NCT03557502

Heat Therapy Versus Exercise Training in Hypertension

Informed Consent Document

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UNIVERSITY OF OREGON

Consent for Research Participation

Title: Heat Therapy versus Exercise Training in Hypertension

Sponsor: National Institutes of Health/National Heart, Lung, and Blood Institute, National Institute on Aging

Researcher(s): Dr. Christopher Minson, University of Oregon

Researcher Contact Info: (541) 600-4095, exercise@haywardfield.net

You are being asked to participate in a research study. This consent form describes study activities for Protocol 1 of the "Heat Therapy versus Exercise Training in Hypertension" research study. If you are eligible, you will be given the opportunity to participate in additional study activities (Protocol 2). Should you be interested in participating in Protocol 2, you will undergo a separate supplemental screening and consent process, during which Protocol 2 will be described in detail and you will have the opportunity to review the Protocol 2 informed consent document and ask any questions. The box below highlights key information about this research for you to consider when deciding whether or not to participate. Carefully consider this information and the more detailed information provided below the box. Please ask questions about any of the information you do not understand before you decide whether to participate.

Key Information for You to Consider

- **Voluntary Consent**. You are being asked to volunteer for a research study. It is up to you whether you choose to participate or not. There will be no penalty or loss of benefits to which you are otherwise entitled if you choose not to participate or discontinue participation.
- **Purpose**. The purpose of this research is to test whether heat therapy or exercise training are both effective at reducing high blood pressure.
- **Duration.** It is expected that your participation will last 10-13 weeks.
- **Procedures and Activities.** You will be asked to undergo a variety of clinical tests and 30 sessions of either heat therapy or exercise training.
- **Risks.** Some of the foreseeable risks or discomforts of your participation include physical risks, such as life-threatening heart rhythms during exercise testing and training, or heat-related illness during heat exposure and heat therapy.
- **Benefits**. You may or may not benefit from participating in this research, but the researchers hope to learn how humans with high blood pressure respond to heat therapy and to exercise training.
- **Alternatives.** Participation is voluntary and the only alternative is to not participate.

The following section is regarding Protocol 1 of the research study.

Pre-screening

If you are reading this form, you have passed the phone pre-screening and have been invited to take part in the two-day in-person screening process. Passing the pre-screening does not guarantee eligibility to participate in this study.

Screening Visits

Day 1. You will arrive at the exercise lab at the University of Oregon for the Day 1 Screening visit. This visit will take approximately 1 hour. You will meet with one of the investigators of the study to discuss the screening process and project, read this form, view the laboratory, go over any questions you might have, and sign this form if you want to participate. Your height, weight, arm circumference, and resting blood pressure will be measured, and you will be asked questions about your health history. A lancet will be used to prick your finger

to obtain a small sample of blood. As this will be used to measure your blood sugar and lipid levels, *it is important that we collect the sample after an overnight fast*. If you are a person who can become pregnant, you will be asked to undergo a pregnancy test. For the pregnancy test, you will be asked to collect a sample of urine in a private restroom in the lab. If the test is positive, indicating that you are pregnant, you will not be allowed to participate and will be advised to see your physician or the University of Oregon Health Center. If you meet the inclusion criteria during this initial visit, you will be asked to come back to the lab on one more occasion for a second screening visit.

Day 2. We will ask you to return to the lab one more time to repeat the measurement of resting blood pressure, to assure that you are eligible for inclusion in the study. This visit will last approximately 1 hour. If your blood pressure (average of four measures: two on Screening Day 1 and two on Screening Day 2) falls outside of the inclusion criteria limits, you will not be allowed to participate in this study. If it is determined that you meet the inclusion criteria and do not meet any of the exclusion criteria, you will be told about optional additional study activities you may qualify for (Protocol 2: cognitive tests and MRI brain scans). If you are interested in participating in these additional activities, you will be pre-screened at this time.

If it is determined that you do not meet the inclusion criteria at any point during the screening process, you will be excluded from the study and any documents with your health information will be destroyed.

