotine containing products (cigarettes, e-cigarettes, vaping or other nicotine containing products) or heavy alcohol use,
- Weight >450 pounds (iDXA limit),
- Weight-reduced from lifetime maximum weight by >16% (BWL and HWC only),
- Weight not stable over past 3 months (±10% BWL and HWC, ±15% SWL)
- T2D (for BWL or HWC),
- Inability to participate in a weight loss program (BWL)
- History of eating disorder or current eating disorder, currently enrolled in a weight loss program (ok for the SWL group provided weight stability and lifetime weight-reduced maximum conditions are met) or taking medications to lose weight
- Severe food allergies
- Any condition that the study physician determines to be unsafe for participation

2.3 Prisoners. IRB approval is required in order to include prisoners in research, even when prisoners are not an intended target population.

a. Will you recruit or obtain data from individuals that you know to be prisoners?

For records reviews: if the records do not indicate prisoner status and prisoners are not a target population, select "No". See the WORKSHEET: Prisoners for the definition of "prisoner".

[x] No
[ ] Yes → If yes, answer the following questions (i – iv).

i. Describe the type of prisoners, and which prisons/jails:

ii. One concern about prisoner research is whether the effect of participation on prisoners' general living conditions, medical care, quality of food, amenities, and opportunity for earnings in prison will be so great that it will make it difficult for prisoners to adequately consider the research risks. What will you do to reduce the chances of this?

iii. Describe what you will do to make sure that (a) your recruitment and subject selection procedures will be fair to all eligible prisoners and (b) prison authorities or other prisoners will not be able to arbitrarily prevent or require particular prisoners from participating.

iv. If your research will involve prisoners in federal facilities or in state/local facilities outside of Washington State: check the box below to provide your assurance that you will (a) not encourage or facilitate the use of a prisoner's participation in the research to influence parole decisions, and (b) clearly inform each prisoner in advance (for example, in a consent form) that participation in the research will have no effect on his or her parole.

[ ] Confirmed

b. Is your research likely to have subjects who become prisoners while participating in your study?

For example, a longitudinal study of youth with drug problems is likely to have subjects who will be prisoners at some point during the study.

[x] No
[ ] Yes → If yes, if a subject becomes a prisoner while participating in your study, will you continue the study procedures and/or data collection while the subject is a prisoner?

[ ] No
[ ] Yes → If yes, describe the procedures and/or data collection you will continue with prisoner subjects

2.4 Protected populations. IRB approval is required for the use of the subject populations listed here. Check the boxes for any of these populations that you will purposefully include in your research. (In other words, being a part of the population is an inclusion criterion for your study.)

The WORKSHEETS describe the criteria for approval but do not need to be completed or submitted.

Population	Worksheet
☐ Children	WORKSHEET: Children
☐ Children who are wards	WORKSHEET: Children
☐ Fetuses in utero	WORKSHEET: Pregnant Women
☐ Neonates of uncertain viability	WORKSHEET: Neonates
☐ Non-viable neonates	WORKSHEET: Neonates
☐ Pregnant women	WORKSHEET: Pregnant Women

"Children" are defined as individuals who have not attained the legal age for consent to treatments or procedures involved in the research and its specific setting. This will vary according to the location of the research (that is, for different states and countries).

a. If you check any of the boxes above, use this space to provide any information you think may be relevant for the IRB to consider.

2.5 Native Americans or non U.S. indigenous populations. Will you actively recruit from Native American or non-U.S. indigenous populations through a tribe, tribe-focused organization, or similar community-based organization?

Indigenous people are defined in international or national legislation as having a set of specific rights based on their historical ties to a particular territory and their cultural or historical distinctiveness from other populations that are often politically dominant.

Examples: a reservation school or health clinic; recruiting during a tribal community gathering

☒ No

☐ Yes → If yes, name the tribe, tribal-focused organization, or similar community based organization. The UW IRB expects that you will obtain tribal/indigenous approval before beginning your research.

2.6 Third party subjects. Will you collect private identifiable information about *other individuals* from your subjects? Common examples include: collecting medical history information or contact information about family members, friends, co-workers.

"Identifiable" means any direct or indirect identifier that, alone or in combination, would allow you or another member of your research team to readily identify the person. For example, suppose that you are studying immigration history. If you ask your subjects several questions about their grandparents but you do not obtain names or other information that would allow you to readily identify the grandparents, then you are not collecting private identifiable information about the grandparents.

[x] No
[ ] Yes → If yes, these individuals are considered human subjects in your study. Describe them and what data you will collect about them.

2.7 Number of subjects. Can you predict or describe the maximum number of subjects (or subject units) you need to complete your study, for each subject group?

Subject units mean units within a group. For most research studies, a group will consist of individuals. However, the unit of interest in some research is not the individual. Examples:

- *Dyads such as caregiver-and-Alzheimer's patient, or parent and child*
- *Families*
- *Other units, such as student-parent-teacher*

Subject group means categories of subjects that are meaningful for your research. Some research has only one subject group – for example, all UW students taking Introductory Psychology. Some common ways in which subjects are grouped include:

- *By intervention – for example, an intervention group and a control group.*
- *By subject population or setting – for example, urban versus rural families*
- *By age – for example, children who are 6, 10, or 14 years old.*

The IRB reviews the number of subjects you plan to study in the context of risks and benefits. You may submit a Modification to increase this number at any time after you receive IRB approval. If the IRB determines that your research involves no more than minimal risk: you may exceed the approved number and it will not be considered non-compliance. If your research involves more than minimal risk: exceeding the approved number will be considered non-compliance.

[ ] No → If no, provide your rationale in the box below. Also, provide any information you can about the scope/size of the research. You do not need to complete the table.

Example: you may not be able to predict the number of subjects who will complete an online survey advertised through Craigslist, but you can state that you will post your survey for two weeks and the number who respond is the number who will be in your study.

[x] Yes → If yes, for each subject group, use the table below to provide your estimate of the maximum desired number of individuals (or other subject unit, such as families) who will complete the research.

Group name/description	Maximum desired number of individuals (or other subject unit, such as families) who will complete the research ***For clinical trials: provide numbers for your site and for the study-wide total number***

Healthy Weight Controls (HWC)	35
Lifestyle Cohort (Behavioral Weight Loss, BWL)	100
Surgical Cohort or SWL (RYGB – Roux en Y Gastric Bypass or sleeve gastrectomy)	35

3 RESEARCH SETTING

3.1 Reason for sites. Describe the reason(s) why you selected the sites where you will conduct the research.

We have conducted many research study visits with both UW Clinical Research Center and DISC lab. The DISC lab has a dedicated research MRI scanner and the CRC has facilities for body composition measurement. We will conduct study visits and procedures at South Lake Union (SLU) Research Unit once it opens in January 2019, though DXA scans may continue to occur at UW Translational Research Unit. We will inform subjects of locations at the time of screening. MRIs will occur at BMIC at SLU instead of DISC lab due to shifting of procedures and visits to SLU, and scheduled MRI maintenance at DISC in 2019 which will lead to scanner down-time.

3.2 Local context. Culturally-appropriate procedures and an understanding of local context are an important part of protecting subjects. Describe any site-specific cultural issues, customs, beliefs, or values that may affect your research or how it is conducted.

Examples: It would be culturally inappropriate in some international settings for a woman to be directly contacted by a male researcher; instead, the researcher may need to ask a male family member for permission before the woman can be approached. It may be appropriate to obtain permission from community leaders prior to obtaining consent from individual members of a group.

This federal site maintains an international list of human research standards and requirements:
http://www.hhs.gov/ohrp/international/index.html

N/A

3.3 Site-specific laws. Describe any local laws that may affect your research (especially the research design and consent procedures). The most common examples are laws about:

- **Specimens** – for example, some countries will not allow biospecimens to be taken out of the country.
- **Age of consent** – laws about when an individual is considered old enough to be able to provide consent vary across states, and across countries.
- **Legally authorized representative** – laws about who can serve as a legally authorized representative (and who has priority when more than one person is available) vary across states and countries.
- **Use of healthcare records** – many states (including Washington State) have laws that are similar to the federal HIPAA law but that have additional requirements.

N/A

3.4 Site-specific administrative or ethical requirements. Describe local administrative or ethical requirements that affect your research.

Example: A school district may require you to obtain permission from the head district office as well as school principals before approaching teachers or students; a factory in China may allow you to interview factory workers but not allow you to pay them.

N/A

4 RECRUITING and SCREENING PARTICIPANTS

4.1 Recruiting and Screening. Describe how you will identify, recruit, and screen subjects. Include information about: how, when, where, and in what setting. Identify who (by position or role, not name) will approach and recruit subjects, and who will screen them for eligibility.

Research staff will directly approach potential subjects at UW and other clinics, and post flyers and ads in clinics, in public spaces, local newspapers and online media (including ITHS research database) and advertising spaces. Research staff will approach subjects in clinic. Initial screening will occur over the phone for potential subjects who respond to an ad. Due to COVID-19, we will add the full MRI screening to initial phone screening (occurs prior to participant signing consent form). For subjects directly approached in a clinic, there will be discussion about the study, brief eligibility screening using the phone script, and consent process (if subject interested and eligible).This will occur in a private space in the clinic. Potential subjects will be asked about age, weight, height, major medical conditions, MRI safety and screening questions and other eligibility questions which relate to weight and weight gain. The study procedures for following visits will be described. The screening questions and potential subjects' answers will be stored in a password-protected database housed on secure UW server that only Dr. [redacted] and her staff have access to. People who go through phone screening will be assigned a screening ID that research staff will use to identify the subject. There will also be a contact information database that will contain name, contact information and potentially other identifying information, such as medical record number and date of birth. The screening ID # and study ID # will be entered in this contact information database.

Research staff will look at inclusion criteria including age, name, medical record number. Research staff will also view record or notes to see that potential subjects have completed their pre-operative evaluation and are eligible and interested in surgery. Usually, there is a notation on the schedule in EPIC of a "Test Review" visit, however, there may be circumstances where notes from prior visits are reviewed regarding patient's eligibility for surgery or type of surgery. If medical terminology or plans are unclear, staff may consult with Drs. [redacted] or

[redacted], co-investigators on this project. For recruitment pre-screening purposes, medical record review is limited to inclusion and exclusion criteria.

If eligible, an in-person screening visit will be scheduled with the research staff. At the start of the in-person screening consent will be obtained (if not obtained at clinic). At the screening visit a detailed medical history will be given, measurements such as weight, height and vitals will be collected, and blood draw will take place. If the phlebotomist is unable to draw blood after a few attempts, the participant will be asked if they can return on a different day to have their screening blood draw. The participant will not be offered additional compensation for this blood draw. MRI safety screening will be reviewed or completed and some questionnaires may be completed. For Behavioral Weight Loss participants, at screening a study physician (Dr. [redacted] or study physician) or a study nurse (ARNP) will conduct physical exam to evaluate cardiovascular, respiratory, neurological and endocrine function. Any abnormality will be shared with the subject who will be advised to follow-up with their primary care physician. Any findings that make it unsafe to proceed with Behavioral Weight Loss would end the subject's participation in the study.

