

**Nova Southeastern University
Institutional Review Board for Research with Human Subjects (IRB)
New Protocol Submission**

Center Rep:	To be completed by IRB Office
Date Sent to IRB:	Protocol Number:
<p>Instructions: In order to comply with federal regulations and with the university's IRB guidelines, the Principal Investigator (PI) is required to complete all of the following items. After completing, submit this document and all consent forms and research instruments (questionnaires, interviews, etc.) to the appropriate IRB College/Center Representative. You can find your college/center representatives using the following link: http://www.nova.edu/irb/membership.html.</p> <ul style="list-style-type: none"> ◆ If your study qualifies for center level exemption from further review, the Center Representative will exempt your study, provide you with a memo to that regard, and give you copies of the stamped, approved consent/assent form(s), if applicable. The Center Representative will log your study into the IRB database and forward a copy of the complete submission to the IRB office. ◆ If your study appears to qualify for expedited review, then once the Center Representative believes the submission is complete, the Center Representative will log your study into the IRB database and forward ONE complete submission packet to the IRB office for review. ◆ If full review is required, the Center Representative will log the study into the IRB database and will provide the PI with instructions for submitting 2 stapled or rubber banded copies (AND 1 unstapled original) of the submission and all supporting materials (research protocol, consent/assent forms, letters of authorization, etc.) to IRB. Please note: ONLY ONE copy of all research instruments (tests instruments, interview protocols, etc.) needs to be submitted. The completed package must be received by the IRB by the last business day of the month prior to the next scheduled IRB meeting. Because mail, including express delivery, takes at least a day to be delivered within the university, please make allowance for this in your planning. Incomplete submissions will delay review by the IRB. The IRB reserves the right to postpone review of protocols at convened meetings due to needed revisions. <p>Use a word processor to complete this form. You do not need to be concerned about where page breaks fall. You are to complete all BLUE sections. Be sure that all pages, including any appendices or attachments, except for consent/assent forms and advertisements, are numbered sequentially. For further information, refer to http://www.nova.edu/irb/manual/policies.html and http://www.nova.edu/irb/process.html</p> <p>Do not approach subjects about being in the research study until you have received NSU IRB approval.</p>	
Form Version: August 1, 2013	

1. General Information

1.A. Research Project Title:

**Localized Tissue Water Content of Male Arms Assessed by
Tissue Dielectric Constant (TDC) Measurements**

1.B. Insert Principal Investigator's (PI) Last Name and Date of Submission in the footer.

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1.C. Brief Overview (Max 250 Words):

One in eight females in the United States will develop cancer in her life time (1) but the incidence of male breast cancer is much lower and has been estimated as 1.06 per 100,000 men (2). Because of the relatively rarity of male breast cancer the potential complications such as post-surgical lymphedema have not been well studied. Further, there is essentially no reference data describing the normal amounts and variations of arm tissue water in males. This absence of reference data makes it difficult to determine what levels of tissue water differences between at-risk and contralateral arms constitutes a complication of breast cancer related treatment including surgery and radiation.

The worldwide variation of male breast cancer resembles that of breast cancer in women, with higher rates in North America and Europe and lower rates in Asia. The mean age at diagnosis for men with breast cancer is 67 years, which is approximately 5–10 years older than the average age at diagnosis for women. As in breast cancer in women, the incidence of breast cancer in men has increased, approximately about 26% over the past 25 years. (3)

Male and female breast cancers share many common risk factors such as advancing age, family history, BRCA2 gene mutation, and obesity. However others are male specific that include the following conditions. Klinefelter Syndrome which is a condition occurring in men with a XXY genotype, Androgen receptor mutation in which the androgen receptor suffers a change in structure and proper function, CYP17 mutations leading to pseudohermaphroditism, Cowden syndrome which is characterized by multiple tumor growths and predisposition to certain cancers, mutations in CHEK2, a gene which is activated in response to DNA damage, increased endogenous estrogen levels, and other testicular disorders. Other factors linked to cancer in general include increased alcohol intake and exposure to oestrogens via diet and household products.

Owing to the rarity of male breast cancer, few epidemiological or clinical trial data are available. Therefore, our understanding of the disease comes from studies of female breast cancer, that might be painting an inaccurate picture when it comes to contributing factors, age at presentation, evaluation and treatment strategies. Recent studies show that gender-related differences do exist, therefore, epidemiological and clinical trials are needed to clearly delineate the specifics of breast cancer in males. (4,5)

Men and women may respond differently to therapeutic interventions, drug regimens and their undesirable side effects probably exist. One such effect is the development of lymphedema after a patient undergoes breast surgery. In the U. S., the incidence of cancer-associated lymphedema occurs in up to 75% of cases, depending on tumor type. (6)

Lymphedema once present tends to get progressively worse without treatment and can result in physical deformity, discomfort, pain, loss of mobility, skin breakdown and infection with an overall significant negative impact on the patient's health and well being. As such, interventional therapy is best when initiated as early as possible. This underscores the need for research efforts to detect its presence as early as possible. Prior work has utilized biophysical measurements to establish normal ranges of reference values that could serve to help detect changes in tissue water in females (7-10).

The purpose of the present research is to develop reference ranges specifically for males. The anticipated utility of such a reference data set is its potential use in the early detection of sub-clinical lymphedema in males diagnosed with breast cancer and to be treated with surgery and or radiation therapy.