Who is conducting this research?

The researcher Dr. Minson from University of Oregon is asking for your consent to this research.

Why is this research being done?

High blood pressure (hypertension) accounts for more cardiovascular disease related deaths than any other modifiable cardiovascular risk factor. Regular exercise is considered to protect against the development of high blood pressure and is beneficial in the treatment of high blood pressure. Heat therapy, in the form of hot bath or sauna, is an ancient practice that has recently regained attention in the prevention and treatment of cardiovascular disease.

The goal of this research is to determine whether heat therapy or exercise training are both effective at reducing high blood pressure. This topic is both clinically and scientifically important. You are being asked to participate because you have been identified as an individual with high blood pressure and are age 35-60. About 50 people will take part in this research.

How long will I be in this research?

We expect that your participation will last about 12 weeks and include visits on 41 days, consisting of 2 screening visits, 3 pre-test visits, 3 interim-test visits, 3 post-test visits, and 30 heat therapy or exercise training sessions. Your total involvement would be approximately 11½ hours for the screening and testing sessions, 9 hours of sample collection and logging, and another 31 ½ hours for the heat therapy or exercise training sessions. There is a table at the end of the next section that summarizes the time commitments for participation.

What happens if I agree to participate in this research?

If you agree to be in this research, your participation will include:

Pre-Tests

You will undergo a series of tests to characterize your health and physical fitness. This will require 3 visits to the lab. The measurements on each day will vary.

Pre-Test Visit 1. Pick up 24-hour Urine Collection and Blood Pressure Monitoring Supplies. You will visit the lab to pick up supplies and receive instructions for a 24-hour urine collection and food/beverage log, and 24-hour blood pressure monitoring and sleep/wake/activity log. These activities will occur simultaneously during the same 24-hour period.

24-hour Urine Collection and Food/Beverage Log You will be given two urine collection containers to take home. In our experience, subjects typically only need to use one container in a 24-hour period. Therefore, the second collection container serves as a backup if needed. Additionally, you will be offered a specimen container pan to assist in collecting urine samples. You will be asked to completely void your bladder immediately prior to starting the 24-hour urine collection, after which you will collect all subsequent urine voids in the provided containers. You will be given a food/beverage log and asked to document your food and beverage intake for 24-hours. This log will be used in conjunction with the 24-hour urine samples to compare changes in kidney function.

24-hour Blood Pressure Monitoring and Sleep/Wake/Activity Log Before you leave, we will put a blood pressure cuff on your arm attached to a blood pressure monitor on a belt and ask you to wear the monitor for 24 hours. You will be provided with written instructions and a log to track your sleep/wake times and daily activities. The monitor will record your blood pressure every 20 minutes during the daytime and every hour at night. During this 24-hour period, we will ask you to go about normal daily activities, refrain from all over the counter medications (including vitamins and supplements), alcohol, caffeine, long car rides, and exercise or heat therapy. If you choose to bathe/shower during this 24-hour period, we ask that you time it such that you do not miss a daytime blood pressure measurement (i.e., remove the blood pressure monitor to bathe/shower immediately after a measurement and replace the monitor within 20 minutes – before the next measurement). You will return the monitor to the lab so the data can be downloaded and assessed. Results will not be reviewed by a physician but may be made available to you.

Pre-Test Visit 2. Return 24-hour Monitoring Supplies/Samples + Blood Draw. You will return the urine collection containers, food/beverage log, blood pressure monitoring system, and sleep/wake/activity log on the following day. A blood sample will be taken upon completion of the 24-hour urine collection.

Blood sampling: A small needle will be used to obtain a 40ml (~3 tablespoons) blood sample from a vein in the crook of your arm, similar to a routine blood test at the doctor's office. The blood samples will be used to measure several markers related to inflammation, oxidative stress, cardiovascular health, and kidney function.