We expect recruitment for the surgical cohort to require flexibility on our part. This section outlines how recruitment and screening could work for the surgical cohort. We will make subjects aware of the study as described in the first paragraph of this section. Other methods of making surgical candidates aware of the study will be described in this section. Flyers could be given to patients by clinic staff, and referred to research staff for more information. Flyers may also be distributed to patients with their surgery binder, and distributed by clinic staff at clinic visits. Research staff may directly approach patients in patient rooms or waiting area, or at group surgery-related education sessions run by the clinic. Research staff will use the clinic schedule in EPIC to identify days when surgical candidates will be at clinic, or to identify surgical candidates to approach about the study. Letters may be sent to patients who are planning to have bariatric surgery. Research staff would receive contact information from the clinic and send a letter describing the study (description in Zipline). Clinic staff may also provide medical record number, name and contact information via email or in person to notify research staff of potentially eligible subjects to approach about the study. Subjects who are interested in the study could 1.) call the research staff to go through phone screening and schedule the rest of the in-person components at a later time before surgery; 2.) go through the phone screening process in person with research staff in a private place in the clinic, be consented and go through the rest of in-person screening procedures at a later date. The visit would be scheduled with research staff to occur either at the clinic or UW SLU research location. Study staff would extract data for the screening questions from the patient's medical record (height, weight, blood values, etc); 3.) the patient could complete the preliminary screening (same as phone-screening), and the consent process followed by in-person screening procedures all at once at the clinic location (some screening data would be extracted from the patient's medical record). For in-person screening visits, surgical readiness and scheduling, we may receive medical record number (or name and contact information) from clinic staff via email, or in person.

COVID accommodations for surgical cohort recruitment and screening:

Email recruitment: Under the Waiver of Consent and Waiver of HIPAA, potentially eligible patients will be identified through clinic schedules. Study personnel will screen medical records in order to identify subjects likely to meet all inclusion and exclusion criteria. A recruitment packet will be sent via email only to these individuals. The recruitment packet will include a study introductory message, a study summary, an MRI safety screening form, and a copy of the informed consent form (for informational purposes). The study introductory letter provides a brief description of the study, as well as a study email and telephone number to contact if the patient either would like to "opt out" of any future contact by study staff or if he or she has any questions about the study.

For surgical cohort recruitment, we are adding a clinic outside of UW ([redacted]). If the clinic staff or surgeons identify an eligible person, they will briefly describe the study to the patient. If the person is interested in learning more, the clinic will send the contact info for interested patients to our study staff. We may send them a modified version of the email that we send UW surgery patients that generally describes the study, or set up a time to speak generally about the study over the phone.

If the patient is interested in study participation, a remote screening visit will be conducted prior to the baseline visit. This visit will enable study personnel to review the consent form in detail with the participant and complete the MRI safety form. This visit will be held via telephone to minimize close contact between study participants and study personnel, which will reduce risk of COVID-19 transmission and conserve PPE. The participant will sign the consent form as other participants do with IRB approved methods described in this IRB Protocol, including in person at the beginning of the baseline visit.

[redacted] UW Weight Loss Management Clinic is assembling a list of options for weight loss to provide to patients referred to their clinic in the coming months. The clinic is understaffed and will be unable to see new patients at the clinic until they resolve the staffing issue. They plan to give the appointment schedulers a list of options to give someone who wants to pursue weight loss right away and not wait indefinitely to begin treatment. One of the suggestions they want to include is the WEB study (study contact information and the web address for the listing on the ITHS research participant database). Staff talking points/script for UW WLMC staff to give this information will be uploaded to Zipline. After the modification to add this recruitment method was approved, the clinic indicated that most communications from referrals occur via eCare. The clinic described that a referral is received from a physician and the clinic staff can respond in eCare in a message sent through the patient's electronic health record. Other ways this communication happens include phone, mail or email. This modification expands the way the clinic may be contacted and respond to potential patients. The same information will be shared (contact information, link to study description online (ITHS), and/or flyer from IRB approved flyer/talk points.

The WEB study may use COVERED Registry to notify registry members who have given permission to be contacted about studies. COVERED Registry has IRB approval to notify potentially eligible registry members about IRB approved research studies. The COVERED Registry staff would contact registry members via letter or email to notify them about the study. In the case of WEBS, we will provide the link to the ITHS posting, contact information and a brief description about the study for COVERED Registry to use.

We plan to post ads on Facebook to recruit participants. Surgical cohort and Healthy Weight cohort recruitment have slowed during the pandemic and we hope that Facebook ads will increase the pool of potential participants in any group (HWC, BWL and SWL). The ads we post on Facebook will use IRB approved 'Flyer Text' document content. Viewers who click on or select the ad will be brought to a webpage (Squarespace) that will provide a basic description of the study and a link to the REDCap preliminary screening questions. The website content is based on the IRB approved 'Flyer Text' document. Screenshots of the webpage will be uploaded to provide information to IRB but we prefer to retain flexibility to make minor changes to the website, and not have the website itself approved. From the website, interested people can opt to continue to preliminary screening questions (REDCap). We will ask permission in the REDCap form to ask questions and to collect their contact information. A PDF of the REDCap questions will be uploaded with this modification. When our research team reviews the screening information, our team will reach out to people who meet preliminary criteria to speak with them over the phone about the study, answer questions and go through phone screening as all participants experience. As with all participants, their participation is voluntary and they can decline to participate or continue at any point.

4.2 Recruitment materials.

a. What materials (if any) will you use to recruit and screen subjects?

Examples: talking points for phone or in-person conversations; video or audio presentations; websites; social media messages; written materials such as letters, flyers for posting, brochures, or printed advertisements; questionnaires filled out by potential subjects.

Flyer (for UW and general local community spaces), ad (for digital and print media), approach potential subjects at UW and other clinics using talking points, consent form, flyer and screening questions with interested subjects who consent to the study. Letters may be sent to potential subjects (a description of the letter will be uploaded to Zipline).

For surgical cohort recruitment: written material (study introductory message, study summary, informed consent form) will be used to provide potential subjects with information about the study. An MRI safety form will be used for screening.

b. Upload descriptions of each type of material (or the materials themselves) to the Consent Forms and Recruitment Materials SmartForm of *Zipline*. If you will send letters to the subjects, the letter should include a statement about how you obtained the subject's name, contact information, and any other subject-specific information (such as a health condition) that is mentioned in the letter.

HSD encourages researchers to consider uploading descriptions of most recruitment and screening materials instead of the materials themselves. The goal is to provide the researchers with the flexibility to change some information on the materials without submitting a Modification for IRB approval of the changes. Examples:

- *You could provide a list of talking points that will be used for phone or in-person conversations instead of a script.*
- *For the description of a flyer, you might include the information that it will provide the study phone number and the name of a study contact person (without providing the actual phone number or name). In doing so, you would not need to submit a Modification if/when the study phone number or contact person changes. Also, instead of listing the inclusion/exclusion criteria, you might state that the flyer will list one or a few of the major inclusion/exclusion criteria.*
- *For the description of a video or a website, you might include a description of the possible visual elements and a list of the content (e.g., study phone number; study contact person; top three inclusion/exclusion criteria; payment of $50; study name; UW researcher).*

4.3 Relationship with participant population. Do any members of the study team have an existing relationship with the study population(s)?

Examples: a study team member may have a dual role with the study population (for example, being their clinical care provider, teacher, laboratory directory or tribal leader in addition to recruiting them for his/her research).

[X] **No**

[ ] **Yes** → **If yes, describe the nature of the relationship.**

4.4 Payment to participants. Describe any payment you will provide, including:

- The total amount/value
- Whether payment will be "pro-rated" so that participants who are unable to complete the research may still receive some part of the payment

The IRB expects the consent process or study information provided to the subjects to include information about the number and amount of payments, and especially the time when subjects can expect to receive payment. One of the most frequent complaints received by HSD is from subjects who expected to receive cash or a check on the day that they completed a study and who were angry or disappointed when payment took 6-8 weeks to reach them.

Do not include a description of any expenses that will be reimbursed.

Subjects receive $25 for screening visits. For SWL participants, $25 will be added to the $150 to compensate for screening.) and up to $475 for study participation ($150 at Baseline, $50 at Interim visit (does not apply to all subjects), $150 at 6-month visit, $50 at 12 month visit and $75 at 18-month visit. Payment will be given in the form of checks. As of June 2023, payment will be made by US Bankcards or Zelle in compliance with UW policy. Participants will be made aware of this change by email or phone, or in-person at the start of a study visit.

4.5 Non-monetary compensation. Describe any non-monetary compensation you will provide. Example: extra credit for students; a toy for a child. If you will be offering class credit to students, you must provide (and describe) an alternate way for the students to earn the extra credit without participating in your research.

Parking will be paid for by the study.

4.6 Consent for recruiting and screening. Will you obtain consent for any of the recruiting and screening procedures? (Section 8: Consent of Adults asks about consent for the main study procedures).

"Consent" includes: consent from individuals for their own participation; parental permission; assent from children; consent from a legally authorized representative for adult individuals who are unable to provide consent.

Examples:

- *For a study in which names and contact information will be obtained from a registry: the registry should have consent from the registry participants to release their names and contact information to researchers.*
- *For a study in which possible subjects are identified by screening records: there will be no consent process.*
- *For a study in which individuals respond to an announcement and call into a study phone line: the study team person talking to the individual may obtain non-written consent to ask eligibility questions over the phone.*

[x] **No** → If no, you must still answer question 4.7 below .
[ ] **Yes** → If yes, describe the consent process.

a. Documentation of consent. Will you obtain a written or verifiable electronic signature from the subject on a consent form to document consent for all of the **recruiting and screening procedures**?

[ ] **No** → If no, describe the information you will provide during the consent process and for which procedures.

☐ **Yes** → If yes, upload the consent form to the **Consent Forms and Recruitment Materials** page of ***Zipline***.

4.7 Data and specimens for recruiting and screening. For studies where you will obtain consent, describe any data and/or specimens (including any PHI) you will obtain for recruiting and screening (prior to obtaining consent) and whether you will retain it as part of the study data.

Obtain *means to possess or record in any fashion (writing, electronic document, video, email, voice recording, etc.) for research purposes and to retain for any length of time.*

Examples: names and contact information; the information gathered from records that were screened; results of screening questionnaires or screening blood tests; Protected Health Information (PHI) from screening medical records to identify possible subjects.

We will look at the clinic schedule and chart to identify patients to approach during certain health care provider's shifts. We will not record data, just look at the clinic schedule and chart in EPIC to identify when appropriate pre-surgical and non-surgical patients will be in the clinic. Examples of data to be examined include age, gender, BMI, and type of surgery planned. We may send recruitment letters to potential subjects. We will provide study contact information and a brief description of the study and eligibility criteria. Interested people will contact research staff to learn more and go through phone screening.We will obtain names, mailing addresses and possibly email addresses prior to subject consent. We will obtain the potential subjects contact information from ITHS Bioinformatics and they will provide the research team with a list.

COVID Accommodations for surgical cohort recruitment and screening: Prior to enrollment, the study team will pre-screen potential subjects through review of clinic schedules. Data obtained will include patient name, date of birth, contact information, current medications, medical problems, laboratory results, and surgery type. These data will be retained for all patients who undergo screening, regardless of whether they consent to participate or are found to be ineligible for the study.

5 PROCEDURES

5.1 Study procedures. Using lay language, provide a complete description of the study procedures, including the sequence, intervention or manipulation (if any), time required, and setting/location. If it is available and you think it would be helpful to the IRB: Upload a study flow sheet or table to the **Supporting Documents** SmartForm in ***Zipline***.

For studies comparing standards of care: It is important to accurately identify the research procedures. See UW IRB ***POLICY: Risks of Harm from Standard Care*** *and the draft guidance from the federal Office of Human Research Protections,* ***"Guidance on Disclosing Reasonably Foreseeable Risks in Research Evaluating Standards of Care";*** *October 20, 2014.*

All study visits will occur at the UW South Lake Union Clinical Research Unit (CRU) and MRI lab at South Lake Union (BMIC). Blood draws may occur at the UW SLU lab. Study intervention for the BWL group will occur at the Fred Hutchinson Research Center's Prevention Center. All subjects will have all of the following visit types.