References

1. Desantis C., Ma J., Bryan L., Jemal A.,: Breast Cancer Statistics 2013. Cancer Journal for Clinicians, 2014, 64:1, (52-62)
2. Joli R. Weiss, Kirsten B. Moysich and Helen Swede: "Epidemiology of Male Breast Cancer". Cancer Epidemiology, Biomarkers&Prevention, 2005, (14-20)
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4. Lerner, R. and R. Requena (1986). "Upper extremity lymphedema secondary to mammary cancer treatment." American Journal of Clinical Oncology 9(6): 481-487.
5. Callari M, Cappelletti V, De Cecco L, Musella V, Miodini P, Veneroni S, Gariboldi M, Pierotti MA, Daidone MG: Gene expression analysis reveals a different transcriptomic landscape in female and male breast cancer. Breast Cancer Res Treat 2011, 127:601-10.
6. VanHoose L.D., Paskett E. D., Twasami-Ankrah P., Smith K.M., Wanchai A., Green J.M., Stewart B.R., Armer J.M.,: Systematic review of cancer-associated lymphedema risk factors. Journal of Women's Health 2013, 22:10 (900)
7. Mayrovitz HN The Standard of Care for Lymphedema: Current Concepts and Physiological Considerations. Lymphedema Research and Biology 2009;7(2) 101-109
8. Mayrovitz HN Assessing Lymphedema by Tissue Indentation Force and Local Tissue Water Lymphology 2009;42:88-98
9. Mayrovitz HN, Weingrad D, Davey S. Local Tissue Water in At-Risk and Contralateral Forearms of Women with and without Breast Cancer Treatment-Related Lymphedema Lymphedema Research and Biology 2009;7(3):153-8
10. Mayrovitz HN. Skin Tissue Dielectric Constant Values in Women with Breast Cancer: Pre-Surgery and One Year Post-Surgery Lymphology 2012;45 (Suppl):156-163 (issn 00247766) published June 2013

1.D. Principal Investigator (PI) Information			
Name	HARVEY N. MAYROVITZ PhD	Relationship to NSU	
Mailing Address (for Students)			
Interoffice Mail Code (for Faculty/Staff)	1-11101	Student	
Daytime Phone	952-262-1313	Faculty	X
Alternate Phone		Staff	
NSU Email Address	mayrovitz@nova.edu	NSU Center/College/Dept PHD/CMS/PHYSIOLOGY	
Alternate Email Address			
Degree/Academic Information	PhD/Professor	PI CITI Completion Date* 9/5/2011	

Please briefly describe your applicable professional, educational, employment, professional licensure, and research experience. Do NOT attach your vitae.

Mayrovitz HN, Sims N, Pfister S, Litwin B. (2005). Foot volume estimates based on a geometric algorithm in comparison to water displacement. *Lymphology* 2005;38(1):20-27

Mayrovitz HN, Groseclose EE, King D. (2005). No effect of 80mT permanent magnets on laser-Doppler measured blood flow response to inspiratory gasps. *Bioelectromagnetics*. 2005;26(4):331-335

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Mayrovitz HN, Sims N, Hill C. et al. (2006). Hand volume estimates based on a geometric algorithm in comparison to water displacement. *Lymphology* 2006;39(2):95-103

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Mayrovitz HN, Macdonald J, Davey S, Olson K, Washington E. (2007). Measurement decisions for clinical assessment of limb volume changes in patients with bilateral and unilateral limb edema. *Physical Therapy* 2007 (October) 87:(10) 1362-1368

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Mayrovitz HN, Davey S, Shapiro E (2008). Local Tissue Water Assessed by Dielectric Constant: Anatomical Site and Depth Dependence in Women Prior to Breast Cancer-Related Surgery. *Clinical Physiology and Functional Imaging* 2008;28:337-342

Mayrovitz HN, Davey S, Shapiro E (2009). Suitability of Single Tissue Dielectric Constant Measurements to Access Local Tissue Water in Normal and Lymphedematous Skin. *Clinical Physiology and Functional Imaging* 2009;(29):23–127

Mayrovitz HN and Soontupe LP (2009). Wound Areas by Computerized Planimetry of Digital Images: Accuracy and Reliability *Advances in Skin and Care* 2009;22:222-229

Mayrovitz HN, Brown-Cross D, Mayrovitz B, Humble-Golla A. (2009). Lymphedema: Role of Truncal Clearance as a Therapy Component. *Home Health Care Management & Practice* 2009;21(5):325-337

1.E. Co-Investigators (Co-I) Information (including faculty advisers)		
	Co-Investigator 1	Co-Investigator 2
Name	Simona Bartos, OMS-II	
Mailing Address	College of Medical Sciences, Nova Southeastern University 3200 S. University Drive, Davie, FL 33328	
Contact Phone Number	954-937-2294	
Email Address	sb798@nova.edu	
Degree/Academic Information:	MPH, PA-C DO/2nd Year Student	
CITI Completion Date*	2/29/2013	
<p>Please briefly describe applicable professional, educational, employment, professional licensure, and/or research experience for all co-investigators. Do <u>NOT</u> attach vitae.</p> <p>Simona Bartos</p> <p>Education: MPH, Physician Assistant, NSU, 2003 Medical Student, Doctor of Osteopathic Medicine, NSU, Class of 2016</p> <p>Certification: State of Florida, Physician Assistant: #9102513 (inactive)</p>		

*NOTE: CITI must have been completed within the last 3 years. If a member of the research team is affiliated with another institution, please include a copy of that individual's training certification.