Pre-Test Visit 3. Vascular Studies + Exercise Testing. You will be scheduled to arrive in the morning after an overnight fast. We will ask you to refrain from consuming caffeine (for example, coffee, tea, red bull, coke, etc.) and medications or supplements (except oral contraceptives) for 12 hours prior to each test, abstain from alcohol for 24 hours prior to each test, and abstain from exercise or heat therapy for 48 hours prior to these tests. For these tests, you will need to wear a t-shirt and shorts. If you are a person who can become pregnant, you will be asked to undergo a pregnancy test prior to these tests. You will be shown to a private restroom where your nude weight will be measured. The restroom door will be closed during this process, and no one will be in the restroom with you. Once you are in the restroom, you will disrobe and step on the scale located inside the restroom. You will knock on the door or verbally alert the researcher on the other side of the door that you are on the scale and the researcher will record your weight from the scale readout which is located outside the restroom. You will then change into shorts and a t-shirt and be shown to the lab where we may measure your height. Next, you will lay down on a padded exam table. You will be given a hand towel which you will place under your shorts and underwear over your left hip. Then, you will lay quietly for twenty minutes. During this time, we will place 3 sticky electrodes on your skin and attach a small wire or lead to each electrode. These leads will be attached to a monitor that will allow us to measure your heart rate and heart

rhythm. These electrodes will be placed on your body in the following locations: two electrodes are placed on your upper chest close to your shoulder (one on the left and one on the right) and one will be placed just above your hip bone (just above where your pants line is) on the left side. We will also place a blood pressure cuff on your upper left arm which will be inflated periodically throughout the rest of the study day. You will remain laying on the padded exam table while we perform the following procedures.

Cardiac Output: We will measure your cardiac output non-invasively using the acetylene washin method. We will have you breathe on a mouthpiece for 1 minute and then take about 10 breaths of a gas mixture containing 0.6% acetylene, 9.0% helium, 20.9% oxygen, and the rest nitrogen. At the same time, we will collect your expired gas through the mouthpiece and analyze the concentrations of acetylene and helium you exhale. This procedure may be repeated up to 4 times including a practice round. There will be a 5-minute break in between each test.

Measurement of Arterial Stiffness: We will use a non-invasive probe, held against your skin, to make measures related to the stiffness of your arteries. The tonometer probe is used to measure pressure in an artery located in your neck. The probe will be held on your neck for about a minute. Additionally, a cuff will be placed around your left upper thigh which will inflate briefly for about a minute during the measure with the tonometer. This is a non-invasive test and should not be uncomfortable, other than some minor pressure at the measurement site. This measure may be repeated up to 3 times.

Exercise testing. Immediately following the vascular studies, you will complete an exercise test, which will consist of the following procedures. We will monitor your heart rate with a strap that you will place around your chest. You will cycle on a stationary cycle ergometer while wearing a mouthpiece and nose clip. After 4 minutes of spinning at a comfortable speed, the resistance of the ergometer will increase each minute until you reach exhaustion. This is to measure your overall aerobic fitness level. It normally takes 8 to 12 minutes for people to reach their maximal effort. This test will establish your maximal oxygen uptake and will be used to select an appropriate workload for individuals assigned to exercise training. Upon completion of the exercise test, you will be offered a snack (Granola bar) and fluids (18 oz Gatorade) to eat and drink. You should notify the investigator immediately if you feel any significant discomfort or concern about your well-being at any time during the exercise test. Some examples of discomfort include fatigue and muscle soreness.

Assignment to Heat Therapy or Exercise Training

After completion of the Pre-Tests, you will be randomly assigned to one of two groups. You will have a 50/50 chance of being assigned to either group (like the flip of a coin). One group of individuals will undergo a total of 30 sessions of heat therapy over an 8 to 10-week period (roughly 3 to 4 sessions per week). The other group of individuals will undergo a total of 30 sessions of exercise training over an 8 to 10-week period (roughly 3 to 4 sessions per week). For both groups, all sessions will take place at the university and be overseen by the researchers. If you are a person who can become pregnant, you will be asked to undergo a pregnancy test once a week throughout your involvement in the therapy/training.