BWL and HWC subjects will complete a series of in-person screening. HWC will have 4 study visits (Baseline, 6-month, 12 and 18-month), BWL will have 4-5 study visits (Baseline, Interim visit if they reach the weight change goal, 6, 12 and 18-month visits) and SWL groups will have 5 study visits (Baseline, Interim visit, 6, 12 and 18-month visits) during which they will undergo MRI scans of brain and carotid arteries, measurement of body composition, indirect calorimetry, questionnaires, and blood draws for laboratory studies. Normal weight control

subjects will not undergo weight loss. SWL participants will have their body measurements confirmed at the Baseline visit and will not have a separate in-person study visit.

The Human Subject activities listed in the NIH K24 award are not yet described in this application, but will be added at a later date. As of 10/7/2020, we are adding a brief sequence to all MRIs for all subjects. This sequence will last about 3 minutes and not require repositioning of the participant or use of contrast medium. Addition of this sequence does not change risks or the MRI study procedure for the participant in any noticeable way. We will tell participants when they screen for the study during the recruitment process that we will scan their brain and carotid area. We will tell already enrolled participants at the time of scheduling or prior to their next MRI/study visit that this sequence will be added to remaining MRIs at their study visits.

COVID Accommodations: We will contact participants by phone or email a few days before in-person visits or procedures to screen them for COVID symptoms and will have them complete a COVID-19 screening attestation upon arrival for their in-person visit/procedures. We will read the attestation questions over the phone or email the form. We have uploaded an attestation document. All employees, including research staff, complete attestation to being COVID symptom free each workday.

Depending on COVID related state or facility requirements, we will alter study visits as needed, make some procedures remote or not include procedures that cannot be conducted safely. For example, for the time being we will not include indirect calorimetry, but we may again in the future. We will ask participants to wear masks for the whole visit. Some facilities, such as the research MRI facilities, will ask for and keep contact information for the participant to be used for contact screening for approximately one month. We will make facility required changes for COVID precautions. The Clinical Research Unit, research MRI facility (BMIC and DISC lab) and Fred Hutch Nutrition Kitchen are the groups and facilities we conduct research procedures with for WEB study.

Surgical cohort subjects will be pre-screened via review of medical records. Prior to the surgery date, a screening visit will be held via phone call or Zoom to obtain informed consent and HIPAA authorization. Participants will sign consent as described below or just before beginning research procedures at baseline visit.

Consent: We are adding the option of remote informed consent process and additional ways to obtain signature. This description was created in consultation with [redacted]. We will provide a blank consent form to the participant (we will send by mail, email, share the screen during Zoom, or put it in REDCap to share for the discussion and consenting process). Research staff will have a discussion with the participant by phone or Zoom to review the consent form and answer questions.

We will offer a few options to collect and document signature from the subject with research staff as witness. We will provide a blank consent form signature page that the subject will print out, or we mail a signature page to the subject. We will ask the subject to photograph the signature page and email or text a photo of it to us and will will print out; or the subject could mail the signature page to us. We will or could provide SASE for return of signed consent. We may also ask the subject to send a photo of the signed consent page to us by email/text before they mail it to us. Participants could also sign in person at the in-person screening visit prior to starting research procedures, or signature could be collected digitally via Docusign or REDCap.

We may create short instructional videos to include during consenting process (or if a participant needs additional review of instructions at a later time), but not in place of a conversation over the phone and/or Zoom, etc. The videos would provide visual demonstration of how to use Actigraphs, or possibly to accurately do anthropomorphic measurements such as waist, hip and neck circumference, and height measurement at home. We could also send videos as reminders for procedures when we ask participants to complete research procedures remotely.

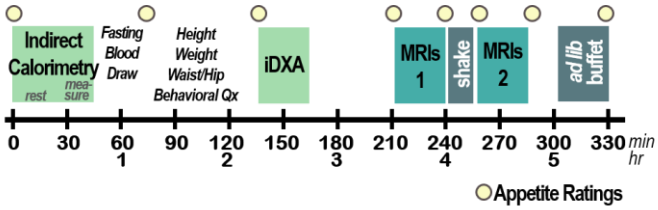
In-Person Screening: Due to COVID-19, this screening visit will be conducted remotely when needed. The brief in-person components will include signing consent forms if signature has not already been obtained. Consent signature will be obtained prior to the research procedures described below. Subjects will have the opportunity to ask questions. The informed consent process will have already occurred as described in this application. Procedures that will occur in person are body measurements, and a brief blood draw. If the phlebotomist is unable to draw blood after a few attempts, the participant will be asked if willing to return on a different day to complete their screening blood draw. Additional compensation will not be offered for returning for the blood draw. Physical exam for BWL participants may occur by phone and/or video call (Zoom), or in person if needed, and review of medical records by study physician. Actigraph will be given at Baseline visit. MRI safety screening will be confirmed; we will go through MRI safety screening form over the phone during initial phone screening, or possibly after the in person screening visit, but before Baseline visit.

In non-COVID times, the following describes In-Person Screening: Consent (if not conducted ahead of time when approached in the clinic), medical history, measurements such as height, weight, blood pressure and pulse, temperature, blood draw. Subjects in the BWL group will have a physical exam by a study physician or study nurse. Research staff will confirm subject fit in MRI scanner by use of a mock scanner, or possibly a visit to the actual scanner, prior to which, MRI safety screening will be confirmed. Subjects will be given Behavioral Questionnaires (already approved questionnaires such as TFEQ, QEWP, PSQI, and the updated and new questionnaires which will be uploaded to Zipline. Subjects will be given Actigraph along with instructions and logs. Demonstrate dietary recall software. Visit will last 3-4 hours.

Due to COVID-19, we have a plan for continuing some research procedures remotely while in-person procedures are temporarily halted. We may or will send questionnaires via email, a link to RedCap, or mail (we would provide self-addressed postage-paid envelopes for returning), and/or conduct over the phone for the following visit types: Interim visit, 6-month, 12-month and 18-month visits. We may or will continue to ask participants to wear Actigraphs and do dietary recalls (ASA24). We may also review medical history for any changes over the phone (only what we are already approved to collect as part of screening and follow-up visits). We will continue to pay participants the same way and same amount for each visit type for which remote procedures are completed as already described and approved in this IRB Protocol and on the consent form. We will communicate this information to research participants by phone or email.

7-Day Lead-in period: Subject will wear Actigraph for 7 days and record information in logs provided at screening. Subject will receive 3 unannounced 24-hour dietary recalls via email [redacted]) to report energy intake on a weekend and two weekdays. Time to complete the recalls is about 20-40 minutes each. For safety and convenience due to COVID, we may give the Actigraph to the subject at the Baseline and 6-month visits to wear following the visit and then return to us with provided postage paid envelope. They may also complete the ASA24 following the visits. For SWL (Surgical Weight Loss group), completing ASA24 before Baseline visit will be optional based on their surgery prep diet. The Actigraph may also be optional for SWL group at Baseline based on their surgery date (for example, Baseline visit is a day or two before surgery). Disinfection and cleaning of the equipment will meet the enhanced UW Environmental Health & Safety requirements described here [redacted]

Baseline Visit: At UW SLU, lasts about 7-8 hours. Includes Indirect calorimetry, DXA, fasting blood draw, measurements such as weight, waist and hip, neck, blood pressure, heart rate and temperature, behavioral questionnaires, an MRI followed by a snack (milk, crackers, nut butter) equivalent to about 20% of the individual's daily needs. A second MRI followed by buffet provided by Fred Hutch Human Nutrition Lab will occur. SWL and BWL subjects will be given the smart scale at this visit. SWL will have only the first MRI, no snack or buffet so the Baseline visit should take about 3-4 hours.



Interim Visit: HWC participants will not have this visit. The Smart scale will automatically transmit weights to research staff. Once the subject is close to 7% weight loss, the Interim Visit will be scheduled. Takes place at UW SLU, lasts about 3-4 hours. Includes measurements such as weight. Fasting blood draw, MRI and DXA scan. The time to 7–8% weight loss is anticipated to vary between the SWL and BWL arm. We anticipate this level of weight loss will be achieved by 75% in the BWL arm by 16–20 wk. and by most SWL participants within the first 2–6 weeks. Subjects who don't achieve 7-8% weight loss may still have this visit prior to the 6-month visit (approximately 5-month time point), or they may not be scheduled for this visit. Visits for normal weight controls will occur 3 mo. after their baseline visit.

At approximately the 3 month time-point, (about 3 months after baseline visit), subjects will receive 3 unannounced 24-hour dietary recalls (ASA-24) via email. Each dietary recall takes about 20-40 minutes to complete.

6- Month Visit: Same as Baseline Visit.

12- Month Visit and 18-Month Visits: Like Interim Visit in length and procedures. We will take waist and hip measurement and vitals at 18-month visit.

Procedure	IP Screening	Baseline	% Wt Change	6 month	12 month	18 month
Physical Exam (**BWL** only)	x					
Medical History	x	x	x	x	x	x
Anthropometrics						
Height	x	—	—	—	—	—
Weight	x	x	x	x	x	x
Waist	—	x	—	x	—	x
Hip	—	x	—	x	—	x
Neck	—	x	—	—	—	—
Vitals (BP, HR)	x	x	—	x	—	x
Blood Draw						
Non-Fasting	x	—	—	—	—	—
Fasting[4]	—	x	x	x	x	x
Fasting[5]	—	x	—	x	—	—
DNA	—	x	—	—	—	—
iDXA		x	x	x	x	x
MRI (gliosis)		x	x	x	x	x
Activity Monitor*		x		x		
Diet Recall* (ASA24)[3x]		x	**	x		
Indirect Calorimetry		x		x		
Questionnaires						
MRI Safety Qx	x	x	x	x	x	x
Participant Qx/Wt/Ht	x	—	—	—	—	—
PAQ	x	—	—	—	—	—
QEWP	—	x	—	—	—	—
EHI	—	x	—	—	—	—
STOP-BANG	—	x	—	—	—	—
STAI-Trait	—	x	—	—	—	—
STAI-State[2x]	—	x	—	x	—	—
PHQ-9	—	x	—	x	—	—
P5QI	—	x	—	x	—	—
TFEQ	—	x	—	x	—	—
Appetite Ratings (VAS)[8x]		x		x		
Appeal Ratings[2x]		x		x		
MRI Pre-meal		x		x		
Standardized Meal		x		x		
MRI Post-meal		x		x		
Ad Libitum Buffet Meal		x		x		

* MRI pre-meal, standardized meal, MRI post-meal and ad libitum buffet meal are for the HWC and BWL groups only.

Below is a description of study procedures in more detail.

Physical examination. Height, weight, and vital signs will be obtained. A physical examination will be performed by study physicians. We will add temperature to the vitals at In-Person Screening, Baseline, 6M, 18M.

Body composition. Women of child-bearing potential will undergo a pregnancy test prior to receiving the DXA scan. Subject will change into scrubs. Certified DXA technicians will perform whole body scans for computing total body fat and lean mass (Lunar iDXA, GE Healthcare). CoreScan software will calculate visceral fat content, and its algorithm provides comparable results to abdominal CT scans. DXA takes about 30 minutes.