1.G. Funding Information				
Funding status	Unfunded X	Funding Applied For	Funded	
If you indicated "Funded" or "Funding Applied For," complete the following.				
Source of Funding				
Project Title (if different from above)				
Principal Investigator (if different from above)				
Type of Application	Grant	Subcontract	Contract	Fellowship
Award Amount:				

1.H. Management of Conflict of Interest

Read the financial conflict of interest policy at <http://www.nova.edu/irb/manual/forms/significant-financial-interest.pdf>

PI Initials HNM

I certify that I, as PI, have read this policy, and have verified that my co-investigators and research assistants also have read this policy.

For studies that are funded by a governmental agency (any federal, state or local governmental entity that has promulgated regulations or policies requiring investigator financial disclosure or requiring institutional conflict of interest policies relating to award of grants or contracts) read the Office of Sponsored Program's Financial Conflicts of Interest in Sponsored Programs policy.

I certify that I, as PI, have read these guidelines, and have verified that my co-investigators and research assistants also have read these guidelines.

PI Initials HNM

Yes

Do any investigators have a significant financial interest, as defined in the above referenced policy, in relation to this study?

No

If yes, please describe the nature of the conflict of interest below

If you answered yes, please be sure to include the following statement, or a similar statement, within the description section of the consent forms: "The principal investigator and/or co-investigator(s) of this research study have a significant financial interest as it relates to this study." Continue, describing the conflict in the consent/assent documents.

1.I. Dates and Phases of Study

Proposed Start Date

X Shortly after IRB approval	Other (list date)	
Proposed Duration of Research (including analysis of the results)		
One year or less X	Other (describe, please note minimum annual continuing review required)	
<p>Is this a multi-part study? NO</p> <p>If "Yes," please note that procedures used in later phases may affect the review status of this study. Briefly describe the later stages.</p>		

1.J. Multiple Site Information
<p>Will the study be conducted at an NSU location? Yes</p>
If "Yes," provide the location within NSU, e.g. department or clinic.
<p>Measurements will be done in room 1305A of the Terry Building room 1313.</p>
<p>Will the study involve any NSU faculty, staff or students as subjects? Yes</p>
<p>Will the study be conducted at a non-NSU location? NO</p>

Will any of the activities be done online or via telephone (e.g., completion of surveys, delivery of instructional content)?

No

If "Yes", for the Internet based activities, will these be done via a secure site?

Yes

No

If "Yes," please complete the following for the non-NSU sites. Include these sites on the consent form in the "site information" section.

	Site 1	Site 2
Site Name		
Address		
Phone Number		

You will need documentation of permission to conduct the research at non-NSU sites. Attach the permission letter(s) or IRB approvals to this document.

1.K. Cooperative Research

Cooperative research projects are those that involve more than one institution or when an investigator is employed at or is an agent of an institution other than NSU, (For more information, see <http://www.hhs.gov/ohrp/humansubjects/guidance/engage08.html>). Each participating institution is responsible for safeguarding the rights and welfare of human subjects and for complying with all regulations.

Does this research involve cooperative research?

No

Has this proposal been submitted or will the proposal be submitted to another Institutional Review Board (or authorizing individual, entity, or ethics review board) for review?

No

If "Yes," please complete for each site. Please attach documentation of approval.

(Copy the section of the table and add if there are multiple sites.)

Name of Institution	
IRB/Administrative Decision (check applicable)	

Approved	Submitted (not yet approved)	Not yet submitted	NSU IRB approval required prior to submission		
Date of Review	Contact Person Phone Number	Level of Review (if IRB Reviewed)			
		Exempt	Expedited	Full	

2. Subject/Participant Information

2.A. Overview of Proposed Subjects/Participants

(complete **all** that apply and provide maximum number proposed within each category):

Subject Group	Fetus in Utero/ non-viable fetuses/ abortuses	Newborns or Infants	Children (aged 2-6)	Children (age 7-12)	Adolescents (aged 13-17)	Adults (18+)	Pregnant Women	Adults with Guardians
Mark X for each proposed subject type						X		
# of Proposed Subjects*						50		

Please briefly describe your potential subjects:

It is planned to recruit 50 males between the ages 18-75 years old. Criteria for exclusion includes any male with a pre-existing diagnosis of breast cancer, arm edema or lymphedema, or previous breast or arm surgery. Ethnicity is not a consideration for subject participation.

*By proposed subjects, the IRB means subjects who will consent to be in the study and begin the study activities.