Heat Therapy or Exercise Training Sessions

Heat Therapy. If you are in the heat therapy group, you will be expected to participate in 30 heat therapy sessions. You will need to wear a swimsuit or suitable clothing for being in a hot tub. Your core temperature will be measured with an ingestible temperature pill that you will swallow the night before each of the first 5 sessions and the last session. This core temp pill is the size of a multivitamin and will harmlessly pass through your system within 2 days. Before each session, you will be asked to collect a small urine sample in a private restroom in the lab to ensure you are sufficiently hydrated. Each heat therapy session will include 45 minutes in a 104°F (40°C) hot tub. You will be provided with water during the heat therapy sessions. Upon completion of each heat therapy session, you will be offered a snack (e.g., Granola bar) and fluids (e.g., 18 oz Gatorade) to eat and drink.

Exercise Training. If you are in the exercise training group, you will be expected to participate in 30 exercise sessions. You are advised to wear a t-shirt with shorts and tennis shoes for all exercise sessions. Your core temperature will be measured with an ingestible temperature pill that you will swallow the night before the first and last sessions. This core temp pill is the size of a multivitamin and will harmlessly pass through your system within 2 days. Upon arrival, a research assistant will instruct you on how to instrument yourself with a heart rate monitor that straps around your chest. Each exercise session will include a 5-minute warm-up of easy cycling, followed by 40 minutes of moderate intensity cycling. The session will end with a 5-minute cool down of easy cycling. You will be provided with water during the exercise sessions. Upon completion of each exercise training session, you will be offered a snack (e.g., Granola bar) and fluids (e.g., 18oz Gatorade) to eat and drink.

1st Heat Therapy or Exercise Training Session. In addition to the heat therapy or exercise training described above, before the 1st heat therapy or exercise training session, you will lay down for 20 min of rest and we will take your blood pressure three times. At the end of this 1st session, you will lay down for 1 hour of recovery, during which we will continue to monitor core temperature, heart rate, and blood pressure every 5 min. Prior to this 1st session, we will ask you to refrain from consuming food for 2 hours, caffeine (for example, coffee, tea, red bull, coke, etc.) for 6 hours, alcohol and medications or supplements (except oral contraceptives) for 12 hours, and abstain from exercise or heat therapy for 12 hours.

NOTE: If you are contraindicated from using the core temp pill, you will be given a rectal thermistor to monitor core temperature during the first and last therapy sessions if you are in the exercise group and during the first 5 and last therapy sessions if you are in the heat therapy group. You will be given instructions on how to self-insert, as well as how to remove and clean it. It is made of a thin flexible rubber material that is inserted 10 cm (approximately 4 inches) past the anal sphincter. The thermistor will remain in place throughout the entire therapy session. The thermistor has a "tail" that will be connected to an external apparatus. The procedure may be a little uncomfortable at first (during insertion), but it should not be painful at any time. Once in place, you may not feel the thermistor at all. This technique is widely used, and it's considered the gold standard procedure for measuring body (core) temperature. If you are contraindicated from using the core temp pill and rectal thermistor, your temperature will be measured with a digital thermometer under your tongue or in your ear.

Interim-Tests

After you complete the first 15 sessions of either heat therapy or exercise training, you will repeat all the Pre-Test Visit 1-3 activities, except for the exercise test.

Post-Tests

After you complete all 30 sessions of either heat therapy or exercise training, you will repeat all the Pre-Test Visit 1-3 activities.