Questionnaires. Participants will self-report lifetime maximum weight and a detailed weight history (Participant Questionnaire). Descriptive measures will include the Three-Factor Eating Questionnaire (R-18), Questionnaire on Eating and Weight Patterns-Revised (binge eating disorder screening), Edinburgh Handedness Inventory, and Pittsburgh Sleep Quality Index, IPAQ, STOP-BANG, STAI-Trait, STAI-State, PHQ-9, Pregnancy history and Actigraph logs. Time to complete questionnaires should be about 15-20 minutes. At Baseline and 6-month visits subjects will be given VAS appetite ratings about every 30 minutes. Subjects will also be given taste and appeal ratings at Baseline and 6-month visits before and/or after meals and MRIs. An Exit Survey will be given to subjects at the end of the Behavioral Weight Loss Intervention. The survey will be uploaded to Zipline. We will administer questionnaires on paper, ipad, emailed questionnaire, or REDCap as needed to maintain safe distance and to comply with COVID related requirements.

Physical Activity. Participants will wear accelerometers for 7 days (ActiGraph). Valid data will require at least 5 days of >10 h of wear time. Average duration of sedentary time and light, moderate, and vigorous physical activity will be calculated using standardized software.

Energy Expenditure. A handheld Indirect Calorimetry device (MedGem) will be used to measure energy expenditure. Prior to the procedure, fasting subjects will rest in a private room in the supine position for 30 min. Subjects will hold a disposable/replaceable mouthpiece for assessment of the amounts of O_2 and CO_2 in their exhaled breath to calculate resting energy expenditure (REE) and respiratory quotient. Data collection starts once a steady-state has been reached and continues for at least 20 min.

Dietary Intake. Dietary recalls will be conducted using the Automated Self-Administered 24-hour Recall (ASA24) 2016 system (National Cancer Institute, Bethesda, MD). Participants will complete 3 semi-randomly assigned dietary recalls (2 weekdays and 1 weekend day) per assessment. Here is a link to information about the ASA24 followed by a brief description: [redacted]

The National Cancer Institute (NCI) created the Automated Self-Administered 24-hour (ASA24®) dietary assessment tool, a web-based tool that enables multiple, automatically coded, self-administered 24-hour recalls.

Subjects will receive a tutorial from research staff about how to enter foods/drinks consumed. Subjects will be given an ID and password generated by ASA24. ASA24 records when and where meals were eaten and quantities consumed. Dr. [redacted] has used this dietary recall tool for two other studies (Kid's Gliosis (reviewed by WIRB) and Brain Inflammation and Glucose Regulation).

Dietary Intervention: The interventionist will administer a modified version of the Diabetes Prevention Program [redacted] with energy restriction following clinical guidelines for obesity management. Energy deficits to meet a goal of 10% weight loss over 6 mo. will be calculated. Target ranges for macronutrients are 20–25% of total energy intake for protein, 25–35% for fat, and 40–55% for carbohydrates. The intervention will start with about 2 one-on-one sessions of each participant with the registered dietitian/interventionist to explain the guidelines in detail and set personal goals for energy intake and physical activity. In weeks 2-12, participants will meet weekly in groups of ~12–15 participants with the registered dietitian/interventionist to cover material from the 12 modified DPP sessions. Groups will then meet approximately every other week to cover the remaining sessions of content (about 6 sessions). As in the DPP, participants will increase to 2.5–3 hours per wk. of moderate intensity physical activity. People participate in the intervention in person, however, arrangements can be made for a few sessions to be attended remotely (via phone or Zoom Meeting) if a participant will be out of town, or cannot attend for other reasons. All meetings for the behavioral intervention may or will occur via Zoom Meeting and/or telephone until further notice (due to Fred Hutchinson policies to reduce spread of COVID-19). This information will be shared by study staff and/or interventionists prior to scheduling meetings. The curriculum booklet may be given to the participant at the Baseline visit so they can refer to the material during Zoom meetings with the interventionist.

New intervention staff training will likely occur over the course of the study. We anticipate training of 1-3 interventionists (appropriately credentialed Fred Hutch staff). Trainees will attend a few sessions to observe the interventionist, and for training purposes only, we plan to record (audio and/or video, or via Zoom Meeting) a few sessions. Prior to recording sessions, participants will be asked "on tape" if they consent to being recorded for teaching purposes.

MRI and fMRI: Scans will be conducted at BMIC at SLU. MRIs on Baseline and 6-month visit days will take about 90 minutes for BWL and HWC and about 30 minutes for SWL. MRIs on other days will take about 30 minutes. Subject will change into scrubs before entering the scanner. No contrast will be administered to subjects. Initial MRI safety screening will occur over the phone or in person prior to the Baseline Visit. We may ask a subject if they are willing to have an x-ray at their expense to confirm they are safe to scan should the MRI lab request it based on results of initial MRI screening. MRI screening will be repeated by study staff and MRI Technician. The DISC/BMIC lab will retain the screening form for 2 years with name and date of birth. Then the form will be destroyed.

Once safety checked and changed into scrubs, the subject will lie on a flat moveable bench inside the magnet. They will be fitted with ear plugs and headphones. This provides hearing protection and ability to hear instructions and check-in with staff if needed during scanning. The head will rest in a helmet-like coil and made steady for clear images with soft padding. Respiration will be measured with a soft belt placed around the subject's middle. The head piece has a mirror attached that reflects a screen placed at the end of the scanning bed. The subject will look at images or video (video is not a procedure; it is used if the subject would like to have something to focus on or distract them while they are in the scanner). The subject will be asked to lie still with their eyes open or to look at images during the whole time in the scanner. The subject will leave the scanner and do some questionnaires, measures and consume the study snack and then return to the scanner for the second scan, which will be like the first scans. To limit the time participants are in small space in the MRI lab, we may omit questionnaires or change how we administer questionnaires following MRI. We may print on paper, load on ipad or REDCap.

Blood draw: Screening and fasting blood draws will occur at SLU Lab. This procedure takes a few minutes, but there is occasionally a short wait to see the phlebotomist, so the procedure including wait time could be about 30-45 minutes. Over the course of the study, about 157 mL of blood will be collected, plus an additional 30 mL may be collected at any visit up to 5 visits. The blood volume includes a tube of whole blood to be kept frozen for potential future use. This sample could be used to examine obesity related genetic markers that are known or emerge.

- Screening: about 7 mL
- Baseline: about 40 mL
- Interim Visit: about 25 mL
- 6 Month: about 35 mL
- 12 Month: about 25 mL
- 18 Month: about 25 mL
- An additional 30 mL may be collected at any of the visits (potentially an extra 30 mL x 5 visits)

Study food (BWL and HWC groups only): A snack of peanut butter and crackers and milk (lactose-free milk and gluten free crackers will be available for subjects who don't eat gluten or lactose) will be given to subjects at Baseline and 6-month visit. Subjects will be asked to consume the entire serving given to them in 15 minutes. An ad lib buffet will also be served after the second MRI at those visits. The buffet will be prepared by Fred Hutch Human Nutrition Lab and consist of a variety of foods. Subjects will be given 30 minutes to eat in a private food-safe room.

5.2 Data variables. Describe the specific data you will obtain (including a description of the most sensitive items). If you would prefer, you may upload a list of the data variables to the **Supporting Documents** SmartForm instead of describing the variables below.

We will collect data from research subjects via questionnaires and dietary recalls, DXA (tissue densities), MRI, blood draw, body measurements and physical exam and medical record (surgical cohort). We will collect weights through wireless digital scales which will transmit weights to research staff. Subjects will wear Actigraphs and once returned, the data will be removed and saved on a secure server.

5.3 Data sources. For all types of data that you will access or collect for this research: Identify whether you are obtaining the data from the subjects (or subjects' specimens) or whether you are obtaining the data from some other source (and identify the source).

If you have already provided this information in Question 5.1, you do not need to repeat the information here.

We will obtain data from the subjects, their medical record, and their specimens.

5.4 Retrospective/prospective. For all types of data and specimens that you will access or collect for this research: Describe which data are:

- Retrospective (i.e., exist at the time when you submit this application)
- Prospective (i.e., do not yet exist at the time when you submit this application)
- Both retrospective and prospective (for example, past and future school records)

Data and specimens collected for this research are prospective. For surgical cohort, retrospective data from medical record will also be used.

5.5 Identifiability of data and specimens. Answer these questions carefully and completely. This will allow HSD to accurately determine the type of review that is required and to assist you in identifying relevant compliance requirements. Review the following definitions before answering the questions:

__Access__ means to view or perceive data, but not to possess or record it. See, in contrast, the definition of "obtain".
__Identifiable__ means that the identify of an individual is or may be readily (1) ascertained by the researcher or any other member of the study team from specific data variables or from a combination of data variables, or (2) associated with the information.
__Direct identifiers__ are direct links between a subject and data/specimens. Examples include (but are not limited to): name, date of birth, medical record number, email or IP address, pathology or surgery accession number, student number, or a collection of your data that is (when taken together) identifiable.
__Indirect identifiers__ are information that links between direct identifiers and data/specimens. Examples: a subject code or pseudonym.
__Key__ refers to a single place where direct identifiers and indirect identifiers are linked together so that, for example, coded data can be identified as relating to a specific person. Example: a master list that contains the data code and the identifiers linked to the codes.
__Obtain__ means to possess or record in any fashion (writing, electronic document, video, email, voice recording, etc.) for research purposes and to retain for any length of time. This is different from __accessing__, which means to view or perceive data.

a. Will you or any members of your team have <u>access</u> to any direct or indirect identifiers?

[x] **Yes** → If yes, describe which identifiers and for which data/specimens.

For screening and recruiting.

We will look at the clinic schedule and chart to identify patients to approach during certain health care provider's shifts. We will not record data, just look at the clinic schedule and

chart in EPIC to identify when appropriate pre-surgical and non-surgical patients will be in the clinic. Examples of data to be examined include age, gender, BMI, and type of surgery planned.

☐ No → If no, select the reason(s) why you (and all members of your team) will not have access to direct or indirect identifiers.

- ☐ There will be no identifiers.
- ☐ Identifiers or the key have been (or will have been) destroyed before you have access.
- ☐ You have (or will have) entered into an agreement with the holder of the identifiers (or key) that prohibits the release of the identifiers (or key) to you under any circumstances.

  You should be able to produce this agreement for IRB upon request. Examples: a Data Use Agreement, Repository Gatekeeping form, or documented email.
- ☐ There are written policies and procedures for the repository/database/data management center that prohibit the release of the identifiers (or identifying link). This includes situations involving an Honest Broker.
- ☐ There are other legal requirements prohibiting the release of the identifiers or key to you. Describe them below.

b. Will you <u>obtain</u> any direct or indirect identifiers?

☒ Yes → If yes, describe which identifiers and for which data/specimens.

We are required to collect SS# by UW policy. Name, medical record number, email address, address, phone numbers will be obtained.

☐ No → If no, select the reason(s) why you (and all members of your team) will not obtain direct or indirect identifiers.

- ☐ There will be no identifiers.
- ☐ Identifiers or the key have been (or will have been) destroyed before you have access.
- ☐ You have (or will have) entered into an agreement with the holder of the identifiers (or key) that prohibits the release of the identifiers (or key) to you under any circumstances.

  You should be able to produce this agreement for IRB upon request. Examples: a Data Use Agreement, Repository Gatekeeping form, or documented email.
- ☐ There are written policies and procedures for the repository/database/data management center that prohibit the release of the identifiers (or identifying link). This includes situations involving an Honest Broker.
- ☐ There are other legal requirements prohibiting the release of the identifiers or key to you. Describe them below.

c. If you obtain any identifiers, indicate how the identifiers will be stored (and for which data).

[ ] You will store the identifiers with the data. Describe the data to which this applies:

[X] You will store identifiers and study data separately but you will maintain a link between the identifiers and the study data (for example, through the use of a code). Describe the data to which this applies:

We will store a link of study ID to name and contact information in a password-protected file on a secure UW server. Any stored samples will be labeled with study date and study ID.