2.B. Subject Vulnerability	
No	
Do any subjects have limited decision-making autonomy, have communication problems that would limit ability to dissent to study procedures, belong to a group that is vulnerable to coercion, or belong to a group defined by regulation as requiring greater care?	
If you indicated "Yes", please mark with an X next to each applicable category in the column to the right and complete the remainder of this section	
Prisoners	
Pregnant Women	
Cognitive impairment or emotional problems that potentially limit decision making	
Communication impairments that may preclude communicating a decision to discontinue participation or refuse participation	
Students of the investigator or investigator's department	
Employees of the investigator or investigator's department	
Children (minors)	
Terminally ill	
Other (specify):	
If you indicated any of the above, please justify your rationale for including these subjects.	
If you are using potentially vulnerable subjects as described above (infants, children, pregnant women/fetuses, terminally ill, decision-impaired, communication-impaired, students/employees, or prisoners), does the research create greater than minimal risk?	
If your subjects have a vulnerability that arises from their being students in your class or department, you will be asked for more information in Section 3.G. If the subjects have one of the other vulnerabilities, please describe proposed safeguards to protect vulnerable subjects.	

If not evident from the researcher qualification information in 1.D. or 1.E., please describe the researcher(s) qualifications for working with vulnerable subjects

2.C. Study Design and Methodology

Part 1 – Purpose

Please briefly describe the **purpose** of your study. Note: Examples of study purposes are “to determine if a new reading intervention program improves 4th graders’ reading scores” or “to survey patients on their perception of physical therapy services”.

The purpose of the study is to establish reference ranges of tissue water content in healthy males.

Part 2 – Goals and Justification

Briefly elaborate on the main **goals and justification** for the study. Summarize the background, rationale, nature, and significance of the proposed research. Include a brief overview of your prior research in the area, or literature that supports the need for this study. This section should be a brief overview, and typically is not more than a few paragraphs in length. You will be asked about procedures and instruments later in the submission.

One in eight females in the United states will develop cancer in her life time (1) but the incidence of male breast cancer is much lower and has been estimated as 1.06 per 100,000 men (2). Because of the relatively rarity of male breast cancer the potential complications such as post-surgical lymphedema have not been well studied. Further, there is essentially no reference data describing the normal amounts and variations of arm tissue water in males. This absence of reference data makes it difficult to determine what levels of tissue water differences between at-risk and contralateral arms constitutes a complication of breast cancer related treatment including surgery and radiation.

1. Desantis C., Ma J., Bryan L., Jemal A.,: Breast Cancer Statistics 2013. *Cancer Journal for Clinicians*, 2014, 64:1, (52-62)

2. Joli R. Weiss, Kirsten B. Moysich and Helen Swede: Epidemiology of Male Breast Cancer". *Cancer Epidemiology, Biomarkers&Prevention*, 2005, (14-20)

The goals of the study are:

1. To develop Tissue Dielectric Constant (TDC) reference ranges for males with respect to dominant/non-dominant arm ratios as a function of effective TDC measurement depth. These TDC values are directly related to the amount of free and bound water contained in the tissue measurement volume
2. To establish the relationship between these TDC values and whole body water and fat percentages.

In the box below, please outline in detail the **steps in the research study** in order as they will occur after consent has been secured. If there are different requirements for different groups/types of subjects within the study, please separate out the steps per group. Indicate how long the subject spends completing the different steps/procedures. Be specific about the tests given and/or treatments used, when they will occur, and their frequency.

A. Protocol and Sequence: One of the co-investigators will explain the study to the participant and an informed consent obtained. All measurements are done with subjects seated in an arm chair with arms supported and relaxed. Two sites on each arm are marked with a surgical pen and then measured. Sites are the anterior forearm along the midline 6 cm distal to the antecubital crease (AC) and anterior biceps 8 cm proximal to the AC. TDC measurements at each site are done as described in section B. After these measurements, circumferences (girths) of both arms at previously marked sites are measured with a calibrated tape measure. These girth measurements take less than one minute to complete. Finally, the patient's weight, body water and fat percentages are measured by having him stand barefoot on a bioimpedance scale (Ironman Body Composition Monitor, Tanita BC-558, Tokyo, Japan) and grip two handles for about 20 seconds. Total participant time commitment is about 20 minutes.

B. Method for Measurement of Local Tissue Water via Tissue Dielectric Constant (TDC)
TDC values are directly related to free and bound water contained in the measured volume. The TDC of target areas are measured with a coaxial probe that gently contacts skin for about 10 seconds. The probe is connected to a control/display device and measures TDC at 300 MHz. The effective penetration depth increases with probe size. The depths studied will be: 0.5 mm, 1.5 mm, 2.5 mm and 5.0 mm. Measurements will be taken in triplicates. For reference, pure water has a value of about 78.5. Measurements are made at sites described in section A. Each single measurement takes about 15 seconds so the time required for all measurements is about 12 minutes (2 sites x 2 sides x 15 sec x 3 times x 4 depths). The device to be used is the Moisture MeterD (Delfin Technologies Kuopio Finland).

C. Data Handling and Analysis: The main scientific question to be addressed in the analysis relates to establishing reference ranges for TDC values for healthy males. Data corresponding to TDC values at both arm sites and for each depth will be compiled and the following parameters determined

- (1) Absolute TDC values at forearm and biceps with their ranges and standard deviations (SD)
- (2) Ratios of TDC values (dominant arm/non-dominant arm) with means and SD
- (3) Correlations between absolute TDC values and total body water and body fat percentages
- (4) Correlations among absolute TDC values and subject age

Are you using questionnaires, tests, instruments, or forms?

No

If "Yes", list them below and include a copy of each as appendices.