Throughout your involvement in the study, you should notify the investigator immediately if you feel any significant discomfort or concern about your well-being at any time during the study visits. We will tell you about any new information that may affect your willingness to continue participation in this research. The following table summarizes the time commitment for participation:

Visit	Activities	Time commitment
Visit 1	Screening Visit 1	1 hour
Visit 2	Screening Visit 2	1 hour
Visit 3	Pre-Test Visit 1. Pick up 24-hour monitoring supplies	30 minutes

At home	Pre-24-hour urine collection + food/beverage log and 24-hour BP + sleep/wake/activity log	2½ hours
Visit 4	Pre-Test Visit 2. Return 24-hour monitoring supplies/samples to lab + blood draw	30 minutes
Visit 5	Pre-Test Visit 3. Vascular Studies + Exercise testing	3 hours
Visit 6	1st Heat Therapy or Exercise Training Session	2 ½ hours
Visits 7-20	14 Heat Therapy or Exercise Training Sessions	1 hour each session
Visit 21	Interim-Test Visit 1. Pick up 24-hour monitoring supplies	30 minutes
At home	Interim-24-hour urine collection + food/beverage log and 24-hour BP + sleep/wake/activity log	2½ hours
Visit 22	Interim-Test Visit 2. Return 24-hour monitoring supplies/samples to lab + blood draw	30 minutes
Visit 23	Interim-Test Visit 3. Vascular studies	2 hours
Visits 24-38	15 Heat Therapy or Exercise Training Sessions	1 hour each session
Visit 39	Post-Test Visit 1. Pick up 24-hour monitoring supplies	30 minutes
At home	Post-24-hour urine collection + food/beverage log and 24-hour BP + sleep/wake/activity log	2½ hours
Visit 40	Post-Test Visit 2. Return 24-hour monitoring supplies/samples to lab + blood draw	30 minutes
Visit 41	Post-Test Visit 3. Vascular studies + Exercise testing	3 hours
Totals	***Activities on 37 days over about 12 weeks***	***2 hours of screening; 9.5 hours of testing; 31 ½ hours of therapy or training; 9 hours sample collection/logging***

You may elect to complete the Vascular Studies + Exercise Testing (visit 5, 23, and 41) when you return the 24-hour monitoring supplies/samples (visit 4, 22, and 40). This would eliminate 3 visits to the lab (visit 5, 23, and 41). Blood draws occur immediately following the last void of the 24-hour urine collection before the vascular studies. Exercise tests occur immediately following the vascular studies. You may elect to complete the Vascular Studies and Exercise Testing on separate days. This would add 2 visits to the lab.

What happens to the information collected for this research?

Information and specimens collected for this research will be used to better understanding the physiology of how the human body responds to these interventions and will be used in published reports and conference presentations.

- Your name will not be used in any published reports or conference presentations about this study.
- Identifiers will be removed from identifiable private information or identifiable biospecimens collected in this research, which may be used for future research.
- A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. Law. This website will not include information that can identify you. At most, the website will include a summary of the results. You can search this website at any time.

How will my privacy and data confidentiality be protected?

We will take measures to protect your privacy. Despite taking steps to protect your privacy, we can never fully guarantee your privacy will be protected. Measures we will take include:

- We will conduct research in private settings and use secure online survey platforms.
- It is possible that some of the heat therapy or exercise training sessions may involve more than one subject participating at the same time, so other subjects may learn who other participants are. Participants would not be in the same hot tub unless they have agreed to sharing a hot tub and may elect for a privacy screen.

We will take measures to protect the security of all your personal information, but we can never fully guarantee confidentiality of all study information. Measures we will take include:

- We will use HIPAA compliant software for scheduling phone screenings.
- Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Subject identities will be kept confidential by assigning you a "subject identification number". The names associated with each subject identification number will be kept in a locked file cabinet or password protected document on a password protected computer in the physiology lab.
- The list of names will be destroyed when study results are published or 24 months after your participation, whichever comes first. All blood and urine samples will be destroyed when study results are published or 5 years after your participation, whichever comes first. Other information may be stored by the researchers indefinitely.
- Heart rate data will be collected with a system used by and accessible to groups (sports teams) outside of the physiology lab at the University of Oregon. However, all heart rate data is coded such that no identifiable information will be accessible.
- You will be asked to complete a Medical History Form which will list personal identifying information so that in the unlikely event of a medical emergency in which we would activate the emergency medical system, we would be able to provide this information to emergency healthcare providers. This document would be retained in a locked file cabinet in the physiology lab for up to a week after your involvement in the study ends, after which it is placed in a locked confidential documents disposal bin which is emptied by a secure shredding service.