[X] You will store identifiers separately from the study data, with no link between the identifiers and the study data. Describe the data to which this applies:

Social security # data is stored unlinked to study ID and data by name only.

d. **Research collaboration.** Will individuals who provide you with coded information or specimens for your research also collaborate on other activities for this research? If yes, identify the activities and provide the name of the collaborator's institution/organization.

Examples include but are not limited to: (1) study, interpretation, or analysis of the data that results from the coded information or specimens; and (2) authorship on presentations or manuscripts related to this work.

N/A

5.6 Newborn dried blood spots. Will you use newborn dried bloodspots collected in the United States on or after March 18, 2015?

[x] No
[ ] Yes → If yes, is this research supported by any federal funding (including any fellowship or career development award that provides salary support)?

  [ ] No
  [ ] Yes → If yes, describe how you will ensure that the bloodspots were collected with parental permission (in compliance with a 2015 law that applies to federal-funded research).

5.7 Protected Health Information (PHI). Will you access, obtain, use, or disclose a participant's identifiable PHI for any reason (for example, to identify or screen potential subjects, to obtain study data or specimens, for study follow-up) that does not involve the creation or obtaining of a Limited Data Set?

PHI is individually-identifiable healthcare record information or clinical specimens from an organization considered a "covered entity" by federal HIPAA regulations, in any form or media, whether electronic, paper, or oral.

[ ] No → If no, skip the rest of this question; go to question 5.8
[x] Yes → If yes, answer all of the questions below.

a. Describe the PHI you will access or obtain, and the reason for obtaining it. *Be specific.*

We will access the clinic schedule and medical record via EPIC to identify potential subjects to approach about the study. We will not record any information. Research staff will look for appropriate pre-surgical or non-surgical weight loss patients coming to the clinic. Once subjects have consented to be in the study research staff will collect their contact information, social security number (for payment) and medical history. For subjects who contact research staff via phone or email in response to an ad, we will receive name and contact information prior to consent and HIPAA authorization.

Subjects' medical records will be used to identify and pre-screen potential subjects. Patient name, date of birth, medical diagnoses/problems, current medications, recent (within 6 months) laboratory data, and surgical procedure will be used to pre-screen potential subjects. Medical records will be accessed under Waiver of HIPAA authorization to determine potential subjects' eligibility for study participation. Subsequent to obtaining HIPAA authorization, operative reports for enrolled subjects will be used to assess for any study-related adverse events.

b. Is any of the PHI located in Washington State?

[ ] No
[x] Yes

c. Describe how you will access or obtain the PHI. *Be specific.*

We will look at the clinic schedule and medical record via EPIC. For patient pre-screening, we will review surgery clinic schedules to identify potentially eligible subjects based on date of birth, medical diagnoses/problems, current medications, laboratory data, and planned surgical procedure.

d. For which PHI will you obtain HIPAA authorization from the subjects by having them sign a HIPAA Authorization form, before obtaining and using the PHI?

All study data will be collected after HIPAA authorization is signed. Screening and eligibility as well as contact information that includes PHI does occur before signing the consent form and HIPAA form.

Confirm by checking the box that you will use the UW Medicine HIPAA Authorization form maintained on the HSD website if you will access, obtain, use, or disclose UW Medicine PHI.

[x] Confirmed

e. For which PHI will you NOT obtain HIPAA authorization from the subjects?

We will look at clinic schedules and medical record via EPIC to identify when pre-surgical and non-surgical potential subjects will be in clinic to approach about the study. We may collect contact information from potential subjects prior to signing consent and HIPAA authorization in order to schedule them for screening. HIPAA authorization will not be obtained for PHI collected during patient pre-screening. Information including patient name, age, medical history and surgical plan will be obtained to identify patients who are potentially eligible to participate in the study.

Provide the following assurances by checking the boxes.

[x] The PHI will not be reused or disclosed to any other person or entity, except as required by law, for authorized oversight of the research study, or for other research for which the use or disclosure of PHI would be permitted.

x	You will fulfill the HIPAA "accounting for disclosures" requirement. See UW Medicine Privacy Policy #25. THIS IS ONLY FOR UW RECORDS.
X	There will be reasonable safeguards to protect against identifying, directly or indirectly, any patient in any report of the research.

5.8 Genomic data sharing. Will you obtain or generate genomic data (as defined at *https://gds.nih.gov/13faqs_gds.html*)?

[x] No
[ ] Yes → If yes, answer the question below.

a. Is this research funded by NIH through a grant or contract application submitted to NIH on or after January 25, 2015?

[ ] No
[ ] Yes → If yes, you must comply with the NIH Genomic Data Sharing policy. Complete the ***ZIPLINE* SUPPLEMENT Genomic Data Sharing** and upload it to the **Supporting Documents** SmartForm of ***Zipline***.

5.9 Data and specimen sharing/banking. Do you plan to share some or all of the data, specimens, or subject contact information with other researchers or a repository/database, or to bank them for your own future unspecified research uses? **You are strongly encouraged to consider the broadest possible future plans you might have, and whether you will obtain consent now from the subjects for future sharing or unspecified uses.** Answer **NO** if your only sharing will be through the NIH Genomic Data Sharing described in question 5.8.

Many federal grants and contracts now require data or specimen sharing as a condition of funding, and many journals require data sharing as a condition of publication. "Sharing" may include: informal arrangements to share your banked data/specimens with other investigators; establishing a repository from which you formally share with others through written agreements; or sending your data/specimens to a third party repository/archive/entity such as the NIH dbGaP database, the Social Science Open Access Repository (SSOAR), or the UCLA Ethnomusicology Archive.

[ ] No
[x] Yes → If yes, answer all of the questions below.

a. Describe what will be stored, including whether any direct or indirect (e.g., subject codes) identifiers will be stored.

Data and blood with indirect identifiers will be stored.

b. Describe what will be shared, including whether direct identifiers will be shared and (for specimens) what data will be released with the specimens.

No plans to share data.

c. Who will oversee and/or manage the sharing?

N/A

d. Describe the possible future uses, including limitations or restrictions (if any) on future uses or users. As stated above, consider the broadest possible uses.

Examples: data will be used only for cardiovascular research; data will not be used for research on population origins.

May use data for additional analyses as new questions arise. A whole blood sample will be frozen and kept for potential future use. The whole blood sample could be used to examine obesity related genetic markers that are known or emerge.

e. Consent. Will you obtain consent now from subjects for the banking and/or future sharing?

[ ] No
[x] Yes → If yes, be sure to include the information about this consent process in the consent form (if there is one) and in your answers to the consent questions in Section 6.

f. Withdrawal. Will subjects be able to withdraw their data/specimens from banking or sharing?

[x] No
[ ] Yes → If yes, describe how, and whether there are any limitations on withdrawal.

Example: data can be withdrawn from the repository but cannot be retrieved after they are released.

g. Agreements for sharing or release. Confirm by checking the box that you will comply with UW (and, if applicable, UW Medicine) policies that require a formal agreement between you and the recipient for release of data or specimens to individuals or entities other than federal databases.

Data Use Agreements or Gatekeeping forms are used for data; Material Transfer Agreements are used for specimens (or specimens plus data. Do not attach your template agreement forms; the IRB neither reviews nor approves them

[x] Confirmed

5.10 Communication with subjects during the study. Describe the types of communication (if any) you will have with already-enrolled subjects during the study. Provide a description instead of the actual materials themselves.

Examples: email, texts, phone, or letter reminders about appointments or about returning study materials such as a questionnaire; requests to confirm contact information.

Emails, phone, letter reminders and possibly texts could be sent about appointments, directions to UW, clarification of instructions, returning study materials and to keep updated contact information. We may send holiday cards or newsletters from time to time for retention and to keep subjects engaged.

5.11 Future contact with subjects. Do you plan to retain any contact information you obtain for your subjects so that they can be contacted in the future?

[ ] No
[x] Yes → If yes, describe the purpose of the future contact, and whether use of the contact information will be limited to your team; if not, describe who else could be provided with the contact information. Describe your criteria for approving requests for the information.

Examples: inform subjects about other studies; ask subjects for additional information or medical record access that is not currently part of the study proposed in this application; obtain another sample.

We may want to ask for additional information. Only the research study team will have access to or use the contact information.

5.12 Alternatives to participation. Are there any alternative procedures or treatments <u>that might be advantageous</u> to the subjects?

If there are no alternative procedures or treatments, select "No". Examples of advantageous alternatives: earning extra class credit in some time-equivalent way other than research participation; obtaining supportive care or a standard clinical treatment from a health care provider instead of participating in research with an experimental drug.

[x] No
[ ] Yes → If yes, describe the alternatives.

5.13 Upload to the Supporting Documents SmartForm of ***Zipline*** all data collection forms (if any) that will be directly used by or with the subjects, and any scripts/talking points you will use to collect the data. Do not include data collection forms that will be used to abstract data from other sources (such as medical or academic records, or video recordings.

- ***Examples****: survey, questionnaires, subject logs or diaries, focus group questions.*
- ***NOTE:*** *Sometimes the IRB can approve the general content of surveys and other data collection instruments rather than the specific form itself. This prevents the need to submit a modification request for future minor changes that do not add new topics or increase the sensitivity of the questions. To request this general approval, use the text box below to identify the questionnaires/surveys/ etc. for which you are seeking this more general approval. Then briefly describe the scope of the topics you will cover and the most personal and sensitive questions. The HSD staff person who screens this application will let you know whether this is sufficient or whether you will need to provide more information.*
- ***For materials that cannot be uploaded****: upload screenshots or written descriptions that are sufficient to enable the IRB to understand the types of data that will be collected and the nature of the experience for the participant. You may also provide URLs (website addresses) or written descriptions below. Examples of materials that usually cannot be uploaded: mobile apps; computer-administered test; licensed and restricted standardized tests.*
- ***For data that will be gathered in an evolving way****: This refers to data collection/questions that are not pre-determined but rather are shaped during interactions with participants in response to observations and responses made during those interactions. If this applies to your research, provide a description of the process by which you will establish the data collection/questions as you interact with subjects, how you will document your data collection/questions, the topics you plan to address, the most sensitive type of information you will plan to gather, and the limitations (if any) on topics you will raise or pursue.*

Use this text box (if desired) to provide:

- Short written descriptions of materials that cannot be uploaded, such as URLs
- A description of the process you will use for data that will be gathered in an evolving way.
- The general content of questionnaires, surveys and similar instruments for which you are seeking general approval. (See the **NOTE** bullet point in the instructions above.)

https://asa24.nci.nih.gov/ for dietary recalls, behavioral questionnaires such as Three-Factor Eating Questionnaire, Questionnaire on Eating and Weight Patterns-Revised, Edinburgh Handedness Inventory and Pittsburgh Sleep Quality Index. Sleep and activity tracking while wearing ActiGraphs. Subjects (not Healthy Weight Controls) will be given and use a smart scale called Body Trace. The scale will automatically transmit weights to research staff. The scale will not transmit any data to the study team after the subject's participation ends. Subjects will be informed of any potential continuing monitoring by the vendor per standard user agreements. The purpose is to track subjects' weight loss for scheduling the I Visit.

We are requesting approval to make minor changes for all questionnaires that we administer through REDCap. The sort of changes we might make include minor adjustments to the instructions so that they make sense to the participant. For example, a survey may as the participant to mark an 'X' for their answer while we would ask them to choose one of the answers below as a drop-down choice or radio button, etc in REDCap. We won't make changes to the actual questions included in the survey. No personal or sensitive questions will be changed without submitting a modification to change the content of the survey.