Subjects will be assigned random numbers and data collected (see data collection form)

Do you plan to use any data from records or archives?

No

If "Yes", please describe (such as data originally created for non research purposes or data created as a result of a previous study).

Do you plan to use any de-identified data?

Yes

If "Yes", please describe the data and how it will be de-identified.
Subjects will be assigned random numbers.

3. Additional Study Information

3.A. Clinical Testing

Food and Drug Administration Investigational Drugs and Devices

Does the study involve the use of an investigational drug?

No

If "Yes", has an Investigational New Drug application been submitted for the drug?

Does the study involve the use of an investigational device?

No

If "Yes", has an Investigational Device Exemption (IDE) been, or will be, secured prior to the start of the study?

Does the study use any device (either as a part of the experiment or to collect data) that has not received FDA approved for clinical/medical use or is being used in a manner not consistent with its cleared/marketing status?

Yes

If "Yes", please describe the device and how its use differs from its approved status by the FDA.

The TDC device has been submitted by the manufacturer for FDA approval. It is being used in the study strictly as research measurement tool and is non-invasive.

Clinical Procedures

Does the study involve the use of any procedure that is not used in routine clinical practice?

Yes

If "Yes", please list the procedures.

The TDC device is used by some centers clinically but is not routinely used.

3.B. Sensitive Information

Are you asking questions about sensitive issues, such as illegal activity, sexual history, or anything else that, if made public, could jeopardize a person's reputation, employability, safety, or quality of life?

No

If "Yes", please describe the information.

Does the study involve the collection of data from voice, video, digital, or image recordings made for research purposes?

No

If "Yes", please describe the procedures associated with these recordings.

3.C. Non-English Speaking Participants

Will the study involve non-English speaking participants?

No

Will the study require translation of consent forms?

No

If you answered "Yes," please specify the language(s) that the consent forms will be translated in to:

If you are including non-English speaking participants, when you complete section III.H., please discuss how you will ensure that the participants understand the study, including the use of a qualified translator to provide oral consent information.

3.D. Subject Compensation

Will your subjects receive any payments, incentives, or gifts?

Yes – A \$10.00 Starbuck gift card

If "Yes," please indicate the types of compensation. Otherwise move on to section E.

Monetary Payment	Gift	Extra credit (Students) or Workplace Incentive (Employees)
	X	

Other incentive

Please describe:

Describe the payment(s)/gift(s)/incentive(s), and if it is a gift, estimate its monetary value. Indicate whether all participants are given the payment/gift/incentive, or if only some are eligible. (Note: the value of the payment/gift/incentive should not be so significant that it might compromise the subject's good judgment.)

A \$10.00 Starbuck gift card is given only if they complete the 20 minute study

Describe when the subject will receive the payment/gift/incentive, and whether the amount differs depending upon whether different portions of the study are completed or is limited if the subject discontinues participation during the study.

A \$10.00 Starbuck gift card is given only if they complete the 20 minute study

3.E. Inclusion / Exclusion Criteria for Subjects

Describe the inclusion and exclusion criteria for the proposed subjects. Please list the criteria in bullet or outline format rather than narrative. If the study limits participation based on gender, age or race, please justify the exclusion criteria. (Subject protection and appropriate study design may require specific inclusion or exclusion criteria, but the IRB does not permit subject selection that is not equitable or prevents a subpopulation from benefiting from the scientific discoveries of the study.)

Inclusion Criteria

Males at least 18 years of age.

Exclusion Criteria

1. Previously diagnosis or treated for with breast cancer
2. Previous arm surgery of any type
3. Open wounds or rash or loss of skin integrity at an intended measurement site
4. Any implanted wires, cardiac pacemaker or any other electronic medical devices.
5. Any prior history of arm edema

3.F. Subject Recruitment

How will you recruit subjects (approach/invite/or ask people to be in your study)?
The co-investigators will approach potential participants and inform them of the existence of this research study. The potential subject will be asked if they are interested in participating and if so the research study will be described in detail by the co-investigator. If they remain interested and wish to participate the informed consent will be administered by the co-investigator.

Recruitment Advertisements, Fliers, and Letters

Are you using any letters, fliers, or advertisements?

No

If you answered yes, please list the type(s) below and attach a copy of the proposed materials as an appendix (do not copy and paste the flyer into this form).
(Note: Materials should list "Nova Southeastern University".)

3.G. Potential for Coercion in Subject Recruitment

Are any of the subjects a student or advisee of the PI or a Co-I?

No

Does the PI or a Co-I serve in any capacity (e.g., administrative, therapeutic) that might affect a subject's willingness to participate?

No

If "Yes" to either of the above, then describe the relationship of the subjects and investigator.

