

PARTICIPANT INFORMATION SHEET

VEGAN VS OMNIVORE DIETS - IMPACT ON MUSCLE RECOVERY

Researchers: Ben Duncan; Sarah Duncan

Introduction

We are Massey University students studying toward a Master of Science Nutrition and Dietetics, supervised by Associate Professor Andy Foskett and Dr Kaio Vitzel. We are recruiting participants for a project investigating recovery of muscle after exercise, in those consuming a vegan diet (no animal products) or an omnivorous diet (diets that include animal-based foods).

This Participant Information Sheet will help you decide if you'd like to take part in the study. Before you decide, please feel free to talk about the study with other people, such as whānau/family, friends, or healthcare providers. Participation in this study is entirely voluntary and you are free to decline to participate, ask any questions about the study, or to withdraw from the research at any time.

If you agree to take part in this study, you will be asked to sign the Consent Form on the last page of this document. You will be given a copy of both the Participant Information Sheet and the Consent Form to keep.

Project Description

Vegan diets are becoming increasingly popular in New Zealand and around the world. Vegan diets may support good health and may have an impact on sports performance. Recovery is an important consideration for anyone engaged in regular sports or exercise since a fast recovery prevents injury and prepares you for the next training session as soon as possible. However, little is known about how vegan diets affect muscle recovery after exercise, compared to diets that include animal-based foods. Therefore, the main aim of the project is to investigate the impact of a vegan diet vs omnivorous diet on muscle recovery after exercise.

Who Can Take Part?

We are looking for people who:

- Have adhered to either a vegan or an omnivore diet for at least the past 2 years.
- Are recreationally active.
- 18-40 years of age.
- Non-smoker.
- No chronic health conditions (such as diabetes, cardiovascular disease, bleeding disorders, or pulmonary disease).

This study is not suitable for people who:

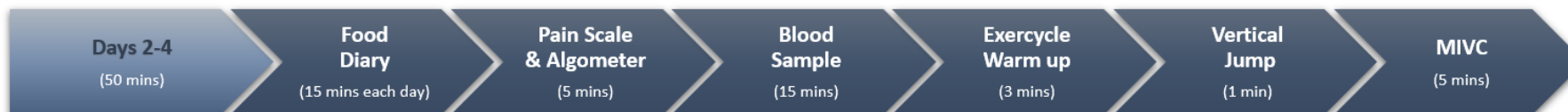
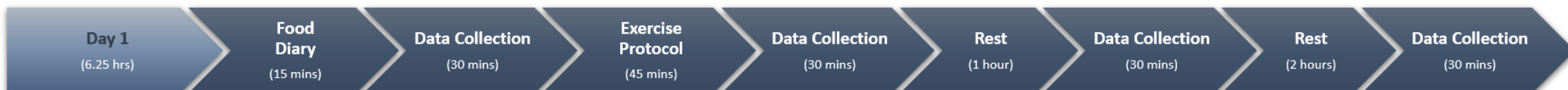
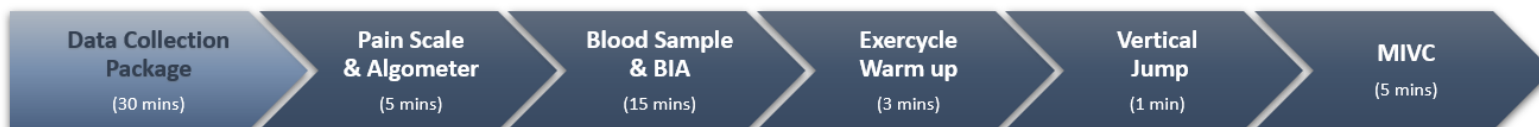
- Are advanced/elite athletes (someone who trains four or more times per week for their sport and competes at a high level)
- Are receiving hormone replacement therapy, or anabolic steroids, or oral contraceptive medication, or have a hormonal implant such as 'the rod' or an IUD (copper IUD is fine).
- Have any conditions identified on the "Health Screening Questionnaire".
- Are amenorrhoeic (do not have periods) for those who have menstrual cycles only.

Project Procedures

Before starting the trials, you will be asked to record the food that you eat for 3 days. Since the aim of this project is to compare muscle recovery after exercise between vegans and omnivores, we need to ensure all participants are eating similar amounts of protein and carbohydrate. Your energy intake will be matched to your estimated needs. We will work with you to slightly adjust what you typically eat to meet this target, we will ensure the changes are minimal and not disruptive.

The study requires you to attend 5 sessions at the School of Sport, Exercise and Nutrition at Massey University (Auckland campus). The first session is a familiarisation session. This involves a health-screening questionnaire, consent form and familiarisation with the exercise protocols/tests and other study procedures. The following 4 sessions will comprise the research trials. Please see the below figure for an overview of the procedures and time required. Each session is explained in the paragraphs on the next page.

Estimated Time Involved



Day 1

Baseline tests

These initial tests will take about 30-40min to complete. We will measure your weight and height, take a blood sample to measure blood markers associated with muscle inflammation, and measure your body composition with a BIA machine (bioelectrical impedance analysis).

To determine how high you can jump, you will be asked to perform 3 vertical jumps on a floor mat. We will also ask how sore your leg muscles feel at different times, using a scale system and a piece of equipment that presses gently on your leg, called an algometer.

Exercise routine

You will be asked to do an exercise routine of 200 drop jumps, which involves jumping off a 0.6m high box and landing with both feet on the ground, followed by an immediate vertical jump up. There will be a 10 second rest after every jump and we will direct you to do this activity safely. You will perform the first 100 drop jumps in 5 sets of 20 jumps with a 2-minute rest between sets. You will then perform the second 100 drop jumps in the same manner. This will take about 45-55 minutes.