5.14 Send HSD a Confidentiality Agreement if you will obtain or use any private identifiable UW records without subject's written consent (for example, screening medical records or class grades to identify possible subjects).

The Confidentiality Agreement form must be completed, printed, signed, and mailed to the Human Subjects Division at Box 359470. Your IRB application cannot be approved until we receive the Confidentiality Agreement.

6 CHILDREN (MINORS) and PARENTAL PERMISSION

6.1 Involvement of minors. Does your research include minors (children)?

Minor or child means someone who has not yet attained the legal age for consent for the research procedures, as described in the applicable laws of the jurisdiction in which the research will be conducted. This may or may not be the same as the definition used by funding agencies such as the National Institutes of Health.

- In Washington State the generic age of consent is 18, meaning that anyone under the age of 18 is considered a child.
- There are some procedures for which the age of consent is much lower in Washington State. See the **WORKSHEET: Children** for details.
- The generic age of consent may be different in other states, and in other countries.

[x] **No** → If no, go to Section 8.

[ ] **Yes** → If yes, provide the age range of the minor subjects for this study and the legal age for consent in your population(s). If there is more than one answer, explain.

[ ] **Don't know** →This means is it not possible to know the age of your subjects. For example, this may be true for some research involving social media, the Internet, or a dataset that you obtain from another researcher or from a government agency. Go to Section 8.

6.2 Parental permission. Parental permission means actively obtaining the permission of the parents. This is <u>not</u> the same as "passive" or "opt out" permission where it is assumed that parents are allowing their children to participate because they have been provided with information about the research and have not objected or returned a form indicating they don't want their children to participate.

a. Will you obtain parental permission for:

☐ All of your research procedures → Go to question 6.2b.

☐ None of your research procedures → Use the table below to provide your justification, and skip question 6.2b.

☐ Some of your research procedures → Use the table below to identify the procedures for which you will not obtain written parental permission.

Be sure to consider all research procedures and plans, including screening, future contact, and sharing/banking of data and specimens for future work.

Children Group[1]	Describe the procedures or data/specimen collection (if any) for which there will be NO parental permission	Reason why you will not obtain parental permission	Will you inform them about the research?[2] YES	NO
			☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐

<u>Table footnotes</u>

1. *If your answer is the same for all children groups or all procedures, you can collapse your answer across the groups and/or procedures.*
2. *Will you inform them about the research beforehand even though you are not obtaining active permission?*

b. Indicate by checking the appropriate box(es) your plan for obtaining parental permission

☐ Both parents, unless one parent is deceased, unknown, incompetent, or not reasonably available; or when only one parent has legal responsibility for the care and custody of the child

☐ One parent, even if the other parent is alive, known, competent, reasonably available, and shares legal responsibility for the care and custody of the child.

This is all that is required for minimal risk research.

If you checked both boxes, explain:

6.3 Children who are wards. Will any of the children be wards of the State or any other agency, institution, or entity?

☐ No
☐ Yes → If yes, an advocate may need to be appointed for each child who is a ward. The advocate must be in addition to any other individual acting on behalf of the child as guardian or in loco parentis. The same individual can serve as advocate for all children who are wards.

Describe who will be the advocate(s). Your answer must address the following points:

- Background and experience
- Willingness to act in the best interests of the child for the duration of the research
- Independence of the research, research team, and any guardian organization

7 ASSENT OF CHILDREN (MINORS)

Go to Section 8 if your research does not involve children (minors).

7.1 Assent of children (minors). Though children do not have the legal capacity to "consent" to participate in research, they should be involved in the process if they are able to "assent" by having a study explained to them and/or by reading a simple form about the study, and then giving their verbal choice about whether they want to participate. They may also provide a written assent if they are older. See **WORKSHEET: Children** for circumstances in which a child's assent may be unnecessary or inappropriate.

a. Will you obtain assent for:

☐ All of your research procedures and child groups → Go to question 7.2.

☐ None of your research procedures and child groups → Use the table below to provide your justification, then skip to question 7.5.

☐ Some of your research procedures and child groups → Use the table below to identify the procedures for which you will not obtain assent.

Be sure to consider all research procedures and plans, including screening, future contact, and sharing/banking of data and specimens for future work.

Children Group[1]	Describe the procedures or data/specimen collection (if any) for which assent will NOT be obtained	Reason why you will not obtain assent

Table footnotes

1. *If your answer is the same for all children groups or all procedures, you can collapse your answer across the groups and/or procedures.*

7.2 Assent process. Describe how you will obtain assent, for each child group. If your research involves children of different ages, answer separately for each group. If the children are non-English speakers, include a description of how you will ensure that they comprehend the information you provide.

7.3 Dissent or resistance. Describe how you will identify a child's objection or resistance to participation (including non-verbal indications) during the research, and what you will do in response.

7.4 Documentation of assent. Which of the following statements describes whether you will obtain documentation of assent?

☐ None of your research procedures and child groups	→ Use the table below to provide your justification, then go to question 7.4.a.
☐ All of your research procedures and child groups	→ Go to question 7.4.a, do not complete the table
☐ Some of your research procedures and/or child groups	→ Complete the table below and then to go question 7.4.a

Children Group[1]	Describe the procedures or data/specimen collection (if any) for which assent will NOT be documented	Reason why you will not document assent

Table footnotes

1. *If your answer is the same for all children groups or all procedures, you can collapse your answer across the groups and/or procedures.*

a. Describe how you will document assent. If the children are functionally illiterate or are not fluent in English, include a description of what you will do.

b. Upload all assent materials (talking points, videos, forms, etc.) to the **Consent Form and Recruitment Materials** SmartForm of ***Zipline***. Assent materials are not required to provide all of the standard elements of adult consent; the information should be appropriate to the age, population, and research procedures. The documents should be in Word, if possible.

7.5 Children who reach the legal age of consent during participation in longitudinal research.

Children who were enrolled at a young age and continue for many years: It is best practice to re-obtain assent (or to obtain it for the first time, if you did not at the beginning of their participation).
Children who reach the legal age of consent: You must obtain informed consent from the now-adult subject for (1) any ongoing interactions or interventions with the subjects, or (2) the continued analysis of specimens or data for which the subject's identify is readily identifiable to the researcher, unless the IRB waives this requirement.

a. Describe your plans (if any) to re-obtain assent from children.

b. Describe your plans (if any) to obtain consent for children who reach the legal age of consent.

- If you plan to obtain consent, describe what you will do about now-adult subjects whom you are unable to contact.
- If you do not plan to obtain consent or think that you will be unable to do so, explain why.

7.6 Other regulatory requirements. (This is for your information only; no answer or response is required.)
Researchers are responsible for determining whether their research conducted in schools, with student records, or over the Internet comply with permission, consent, and inspection requirements of the following federal regulations:

- PPRA – Protection of Pupil Rights Amendment
- FERPA – Family Education Rights and Privacy Act
- COPPA – Children's Online Privacy Protection Act

8 CONSENT OF ADULTS

Review the following definitions before answering the questions in this section.

CONSENT	is the process of informing potential subjects about the research and asking them whether they want to participate. It usually (but not always) includes an opportunity for subjects to ask questions. It does not necessarily include the signing of a consent form. This question is about the consent process.
CONSENT DOCUMENTATION	refers to how a subject's decision to participate in the research is documented. This is typically obtained by having the subject sign a consent form.
CONSENT FORM	is a document signed by subjects, by which they agree to participate in the research as described in the consent form and in the consent process.
ELEMENTS OF CONSENT	are specific information that is required to be provided to subjects.
PARENTAL PERMISSION	is the parent's active permission for the child to participate in the research. Parental permission is subject to the same requirements as consent, including written documentation of permission and required elements.

SHORT FORM CONSENT	is an alternative way of obtaining written documentation of consent that is most commonly used with individuals who are illiterate or whose language is one for which translated consent forms are not available.
WAIVER OF CONSENT	means there is IRB approval for not obtaining consent or for not including some of the elements of consent in the consent process.
WAIVER OF DOCUMENTATION OF CONSENT	means that there is IRB approval for not obtaining written documentation of consent.

8.1 Groups Identify the groups to which your answers in this section apply.

- [x] Adult subjects
- [ ] Parents who are providing permission for their children to participate in research

→ *If you selected **PARENTS**, the word "consent" below should also be interpreted as applying to parental permission and "subjects" should also be interpreted as applying to the parents.*

8.2 The consent process. This series of questions is about whether you will obtain consent for all procedures except recruiting and screening and, if yes, how.

The issue of consent for recruiting and screening activities is addressed in question 4.6. You do not need to repeat your answer to question 4.6.

a. Are there any procedures for which you will not obtain consent?

- [x] **No**
- [ ] **Yes** → If yes, use the table below to identify the procedures for which you will not obtain consent. "All" is an acceptable answer for some studies.

Be sure to consider all research procedures and plans, including future contact, and sharing/banking of data and specimens for future work.

Group[1]	Describe the procedures or data/specimen collection (if any) for which there will be NO consent process	Reason why you will not obtain consent	Will you provide subjects with info about the research after they finish? YES	NO
			☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐

Table footnotes

1. *If your answer is the same for all groups you can collapse your answer across the groups and/or procedures.*

b. Describe the consent process, if you will obtain consent for any or all procedures, for any or all groups. Address groups and procedures separately if the consent processes are different.

Be sure to include:

- *The location/setting where consent will be obtained*
- *Who will obtain consent (refer to positions, roles, or titles, not names).*
- *Whether/how you will provide an opportunity for questions*
- *How you will provide an adequate opportunity for the subjects to consider all options*

Consent will occur in person or remotely. The research staff (research coordinator or assistant) will consent the subjects. Subjects will have the opportunity to ask questions or for clarification at any time during or after informed consent, either in person during the visits or over the phone or email. We will provide a blank copy of the consent form to participants by mail, email, in REDCap or screenshare in Zoom. We will schedule a call or Zoom to review the consent form and answer questions. The participant could sign and photograph the signature page and text, email or mail the signed consent page, or use Docusign or REDCap. Participants could also sign the consent form at the in-person screening visit prior to doing research procedures.

We will re-consent enrolled participants from whom we want to draw additional blood. We will email or call enrolled participants when they are due to schedule their next visit. We will let them know of the changes to the study visits and consent form including that we would like to draw an additional tube of about 30 mL of blood at one of their remaining visits. We will provide a copy of the consent form to the participant via email or mail or via a link to REDCap so that the participant can review the changes made to the consent form. We will talk through the consent form changes with the participant over the phone or via Zoom. We will answer questions the participant may have about the changes and let them know they can decline to have the additional 30 mL of blood drawn. We will ask the participant to sign the new consent form as described in the previous paragraph (sign a paper copy and take a photo or scan and text or email it back to us, or mail it back in an envelope we provide at the time of the visit before they begin procedures, or Docusign or REDCap or sign the consent form in person before beginning research procedures at the visit).

c. Comprehension. Describe how you will ensure or test the subjects' understanding of the information during the consent process.

If subjects seem like they do not understand what is being asked of them, they will not be consented for the study. We will ask subjects to explain what they are being asked to do if they join the study. If unable to articulate this, we will not consent the subject.

d. Influence. Does your research involve any subject groups that might find it difficult to say "no" to your research because of the setting or their relationship with you, even if you don't pressure them to participate?

Examples: Student participants being recruited into their teacher's research; patients being recruited into their healthcare provider's research, study team members who are participants; outpatients recruited from an outpatient surgery waiting room just prior to their surgery.