If you answered yes, please read the NSU policy about use of students in research.
http://www.nova.edu/irb/manual/forms/research_students_subjects.pdf

Are any of the subjects employees of, or report to, the PI or a Co-I? No
Are any of the subjects a patient of the PI or a Co-I? No
Are any of the subjects a patient within a PI or a Co-I's clinical practice? No
Are any of the subjects informed about the study by their doctor / clinician? No

<p>If you answered “yes” to any of the questions in this section (3.G.), please describe how you will ensure that the subjects will feel free to decline participation without fear of reprisal. If the subjects are patients, how will you prevent “therapeutic misconception” (the mistaken belief that when a care provider provides information about a study, it means that the provider thinks that study participation will benefit the patient).</p> <p>Potential participants will be informed that the measurements to be made as part of this research study have absolutely no therapeutic value and that the potential diagnostic usefulness of the measurements is at this time unknown and to be determined from the study findings. A patient’s decision of whether or not to join the study will not affect their treatment by the co-investigators.</p>
<p>If you are providing any incentive to the student/employee subjects, discuss whether there is a mechanism for students / employees to receive the incentive by doing something other than participating in the research project (see http://www.nova.edu/irb/manual/forms/research_students_subjects.pdf).</p>

3.H. Informed Consent
Part 1 – Consent Process

Informed consent is a process that begins with advertising or telling potential subjects about your study, continues as the investigator or staff provides details to potential subjects via dialog, and is formalized by the signing of the consent.

Note: Minors must have consent of their parents or guardians before you can approach the minor about participating in the study.

Note: Allow as much time as possible and feasible for the subject to think about whether to enroll in the study. Generally, the greater the study risks, the longer the decision period.

Please overview the steps in the consent process in your research study. If there is more than one group of subjects, separately describe the process for each group.

The con investigators will approach the potential participants and inform them of the existence of this research study. The potential subject will be asked if they are interested in participating and if so the research study will be described in detail by the co-investigator. If they remain interested and wish to participate the informed consent will be administered by the co-investigator.

Part 2 – Consent Process and Document Waiver/Alteration Information

In most cases, subjects need to participate in a meaningful consent process and receive a consent/assent form that documents agreement to participate in research. However, in a few cases the subject's confidentiality is protected by waiving/altering consent procedures or the requirement for signed consent forms. Please read the IRB's policy on informed consent for explanations, including what the IRB must demonstrate to permit waiver or alteration (http://www.nova.edu/irb/manual/forms/informed_consent.pdf). Please note, however, that while your study may qualify for waiver or alteration, that determination is at the discretion of the IRB.

One case where a signed informed consent form is NOT used is when a researcher is only reviewing existing/archival data that were collected for non-research purposes. If the data are obtained from the records by someone with authorization, and the data are de-identified, then it may be appropriate not to ask subjects (those whose data you are collecting) to provide consent, because the research involves no more than minimal risk, the waiver or alteration will not adversely affect the rights or welfare of subjects, the research could not practicably be carried out without the waiver or alteration, and, when appropriate, the subject will be provided pertinent information about participation. (NOTE: If your study has other procedures that require interaction with subjects or prospective collection of data, it is unlikely that waiver or alteration of consent procedures or the signing of consent forms would be appropriate.) If this describes your study, then you may request a waiver of the requirement for informed consent and the documentation of signed consent.

If you think this applies in your study, please describe your rationale.

Another situation involving waiver or alteration of the requirement to obtain a signed consent form is when the research only entails conducting anonymous surveys that are not intrusive. If there is no way that the subjects' responses could be linked to them, then waiving the requirement for a signed consent form would minimize a risk to their confidentiality and privacy because the only record linking the subject and the research would be the consent form. If the principal risk would be potential harm resulting from a breach of confidentiality and the research presents no more than minimal risk to subjects and involves no procedures for which written consent is normally required outside of the research context, then the elements of informed consent are put into the survey itself. The person indicates his/her voluntary participation by completing the survey after being advised about the study and voluntary nature of his/her participation.

If you think this applies in your study, please describe your rationale.

There may be other cases where you would wish to ask for a waiver or alteration of informed consent or signed consent documentation.

If you are seeking a waiver or alteration, please describe your rationale.

Part 3 – Consent and Assent Document Information

Typically, you are asked to use the NSU format consent and assent forms. However, if this is cooperative research, or sponsored research that requires the use of a different template or model, you may use their format.

I will use NSU format consent/assent forms	X
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I will be using another institution’s format for consent/assent forms (NOTE: Please review the other institution’s consent forms and the NSU requirements to be sure that all of the NSU requirements are present. You may also want to discuss the consent forms with your college/center representative)	
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As noted above, I am requesting a waiver/alteration of consent and/or signed consent form requirements	
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If you have different procedures for different groups of subjects, you will need a separate consent and/or assent form for each group. If the reading level of different groups of subjects differs, this may also require you to have different consent and/or assent forms (e.g. young children vs adolescents). If your subjects are children, you will also need parental consent.

What is the total number of consent/assent form types that you plan to use?

1

If using more than one consent form, create a list below that describes the different forms that you will be using (e.g. 1. Teacher consent form, 2. Parent consent form, 3. Assent form for children age 7-12, 4. Assent form for adolescents).

Include copies of the consent / assent forms. When you attach the consent forms, put them in this order. Please note that the IRB prefers that the consent document be written using the simplest language possible, and strongly recommends the question and answer format (see [Document Model #1 for Adult/General Consent Form](#) [Readability Score: Grade 6]).

3.I. Protected Health Information Use

Are you obtaining any data from the subject’s medical record? No

Are you asking the subject about his or her health information, and doing so in a clinic or entity that would normally be subject to HIPAA regulations on protected health information? No

If you answered "Yes" to either question, continue. Otherwise go on to section 3.J.

Please review the NSU HIPAA research policies available at <http://www.nova.edu/irb/manual/policies.html> for more information.