Individuals and organization that conduct or monitor this research may be permitted access to and inspect the research records. This may include access to your private information and medical results. These individuals and organizations include:

- The Institutional Review Board (IRB) that reviewed this research
- Government regulatory agencies
- The Food and Drug Administration
- The National Institutes of Health/National Heart, Lung, and Blood Institute

Data for this project will be stored the University of Oregon's (UO) installation of REDCap, a highly secure and robust web-based research data collection and management system. Features of REDCap that protect participants' privacy and data security include:

- Physical Security: UO's REDCap software is housed on servers located in UO's Information Services Computing Center providing locked physical security.
- Electronic Security: The UO REDCap servers are housed behind the UO Information Services Datacenter firewall. All web-based data transmissions are encrypted with industry-standard SSL methods.

- Controlled User Access: REDCap employs a robust multi-level security system that enables researchers to easily implement "minimum necessary" data access for their research staff, including specification of data fields that are identifiers. This feature includes “single click” ability to provide completely deidentified (removing all identified data fields and shifting dates) for analysis or other purposes. User activities are logged to enable auditing of all data access. UO access is integrated with UO's Shibboleth Sign-On such that users who are also UO employees are authenticated against their UO network credentials.
- Data Integrity: UO REDCap is hosted on UO Information Services managed datacenter, ensuring fidelity of database configuration and back-ups. User activities are logged to enable auditing of all data changes.

If data is shared with researchers outside of the University of Oregon physiology lab for the purpose of statistical analysis, all personally identifiable information will be removed.

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. The researchers with this Certificate may not disclose or use information, documents, or biospecimens that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other action, suit, or proceeding, or be used as evidence, for example, if there is a court subpoena, unless you have consented for this use. Information, documents, or biospecimens protected by this Certificate cannot be disclosed to anyone else who is not connected with the research except, if there is a federal, state, or local law that requires disclosure (such as to report child abuse or communicable diseases but not for federal, state, or local civil, criminal, administrative, legislative, or other proceedings, see below); if you have consented to the disclosure, including for your medical treatment; or if it is used for other scientific research, as allowed by federal regulations protecting research subjects

The Certificate cannot be used to refuse a request for information from personnel of the United States federal or state government agency sponsoring the project that is needed for auditing or program evaluation by the NIMH which is funding this project. You should understand that a Certificate of Confidentiality does not prevent you from voluntarily releasing information about yourself or your involvement in this research. If you want your research information released to an insurer, medical care provider, or any other person not connected with the research, you must provide consent to allow the researchers to release it.

The Certificate of Confidentiality will not be used to prevent disclosure as required by federal, state, or local law such as child abuse and neglect, or harm to self or others.

What are the risks if I participate in this research?

The risks or discomforts of participating in this research include:

- Exercise testing and training: There is some minor discomfort associated with exercise testing, including temporary fatigue, shortness of breath, and muscle soreness. These sensations resolve within minutes after the test is completed. There is the possibility of some residual muscle soreness in the few days following the exercise test. There is also the risk of a heart attack or death during an exercise test. The risk of a complication requiring hospitalization is about 1 incident in 1000. The risk of a heart attack during or immediately after an exercise test is less than 1 incident in 2500. The risk of death during or immediately after an exercise test is less than 1 incident in 10,000.
- Heat exposure and therapy: There are some risks associated with heat exposure, including: fatigue, light-headedness, muscle cramps, dehydration, and neurological detriments (i.e., heat stroke). However, these symptoms do not typically occur until core temperature rises above 104°F (40°C). Your core temperature will be monitored (core temp pills, rectal thermistor, or oral/aural thermometer), and you will be removed from the hot bath immediately if either core temperature reaches 103.1°F (39.5°C) or you experience any symptoms of heat-related illness. You will be instructed to notify the investigators immediately if you experience any of these symptoms. All symptoms subside upon lowering core temperature. Ice packs will be on hand for rapid cooling if necessary. Additionally, heat exposure may have detrimental effects on a