☐ **No**

☒ **Yes** → **If yes, describe what you will do, for each of these subject groups, to reduce any effect of the setting or relationship on their decision.**

Examples: a study coordinator will obtain consent instead of the subjects' physician; the researcher will not know which subjects agreed to participate; subjects will have two days to decide after hearing about the study.

Some subjects could be patients of the PI. The PI will not approach patients about the study. Only research coordinators will approach and screen potential subjects about participating.

e. Ongoing process. For research that involves multiple or continued interaction with subjects over time, describe the opportunities (if any) you will give subjects to ask questions or to change their minds about participating.

If subjects cannot or do not want to return for visits, that is their choice.

8.3 Written documentation of consent. Which of the statements below describe whether you will obtain documentation of consent? NOTE: This question does not apply to screening and recruiting procedures which have already been addressed in question 4.6.

Documentation of consent that is obtained electronically is not considered written consent unless it is obtained by a method that allows verification of the individual's signature. In other words, saying "yes" by email is rarely considered to be written documentation of consent

a. Are you obtaining written documentation of consent for:

☐ None of your research procedures	→ Use the table below to provide your justification then go to question 8.4.
☒ All of your research procedures	→ Do not complete the table; go to question 8.3.b.
☐ Some of your research procedures	→ Use the table below to identify the procedures for which you will not obtain written documentation of consent from your adult subjects.

Adult subject group[1]	Describe the procedures or data/specimen collection (if any) for which there will be NO documentation of consent	Will you provide them with a written statement describing the research (optional)? YES	NO
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Table footnotes

1. *If your answer is the same for all adult groups or all procedures, you can collapse your answer across the groups and/or procedures.*

8.4 Non-English-speaking or -reading adult subjects. Will you enroll adult subjects who do not speak English or who lack fluency or literacy in English?

[x] **No**

[ ] **Yes** → If yes, describe the process you will use to ensure that the oral and written information provided to them during the consent process and throughout the study will be in a language readily understandable to them and (for written materials such as consent forms or questionnaires) at an appropriate reading/comprehension level.

a. Interpretation. Describe how you will provide interpretation and when. Also, describe the qualifications of the interpreter(s) – for example, background, experience, language proficiency in English and in the other language, certification, other credentials, familiarity with the research-related vocabulary in English and the target language.

b. Translations. Describe how you will obtain translations of all study materials (not just consent forms) and how you will ensure that the translations meet the UW IRB's requirement that translated documents will be linguistically accurate, at an appropriate reading level for the participant population, and culturally sensitive for the locale in which they will be used.

8.5 Barriers to written documentation of consent. There are many possible barriers to obtaining written documentation of consent. Consider, for example, individuals who are functionally illiterate; do not read English well; or have sensory or motor impairments that may impede the ability to read and sign a consent form.

a. Describe your plans (if any) for obtaining written documentation of consent from potential subjects who may have difficulty with the standard documentation process (that is, reading and signing a consent form). Skip this question if you are not obtaining written documentation of consent for any part of your research.

Examples of solutions: Translated consent forms; use of the Short Form consent process; reading the form to the person; excluding individuals who cannot read and understand the consent form.

We will exclude individuals who cannot read or understand the consent form.

8.6 Deception. Will you deliberately withhold information or provide false information to any of the subjects? *Note: "Blinding" subjects to their study group/condition/arm is not considered to be deception.*

[ ] **No**

[x] **Yes** → If yes, describe what information and why.

Example: you may wish to deceive subjects about the purpose of the study.

We provide a buffet meal and surreptitiously monitor the amount of food consumed. We hope to catch a natural, uninhibited food intake from the buffet, so we will not inform subjects that we are monitoring their food intake (e.g. calories, macronutrients and food selections).

a. Will you debrief the subjects later? (Note: this is not required.)

[ ] **No**

[x] **Yes** → If yes, describe how you will debrief the subjects. Upload any debriefing materials, including talking points or a script, to the **Consent Form and Recruitment Materials** SmartForm of ***Zipline***.

At the 6-month visit research subjects will be debriefed at the end of the visit. Research staff will use a script to inform subjects that the calories in the food eaten during the buffet were monitored. Subjects will be given the opportunity to ask questions and revoke consent for keeping the food intake data.

8.7 Cognitively impaired adults, and other adults unable to consent.

a. Cognitively impaired adults and other adults unable to consent. Do you plan to include such individuals in your research?

Examples: individuals with Traumatic Brain Injury (TBI) or dementia; individuals who are unconscious, or who are significantly intoxicated.

[x] **No** → If no, go to question 8.8.

[ ] **Yes** → If yes, answer the following questions.

a.1. Rationale. Provide your rationale for including this population in your research.

a.2. Capacity for consent / decision making capacity. Describe the process you will use to determine whether a cognitively impaired individual is capable of consent decision making with respect to your research protocol and setting. If you will have repeated interactions with the impaired subjects over a time period when cognitive capacity could increase or diminish, also describe how (if at all) you will re-assess decision-making capacity and consent during that time.

a.3. Permission (surrogate consent). If you will include adults who cannot consent for themselves, describe your process for obtaining permission ("surrogate consent") from a legally authorized representative (LAR).

*For research conducted in Washington State, see the **SOP: Legally Authorized Representative** to learn which individuals meet the state definition of "legally authorized representative".*

a.4. Assent. Describe whether assent will be required of all, some, or none of the subjects. If some, indicate which subjects will be required to assent and which will not (and why not). Describe any process you will use to obtain and document assent from the subjects.

a.5. Dissent or resistance. Describe how you will identify the subject's objection or resistance to participation (including non-verbal) during the research, and what you will do in response.

8.8 Consent-related materials. Upload to the **Consent Forms and Recruitment Materials** SmartForm of ***Zipline*** all consent scripts/talking points, consent forms, debriefing statements, Information Statements, Short Form consent forms, parental permission forms, and any other consent-related materials you will use.

- *Translations must be included. However, you are strongly encouraged to wait to provide them until you know that the IRB will approve the English versions.*
- *Combination forms: It may be appropriate to combine parental permission with consent, if parents are subjects as well as providing permission for the participation of their children. Similarly, a consent form may be appropriately considered an assent form for older children.*
- *For materials that cannot be uploaded: upload screenshots or written descriptions that are sufficient to enable the IRB to understand the types of data that will be collected and the nature of the experience for the participant. You may also provide URLs (website addresses) or written descriptions below. Examples of materials that usually cannot be uploaded: mobile apps; computer-administered test; licensed and restricted standardized tests.*

9 PRIVACY AND CONFIDENTIALITY

9.1 Privacy protections. Describe the steps you will take, if any, to address possible privacy concerns of subjects and potential subjects.

Privacy refers to the sense of being in control of access that others have to ourselves. This can be an issue with respect to recruiting, consenting, sensitivity of the data being collected, and the method of data collection.
Examples:

- *Many subjects will feel a violation of privacy if they receive a letter asking them to participate in a study because they have ____ medical condition, when their name, contact information, and medical condition were drawn from medical records without their consent. Example: the IRB expects that "cold call" recruitment letters will inform the subject about how their information was obtained.*
- *Recruiting subjects immediately prior to a sensitive or invasive procedures (e.g., in an outpatient surgery waiting room) will feel like an invasion of privacy to some individuals.*
- *Asking subjects about sensitive topics (e.g. details about sexual behavior) may feel like an invasion of privacy to some individuals.*

Some questions may feel intrusive to some subjects. Some questions may be embarrassing or awkward to read or answer. Subjects may choose not to answer questions that make them feel uncomfortable.

9.2 Identification of individuals in publications and presentations. Do you plan to use potentially identifiable information about subjects in publications and presentations, or is it possible that individual identities could be inferred from what you plan to publish or present?

[x] **No**

☐ **Yes** → If yes, will you obtain subject consent for this use?

☐ **Yes**

☐ **No** → If no, describe the steps you will take to protect subjects (or small groups of subjects) from being identifiable.

9.3 State mandatory reporting. Each state has reporting laws that require some types of individuals to report some kinds of abuse, and medical conditions that are under public health surveillance. These include:

- Child abuse
- Abuse, abandonment, neglect, or financial exploitation of a vulnerable adult
- Sexual assault
- Serious physical assault
- Medical conditions subject to mandatory reporting (notification) for public health surveillance

Are you or a member of your research team likely to learn of any of the above events or circumstances while conducting your research **AND** feel obligated to report it to state authorities?

☒ **No**

☐ **Yes** → If yes, the UW IRB expects you to inform subjects of this possibility in the consent form or during the consent process, unless you provide a rationale for not doing so:

9.4 Retention of identifiers and data. Check the box below to indicate your assurance that you will not destroy any identifiers (or links between identifiers and data/specimens) and data that are part of your research records until after the end of the applicable records retention requirements (e.g. Washington State; funding agency or sponsor; Food and Drug Administration) for your research. If you think it is important for your specific study to say something about destruction of identifiers (or links to identifiers) in your consent form, state something like "the link between your identifier and the research data will be destroyed after the records retention period required by state and/or federal law."

This question can be left black for conversion applications (existing paper applications that are being "converted" into a Zipline application.)

See the "Research Data" sections of the following website for UW Records management for the Washington State research rectords retention schedules that apply in general to the UW (not involving UW Medicine data):
http://f2.washington.edu/fm/recmgt/gs/research?title=R

See the "Research Data and Records" information in Section 8 of this document for the retention schedules for UW Medicine Records: ***http://www.uwmedicine.org/about/Documents/UWMRRS-1.5.pdf***

☒ **Confirm**

9.5 Certificates of Confidentiality. Do you have or, are you planning to obtain, a federal Certificate of Confidentiality for your research data?

☒ **No**

☐ **Yes**

9.6 Data and specimen security protections. Identify your data classifications and the security protections you will provide, referring to the ***ZIPLINE* GUIDANCE: Data and Security Protections** for the minimum requirements for each data classification level. ***You cannot answer this question without reading this document. Data security protections should not conflict with records retention requirements.***

a. Which level of protections will you apply to your data and specimens? If you will use more than one level, describe which level will apply to which data and which specimens.

We will apply Level 3 protections.

b. Use this space to provide additional information, details, or to describe protections that do not fit into one of the levels.

10 RISK / BENEFIT ASSESSMENT

10.1 Anticipated risks. Describe the reasonably foreseeable risks of harm, discomforts, and hazards to the subjects and others of the research procedures. For each harm, discomfort, or hazard:

- Describe the magnitude, probability, duration, and/or reversibility of the harm, discomfort, or hazard, AND
- Describe how you will manage or reduce the risks. Do not describe data security protections here, these are already described in Question 9.6.

- *Consider physical, psychological, social, legal, and economic risks, including risks to financial standing, employability, insurability, educational advancement or reputation.*
- *Examples of "others": embryo, fetus, or nursing child; family members; a specific group.*
- *Do not include the risks of non-research procedures that are already being performed.*
- *If the study design specifies that subjects will be assigned to a specific condition or intervention, then the condition or intervention is a research procedure - even if it is a standard of care.*
- *Examples of mitigation strategies: inclusion/exclusion criteria; applying appropriate data security measures to prevent unauthorized access to individually identifiable data; coding data; taking blood samples to monitor something that indicates drug toxicity.*
- *As with all questions on this application, you may refer to uploaded documents.*

We have (a) developed and implemented the Return to In-Person Research Plan and (b) completed all of the relevant activities listed on the CHECKLIST Human Subjects Research During the COVID-19 Pandemic.

Risks of Participating in Behavioral Intervention: Subjects may experience embarrassment or discomfort from discussing personal information about food, eating habits, body image, or exercise. Dietary change, exercise, and weight loss may pose special risks for those with specific comorbid medical conditions. There is some risk to initiating an exercise program, including revealing unknown health or cardiac disease or becoming injured. Making lifestyle changes can be difficult and frustrating, and weight regain after an intervention can be discouraging.