Please note that effective 12/10/2009 the NSU IRB no longer reviews separate HIPAA authorizations for research. It is the principal investigator's responsibility to use the correct HIPAA authorization as outlined in the aforementioned policy. In instances where the HIPAA authorization must be a part of the informed consent form for research, the NSU IRB will review the compound consent.

Specify the exact data to be gathered (e.g., weight, blood pressure, IQ score, diagnosis, depression rating, number of treatments, etc.).
 Height, Age, Handedness, History of prior arm surgery or arm edema or breast

Which procedure are you proposing to use? (Check)

I will obtain the subject's authorization to obtain the protected health information via the NSU Authorization for Use and Disclosure of Protected Health Information in Research (research activities will be occurring at an NSU clinic).	
I will obtain the subject's authorization to obtain the protected health information via the authorization for use and disclosure of protected health information in research provided by the non-NSU covered entity.	
The protected health information data are a fully de-identified data set (data obtained without recording any patient information, with the data accessed by an employee of the institution).	
The data are part of a limited data set agreement as defined by the Office of Human Research Protections. (Attach a copy of the agreement.)	
If part of a limited data set agreement, what is the justification that confidentiality is protected?	
I have a waiver provided by a duly constituted privacy board. (Attach a copy of the waiver.)	

HIPAA Research Authorization

If the research is to be conducted at an NSU clinic, have you created a HIPAA authorization form as outlined in the HIPAA Research Policy No. 1 (<http://www.nova.edu/irb/manual/policies.html>) and in keeping with the Instructions for Preparing the Authorization For Use and Disclosure of Protected Health Information in Research Form and the model form provided (<http://www.nova.edu/irb/manual/forms.html>)?

N/A

Please note, do NOT submit a copy of the HIPAA authorization form if you are following the model noted in the aforementioned policy.

If the research is to be conducted at a non-NSU covered entity, have you reviewed the HIPAA Research Policy No. 6: Guidance on Research at Outside Entities (<http://www.nova.edu/irb/manual/policies.html>)?

N/A

Researchers are advised to discuss the proposed research with the applicable HIPAA privacy officer at the non-NSU covered entity.

Does the researcher sponsor or cooperating agency require the incorporation of the HIPAA authorization within the consent document (Compound Consent)?

N/A

If yes, please briefly indicate who requires that this be in the informed consent document.

Please note, consent forms that include the HIPAA authorization may need approval from the university Office of Corporate Compliance.

3.J. Student/Academic Information Use

Are you obtaining any data from the subject's academic records?

No

If you answered "Yes", continue. Otherwise go on to section K.

Specify the exact data to be gathered (e.g., GPA, standardized test score, IQ score, medical/psychological information stored in academic files, attendance records, disciplinary records, etc.).

Specify how you will obtain the data.

Which procedure are you proposing to use? (Check all that apply)

I will obtain the subject's consent to obtain the academic information.

The academic information will be a part of a fully de-identified data set (data obtained without recording any subject information, and provided to you in keeping with the institution's policies and the Federal Educational Rights and Privacy Act [FERPA]).

3.K. Risks, Discomforts, & Inconveniences

In this section, discuss all potential risks (physical, economic/financial, legal, psychological, social, etc.), discomforts, or inconveniences to the subjects.

- All studies using identifiable subject information must address the issue of possible loss of subject confidentiality
- Some possible risks include physical, psychological or emotional harm, breach of confidentiality, and invasion of privacy.
- Discomfort includes anticipated risk for mild physical or emotional pain.
- Study inconveniences include loss of time or pay.

Each risk, discomfort and inconvenience should be addressed individually in the following format (use the tables provided and copy if the study presents more than 3).

- List each risk individually
- Discuss likelihood: How likely is it that this risk/discomfort or inconvenience will occur? This is usually classified as minimal, moderate, or high.
- Discuss magnitude/duration: How dire is the risk/inconvenience/discomfort, and if it occurs, how long do you expect that the subject will be affected?
- Discuss risk minimization: Describe the procedures undertaken to minimize the risk that this specific risk/discomfort/inconvenience will occur.

Risk/Discomfort Touching or slightly pressing of the skin at any of the measured sites may cause tickling or pressure or other sensation of susceptible subjects

Likelihood Low

Magnitude/Duration Low risk/ Transient – seconds

Risk Minimization If not tolerable by subject, will abandon study on this subject

One way in which confidentiality is partially protected is to destroy study documents containing identifiable information when they are no longer needed. The IRB requires that study materials be kept for a minimum of three years from the end of the study to permit study auditing; you may elect to keep them for a longer period of time and study sponsors may have their own data retention requirements. Please indicate when and how you plan to destroy data that contains identifiable subject information, such as consent forms, lists that link subject identity to data coding, or raw data containing subject names.

To avoid the risk of possible loss for protected health information and confidentiality, all records and signed informed consents will be kept confidential and protected for five years. Only the principal and co-investigators will have access to this information. Any data collection forms will only have a subject's randomly assigned number. This code number will be inscribed on the patient's consent form. A list with the subjects' names and code numbers along with the data collection forms and the consent forms will be kept in separate locked cabinets in room 1313 of the Terry Building at NSU. Dr. Mayrovitz will hold the key to these cabinets. Data will be safely locked away for five years from conclusion of the study, after which it will be destroyed. The risk of loss of confidential information is minimal.