developing fetus, and repetitive use of hot baths have been reported to lower sperm counts and sperm motility in some males; however, the decreased sperm counts are reversed within a few months after stopping regular sauna bathing. Thus, subjects who are pregnant or trying to conceive will be excluded from the study.

- Core temp pill: Your core temperature will be measured with a core temperature pill that is the size of a multivitamin and is designed and approved for human use. It will harmlessly pass through your system within 2 days. The pill is disposable and is not recovered. The risks include mechanical injury to the mucus membranes if adequate care is not used. There is a small risk of electrical shock if there is a current leak.
- Rectal thermistor: The use of rectal thermistors to measure core temperature carries minimal risk. The primary risk is damage to the lining of the rectum; however, this risk is very slight as we use a flexible thermistor that is designed for this purpose. Individuals with recent rectal, anal, vaginal, or prostate surgery should not use a rectal thermistor. In addition, those who have a personal history of heart disease should not use a rectal thermistor, as the use of a rectal thermometer can cause a vagal reaction, increasing the potential for arrhythmias and fainting. There is also the risk of infection. The risk of infection is similar to that of having a bowel movement and is considered minimal.
- Cardiac output: There are no risks associated with breathing acetylene or helium, particularly in such low concentrations.
- Blood sampling: In total, about 130 mL of blood will be withdrawn over the course of the experiments, which is less than associated with standard blood donation programs, where 450-500 mL of blood (half a quart) is routinely withdrawn. You should not donate blood or volunteer for another research study where blood will be drawn for 8 weeks following completion of the study. The 8-week period is recommended to allow your body to reproduce the blood that was taken during the study days. You may choose to do the vascular studies and exercise test immediately preceding the blood draw. The vascular studies take about 2 hours and occur before the exercise test. This is sufficient time for the blood draw puncture site to seal. Therefore, there are no additional risks to performing the exercise test on the same day as the blood draw.
- Emergencies: In the unlikely case of a life-threatening heart rhythm, the laboratory is equipped with an Automated Electronic Defibrillator that is in the same room where the study is taking place. In the event of an emergency, 911 will be called and we will direct an ambulance to the correct location. In the event of an emergency, you will be transported by ambulance to a local emergency facility.
- Tracking of taxable income: Please note, compensation from participation in Human Subjects Research studies is taxable income. If your compensation totals more than $600 in a calendar year, the University is required to report the income to the IRS. The University requires its departments to track participant compensation and may contact you to complete a Form W-9 for tax reporting purposes. Because of the federal and University tracking requirements, your name will be associated with participation in research. Department and University administrators will have access to this information but will not have access to research data.
- Taking part in this may hurt a pregnancy or fetus in unknown ways. These may be minor or so severe as to cause death.

What are the benefits of participating in this research?

You may or may not benefit from participating in this research. Measurements are not being conducted for diagnostic purposes. The results will not be reviewed by a physician. The purpose of this study is to provide more information on how humans with high blood pressure respond to heat therapy and to exercise training. Our hope is that by better understanding the physiology of how the human body responds to these interventions, we will be better able to advise physicians in how they treat patients with high blood pressure.

What are my responsibilities if I choose to participate in this research?

If you take part in this research, you will be responsible for:

- Adhering to scheduled sessions and communicating with the researchers in the event that you need to reschedule any sessions.
- Adhering to instructions from the researchers regarding when you need to fast, refrain from consuming caffeine and medications or supplements, abstain from alcohol, exercise, or heat therapy for specific testing days.

What other choices do I have besides participation in this research?

It is your choice to participate or not to participate in this research.