2. *Study Procedures.* Potential risks include 1) anxiety and embarrassment as a result of completing the medical history, physical examination, or other self-reported measures; 2) pain, minor injury (bruising), or the development of a localized inflammation (thrombophlebitis) from obtaining blood samples. Occasionally people feel faint or nauseous during blood draw; 3) intake of a mandatory amount of a standardized snack that may in rare cases cause discomfort, nausea, vomiting, or a reaction from an unidentified food allergy or sensitivity; and 4) discomfort from hunger due to fasting or hypoglycemia due to fasting.

DXA scan: There are some risks from the DXA scan you will undergo during this study. This scan will expose you to radiation. If you live in the US, you receive about 3 millisieverts of radiation each year. It comes from space and the earth around you. This is called "background radiation." A "millisiervert" (mSv) is a unit used to measure doses of radiation. The radiation dose to your whole body from your DXA scan will be less than 0.01 mSv. The risk of harm from this amount of radiation is very low. If you have more procedures that expose you to radiation, this risk will go up. The radiation from x-rays and scans may be harmful to a fetus. If you are a woman who could become pregnant, you must have a pregnancy test done before your DXA scan, If you are pregnant you may not take part in this study.

3. *Symptomatic Hypotension:* Weight loss may reduce blood pressure.

4. *MRI scanning*. The risks associated with MRI are extremely low, and no invasive procedures or intravenous contrast agents are included in this procedure. Risks include the possibility that undetected metal in the subject's body could be displaced by the magnetic field of the MRI scanner. Participants could become claustrophobic while in the scanner. Participants could experience discomfort in attempting to remain still for up to 60 minutes in the scanner. Subjects could feel embarrassment if their body shape is a tight fit or not conducive to fitting in the MRI. The tasks could cause boredom or anxiety in some participants. Credit cards, watches, or other items could be damaged by the magnetic field if they are inadvertently brought into the scan room. Headphones and earplugs are provided to the subjects to protect subjects from scanner gradient noise. There will be no cost to the participant or the participant's insurance company for the MRI scans done specifically for this study. The scans will be paid for with funds from this grant application. However, if an incidental finding occurs, subjects may experience anxiety, and additional procedures or costs could be incurred.

5. *Breach of confidentiality*. The potential risk of DNA analysis and financial risks associated with participating in this study are due to the potential of any health information being disclosed to health or life insurance companies or to current or potential employers. While this is a potentially serious risk, it is very unlikely, as we will keep all personally identifiable information physically separate from all health information. All information will be on password-protected computers or in locked file cabinets in locked offices.

6. Hygiene procedures due to COVID-19. We will comply with cleaning procedures for space and equipment required by HSD and UW. This will also apply to equipment that may be touched or used by multiple participants.

10.2 Reproductive risks. Are there any risks of the study procedures to men and women (who are subjects, or partner of subjects) related to pregnancy, fertility, lactation or effects on a fetus or neonate?

Examples: direct teratogenic effects; possible germline effects; effects on fertility; effects on a woman's ability to continue a pregnancy; effects on future pregnancies.

[ ] No → If no go to question 10.3
[x] Yes → If yes, answer the following questions:

a. Risks. Describe the magnitude, probability, duration and/or reversibility of the risks.

This study includes DXA scan as a procedure. Female subjects will be given a pregnancy test prior to having a DXA scan. Pregnant subjects will not be eligible to participate.

b. Steps to minimize risk. Describe the specific steps you will take to minimize the magnitude, probability, or duration of these risks.

Examples: inform the subjects about the risks and how to minimize them; require a pregnancy test before and during the study; require subjects to use contraception; advise subjects about banking of sperm and ova.

If you will require the use of contraception: describe the allowable methods and the time period when contraception must be used.

Female subjects will have a pregnancy test prior to the DXA scans.

c. Pregnancy. Describe what you will do if a subject (or a subject's partner) becomes pregnant

For example; will you require the subject to immediately notify you, so that you can discontinue or modify the study procedures, discuss the risks, and/or provide referrals or counseling?

If a subject becomes pregnant they will not be able to continue with the study. Subjects will have pregnancy tests prior to having a DXA scan. We will ask subjects to notify research staff if they become pregnant.

10.3 Unforeseeable risks. Are there any research procedures that may have risks that are currently unforeseeable?

Example: using a drug that hasn't been used before in this subject population.

[x] No
[ ] Yes → If yes, identify the procedures.

10.4 Subjects who will be under regional or general anesthesiology. Will any research procedures occur while subjects-patients are under general or regional anesthesia, or during the 3 hours preceding general or regional anesthesia (supplied for non-research reasons)?

[x] No
[ ] Yes → If yes, check all the boxes that apply.

- [ ] Administration of any drug for research purposes
- [ ] Inserting an intra-venous (central or peripheral) or intra-arterial line for research purposes
- [ ] Obtaining samples of blood, urine, bone marrow or cerebrospinal fluid for research purposes
- [ ] Obtaining a research sample from tissue or organs that would not otherwise be removed during surgery
- [ ] Administration of a radio-isotope for research purposes**
- [ ] Implantation of an experimental device
- [ ] Other manipulations or procedures performed solely for research purposes (e.g., experimental liver dialysis, experimental brain stimulation)

If you checked any of the boxes:
You must provide the name and institutional affiliation of a physician anesthesiologist who is a member of your research team or who will serve as a safety consultant about the interactions between your research procedures and the general or regional anesthesia of the subject-patients. If your procedures will be performed at a UW Medicine facility or affiliate, the anesthesiologist must be a UW faculty member.

*** If you checked the box about radio-isotopes: you are responsible for informing in advance all appropriate clinical personnel (e.g., nurses, technicians, anesthesiologists, surgeons) about the administration and use of the radio-isotope, to ensure that any personal safety issues (e.g., pregnancy) can be appropriately addressed. This is a condition of IRB approval.*

10.5 Data and Safety Monitoring. A Data and Safety Monitoring Plan (DSMP) is required for clinical trials (as defined by NIH). If required for your research, upload your DSMP to the **Supporting Documents** SmartForm in ***Zipline***. If it is embedded in another document you are uploading (for example, a Study Protocol, use the text box below to name the document that has the DSMP.

This study will have a Safety Monitor. We will upload the DSMP to Zipline.

10.6 Un-blinding. If this is a double-blinded or single-blinded study in which the participant and/or you do not know the group to which the participant is assigned: describe the circumstances under which un-blinding would be necessary, and to whom the un-blinded information would be provided.

N/A

10.7 Withdrawal of participants. If applicable, describe the anticipated circumstances under which participants will be withdrawn from the research without their consent. Also, describe any procedures for orderly withdrawal of a participant, regardless of the reason, including whether it will involve partial withdrawal from procedures and any intervention but continued data collection or long-term follow-up.

No anticipated circumstances where subjects will be withdrawn without their consent.

10.8 Anticipated direct benefits to participants. If there are any direct research-related benefits that some or all individual participants are likely to experience from taking part in the research, describe them below:

Do not include benefits to society or others, and do not include subject payment (if any). Examples: medical benefits such as laboratory tests (if subjects receive the results); psychological resources made available to participants; training or education that is provided.

The subjects may lose and may maintain weight loss, both of which would benefit their health. No results will be routinely shared with subjects.

10.9 Individual subjects findings.

a. Is it likely that your research will unintentionally discover a previously unknown condition such as a disease, suicidal intentions, or genetic predisposition?

☐ **No**

[x] **Yes** → If yes, explain whether and how you would share the information with the subject.

It is possible that an abnormality in labs or MRI could be discovered. The Principal Investigator will contact the subject and advise them to see a physician to follow up on the abnormal finding.

b. Do you plan to routinely share the individual results of your study procedures with the subjects – such as genetic test results, laboratory tests, etc.?

[x] **No**

[ ] **Yes** → If yes, complete and upload the **SUPPLEMENT: Participant Results Sharing** to the **Supporting Documents** SmartForm of ***Zipline***

10.10 Commercial products or patents. If a commercial product or patent could result from this study, describe whether subjects might receive any remuneration/compensation and, if yes, how the amount will be determined:

N/A

11 ECONOMIC BURDEN TO PARTICIPANTS

11.1 Financial responsibility for research-related injuries. Answer this question only if the lead researcher is not a UW student, staff member, or faculty member whose primary paid appointment is at the UW.

Describe who will be financially responsible for research-related injuries experienced by subjects, and any limitations. Describe the process (if any) by which participants may obtain treatment/compensation.

N/A

11.2 Costs to subjects. Describe any research-related costs for which subjects may be responsible (e.g., CT scan required for research eligibility screening; co-pays; cost of a device; travel and parking expenses that will not be reimbursed).

Prior to MRI, if a hobby or job or incident involving exposure to metal fragments is mentioned during MRI screening, the MRI staff may require an x-ray prior to scanning. We would ask the subject if they are willing to do this in order to participate. The study will not pay for the procedure. If the subject refuses, they will not participate in the study as MRIs are an important part of the study.

11.3 Reimbursement for costs. Describe any costs to subjects that will be reimbursed (such as travel expenses).

None.

12 RESOURCES

12.1 Faculty Advisor. (For researchers who are students, fellows, or post-docs.) Provide the following information about your faculty advisor.

- Advisor's name
- Your relationship with your advisor (for example: graduate advisor; course instructor)
- Your plans for communication/consultation with your advisor about progress, problems, and changes.

N/A

12.2 Study team communication. Describe how you will ensure that each study team member is adequately trained and informed about the research procedures and requirements (including any changes) as well as their research-related duties and functions.

☐ **There is no study team.**

The research team will have weekly meetings to review progress and changes that need to be implemented. All staff will have appropriate credentials and training for work in research with human subjects.

13 OTHER APPROVALS, PERMISSIONS, and REGULATORY ISSUES

13.1 Other regulatory approvals. Identify any other regulatory approvals that are required for this research, by checking applicable boxes

Do not attach the approvals unless requested by the IRB.

Approval	Research for which this is required
[x] Radiation Safety	Procedures involving the use of radioactive materials or an ionizing radiation producing machine radiation, if they are conducted for research rather than clinical purposes. Approvals need to be attached to the Supporting Documents page in ***Zipline***.
☐ Institutional Biosafety	Procedures involving the transfer/administration of recombinant DNA, DNA/RNA derived from recombinant DNA, or synthetic DNA.
☐ RDRC	Procedures involving a radioactive drug or biological product that is not approved by the FDA for the research purpose and that is being used without an IND, for basic science research (not to determine safety and effectiveness, or for immediate therapeutic or diagnostic purposes).
☐ ESCRO	Procedures involving the use of some types of human embryonic stem cells.

13.2 Approvals and permissions. Identify any other approvals or permissions that will be obtained. For example: from a school, external site/organization, funding agency, employee union, UW Medicine clinical unit.

Do not attach the approvals and permissions unless requested by the IRB.

Regarding COVID-19 requirements, we have developed a Return to In-Person Research Plan. We will complete all HSD required points on the checklist for research during COVID-19

13.3 Financial Conflict of Interest. Does any member of the team have a Financial Conflict of Interest (FCOI) in this research, as defined by UW policy GIM 10?

[x] No

[ ] Yes → If yes, upload the Conflict Management Plan for every team member who has a FCOI with respect to this research, to the **Supporting Documents** page of ***Zipline***. If it is not yet available, use the text box to describe whether the Significant Financial Interest has been disclosed already to the UW Office of Research.