3.L. Benefits to Subjects

<p>In this section, discuss all direct benefits of the study to participants. This does not include “helping research” or other generalities, nor does it include compensation for participation. Some examples of benefits include receiving free treatment, receiving a list of reputable local services, or obtaining tutoring. The value of any such benefits should be listed as well. If there are no direct benefits to the participants, this should be indicated.</p>
<p>Are there any direct benefits to the research participants?</p>
<p style="text-align: center;">There are no direct benefits to study participants X</p>
<p style="text-align: center;">This study provides benefit to, or is likely to benefit, the participants</p>
<p>List/describe each benefit</p>

<p>3.M. Data Analysis Plan</p>
<p>Please describe preliminarily proposed data analysis procedures.</p> <p>General: The main scientific question to be addressed in the analysis relates to establishing reference ranges in healthy males of tissue water using TDC measurements.</p> <p>Specific: The primary variable to be investigated is the TDC values at different depths at the specified locations on the dominant arm. These values will be compared with the non-dominant side. Also, parameters will be obtained regarding the relationship between local skin TDC and whole body composition.</p>

<p>3.N. Scientific Benefit</p>
<p>Briefly discuss how generalization of the information obtained from this study will be scientifically useful, or useful to your research site.</p> <p>This study will provide seminal data regarding male tissue water ranges at sites that are potentially prone to experience lymphedema following breast cancer related treatments via surgery and/or radiotherapy. These will provide reference values for males who are diagnosed with and treated for breast cancer.</p>

3.O. Risk/Benefit Ratio

To be approved, a study needs to have greater benefits than risks. Why do you believe this study has a positive benefits-to-risks ratio?

The risks are similar to those that would be experienced in daily life whereas the scientific benefit is likely to be significant. By gaining the knowledge and understanding the male TDC value ranges, we can add new quantifiable information characterizing changes in arms at-risk for developing lymphedema.

3.P. Safety Monitoring Plans

All researchers are required to report adverse events and unanticipated problems in keeping with the NSU IRB policy

(http://www.nova.edu/irb/manual/forms/adverse_events.pdf).

Studies that entail significant risk to subjects, such as randomized controlled drug trials, may warrant safety monitoring by an outside safety board. Does your study utilize a Data Safety Monitoring plan?

If "Yes," please describe the safety monitoring plans. Please specify if the study will be monitored by the investigators, sponsors (if applicable), or a Data Safety Monitoring Board (DSMB). Sponsored studies may reference an attached Investigator Brochure.

3.Q. Other Information

If there is other information about this study that is required in order for those reviewing the study to fully understand the study, its risks and benefits, please describe below.

3.R. Principal Investigator Assurance and Obligations

I certify that all information provided in this submission (including any supporting documents) is a complete and accurate description of the proposed study. I agree to the following:

<p>PI Initials HNM</p> <p>This study will be conducted in the manner described in this submission and will not be implemented (including subject recruitment or consenting) until all applicable IRBs have granted permission to conduct the research. No changes to this study will be implemented until an amendment form has been submitted and approved by the IRB.</p>	<p>I will retain all signed informed consent documents and study-related records for a minimum of three (3) years (or longer as stipulated by funding agencies) from the date the study is concluded.</p> <p>PI Initials HNM</p> <p>I will report in writing any serious adverse events to the IRB within 24 hours and all other adverse events and unanticipated problems within 5 working days.</p>
<p>PI Initials HNM</p> <p>If the IRB approves this study via expedited or full procedure, I will submit for continuing review as stipulated in the approval letter. If the study or data analysis will exceed the approval period, I will submit a Submission Form for Continuing Review of IRB Approved Studies in a timely manner (well in advance of the renewal date). I understand that study activities may not continue past an approval period.</p>	<p>PI Initials HNM</p> <p>I will provide participants with any significant new information obtained during the course of the study and submit reports of new information to the IRB as a Study Amendment.</p>
<p>PI Initials HNM</p> <p>I will provide a copy of the signed consent form to the subject or patient, if applicable.</p>	<p>PI Initials HNM</p> <p>If my study has been approved at the Expedited or Full Review levels, I will report to the IRB when this study has closed (no further data collection or analysis). This report will be provided no later than 30 days after the end of the study via the IRB Closing Report Form.</p>

Principal Investigator's Signature: _____ Date: _____

3.S. Co-Investigator Assurance and Obligations (for Student PIs)

If this study is for the completion of a degree requirement, the thesis adviser or dissertation chair must sign the attestation below.

- All departmental approvals by the student's committee (if applicable) and chair or thesis adviser have been completed.
- I accept that the University and IRB consider the faculty advisor's responsibility to be equal to that of the student in regard to
 - The quality of the research design AND the accuracy of the protocol
 - The appropriateness of the recruitment methods, the design of the process for informing the subjects about the nature of the study, and the process of obtaining informed consent
 - The readability, accuracy, and format of the informed consent/assent document(s) and the explanation of all informed consent procedures.

My signature below attests that I have read this submission in its entirety and believe that it is accurate, complete, appropriate, and adheres to the principles of the Belmont report and that all departmental approvals by the student's committee have been completed.

Chair/Adviser's Signature: _____ Date: _____