What if I want to stop participating in this research?

Taking part in this research study is your decision. Your participation in this study is voluntary. You do not have to take part in this study, but if you do, you can stop at any time. You have the right to choose not to participate in any study activity or completely withdraw from continued participation at any point in this study without penalty or loss of benefits to which you are otherwise entitled. Your decision whether or not to participate will not affect your relationship with the researchers or the University of Oregon.

The investigators may stop you from taking part in this study. Reasons for withdrawal might include:

- It is in your best interest
- You have a side effect that requires stopping the research
- You need a treatment not allowed in this research
- You become pregnant
- The research is canceled by the sponsor
- You are unable to keep your scheduled appointments
- You are unable to adhere to instructions from researchers

Will it cost me money to take part in this research?

There are no costs associated with participation in this research study.

What if I am injured because of participating in this research?

If you are injured or get sick because of being in this research, call the researchers immediately.

In the event you suffer a research-related injury your medical expenses will be your responsibility or that of your insurance company (or other third-party payer), although you are not precluded from seeking to collect compensation for injury related to malpractice, fault, or blame on the part of those involved in the research. If you are a UO student or employee and are covered by a UO medical plan, that plan might have terms that apply to your injury.

If you experience harm because of the project, you can ask the State of Oregon to pay you. If you have been harmed, there are two University representatives you need to contact. Here are their addresses and phone numbers:

General Counsel/ Office of the President
1226 University of Oregon
Eugene, OR 97403-1226
(541) 346-3082

Research Compliance Services
5237 University of Oregon
Eugene, OR 97403-5237
(541) 346-2510

A law called the Oregon Tort Claims Act may limit the amount of money you can receive from the State of Oregon if you are harmed.

Will I be paid for participating in this research?

You will not pay for any tests or procedures that are done just for this research study. You will get up to $450 for participating in Protocol 1, including $420 for completing all the research testing and heat therapy or exercise training sessions, and $30 for completing all the sessions within 10 weeks. This money is for the inconvenience and time you spend in this study. If you start the study but stop before the study has ended, the amount of money you receive will be pro-rated at a rate of $15 per research testing hour, $5 per heat therapy or exercise training session, and $45 per 24-hour urine collection/24-hour blood pressure monitoring that you complete.

Compensation for participation in Protocol 2 will be discussed in the Informed Consent Form for Protocol 2.

Please be aware, compensation for participation in research may be considered taxable income. The University requires tracking for compensation that is paid to you; this may include your name and contact information. This information is stored confidentially and separate from research data. If you receive $600 or more in a calendar year, you may be contacted to provide additional information (e.g., Social Security Number) for tax reporting purposes.

Who can answer my questions about this research?

If you have questions, concerns, or have experienced a research related injury, contact the research team at:

Dr. Minson
(541) 346-4105
minson@uoregon.edu

An Institutional Review Board (IRB) is overseeing this research. An IRB is a group of people who perform independent review of research studies to ensure the rights and welfare of participants are protected. UO Research Compliance Services is the office that supports the IRB. If you have questions about your rights or wish to speak with someone other than the research team, you may contact:

Research Compliance Services
5237 University of Oregon
Eugene, OR 97403-5237
(541) 346-2510

STATEMENT OF CONSENT

I have had the opportunity to read and consider the information in this form. I have asked any questions necessary to make a decision about my participation. I understand that I can ask additional questions throughout my participation.

I understand that by signing below, I volunteer to participate in this research. I understand that I am not waiving any legal rights. I have been provided with a copy of this consent form. I understand that if my ability to consent or assent for myself changes, either I or my legal representative may be asked to re-consent prior to my continued participation in this study.

I consent to participate in this study.

Name of Adult Participant	Signature of Adult Participant	Date

Researcher Signature (to be completed at time of informed consent)

I have explained the research to the participant and answered all of his/her questions. I believe that he/she understands the information described in this consent form and freely consents to participate.

Name of Research Team Member	Signature of Research Team Member	Date