We will then repeat the baseline tests as outlined above (excluding the BIA) three more times: immediately after the drop jumps, 1 hour after, and 3 hours after. These tests will take about 20-30 min each time.

Between tests you can rest, so feel free to bring something to occupy your time, such as a laptop or book. You will be provided with a meal to eat during the 1-3 hour test window.

Days 2, 3 and 4

At 24 hours (day 2), 48 hours (day 3) and 72 hours (day 4) after the exercise routine, you will return to the lab and repeat the baseline tests as above. This will take about 30 min each time. After day 4, this is the end of the tests. We will also ask you to complete a 4-day food record for everything you eat and drink during the research trial.

Things You Will Need to Avoid During the Study

You will need to abstain from alcohol, caffeine, supplements, and hormonal birth control for 24 hours before the first test and until the end of day 4. You will also need to avoid doing any exercise for 48 hours before the start of the study, until after the study has finished.

What are the possible benefits of this study?

You will be involved in an exciting project looking at how vegan and omnivorous diets affect muscle recovery after exercise, and you will gain insight into how research is done. You will receive valuable information about how your body responds to exercise, and you will be contributing to finding answers to unanswered questions about diet and muscle function. We will also provide you with an in-depth nutrient analysis of your diet which will include comparisons to the Ministry of Health recommended guidelines.

What are the possible risks of this study?

You may experience some minor discomfort, such as muscle cramps, delayed muscle soreness, or fatigue, during or after the exercise routine. There is also a chance of soreness, bruising or infection at the injection site when blood samples are taken. We will guide you through how to use the exercise equipment correctly to avoid injury and all practicable steps will be taken to minimize risks. Staff will be fully trained in the procedures and only fully qualified phlebotomists will be taking blood samples. We will also have support staff available in case you do experience any adverse effects.

Will any costs be reimbursed?

Participants will be offered a \$50 koha (gift card) to contribute to any transport and food costs incurred on the participation days.

What if something goes wrong?

If you were to be injured in this study, you would be eligible to apply for compensation from ACC just as you would be if you were injured in an accident at work or at home. If you have private health or life insurance, you may wish to check with your insurer that taking part in this study won't affect your cover.

What will happen to my information?

During this study the researchers will record information about you and your study participation. This includes the results of any study assessments and information collected from you before the study. You cannot take part in this study if you do not consent to the collection of this information.

Identifiable Information

Only researchers will have access to your identifiable information (your name, date of birth).

De-identified (coded) Information

To make sure your personal information is kept confidential, information that identifies you will not be included in any report from the study. Instead, you will be identified by a code. The results of the study may be published or presented, but not in a form that would reasonably be expected to identify you.

Security and storage of your information

Your information is held at Massey University (Auckland campus) during the study and stored for no longer than five (5) years, then destroyed. All storage will comply with local and/or international data security guidelines.

Who has approved the study?

This project has been reviewed and approved by the Massey University Human Ethics Ohu Matatika 1, Application OM1 23/06. If you have any concerns about the conduct of this research, please contact A/Prof Louise Brough, Chair, Massey University Human Ethics Ohu Matatika 1, telephone 06 356 9099 x 84575, email humanethics1@massey.ac.nz.

Compensation for Injury

If physical injury results from your participation in this study, you should visit a treatment provider to make a claim to ACC as soon as possible. ACC cover and entitlements are not automatic, and your claim will be assessed by ACC in accordance with the Accident Compensation Act 2001. If your claim is accepted, ACC must inform you of your entitlements, and must help you access those entitlements. Entitlements may include, but not be limited to, treatment costs, travel costs for rehabilitation, loss of earnings, and/or lump sum for permanent impairment. Compensation for mental trauma may also be included, but only if this is incurred because of physical injury.

If your ACC claim is not accepted, you should immediately contact the researcher. The researcher will initiate processes to ensure you receive compensation equivalent to that to which you would have been entitled had ACC accepted your claim.

Who do I contact for more information or if I have any concerns?

If you have any questions, concerns or complaints about the study at any stage, you can contact:

Dr Kaio Vitzel Senior Lecturer

School of Health Sciences sk.vitzel@massey.ac.nz office: (09) 212 7050

Project Contacts

If you have any questions regarding this study, please do not hesitate to contact either of the following people for assistance:

Research coordinators:

Sarah Duncan

MSc Nutrition and Dietetics Student

sduncan2@massey.ac.nz

Ben Duncan

MSc Nutrition and Dietetics Student

bduncan@massey.ac.nz

Good Practice and Cultural Safety for Massey University Research

This study has been discussed with Dr Bevan Erueti (Associate Dean Māori, Te Kura Hauora Tangata). We have considered the inclusion of Māori and indigenous values and concepts, allowing for the use of whānau support and appropriate Māori protocols. We acknowledge the concept of manaakitanga, respecting the participant's inherent dignity and acting in a

caring manner towards them by way of:

- Taking full responsibility to perform research in a safe and ethical manner (aroha)
- Providing the participant with all the critical information regarding the study in a clear way, so they can make informed decisions (tūmanako and whakapono)
- An awareness of the cultural significance and sensitivity for a culturally safe implementation of the study (māhaki)
- Respect for the privacy and confidentiality of Māori participants
- Acknowledging the tapu (sacred) nature of blood by offering remaining blood samples (if appropriate) back to the participant

All research activities will adhere to the Covid Protection Framework and guidelines from Ministry of Education and Ministry of Health.

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Participant's Rights

You are under no obligation to accept this invitation, but completion and return of the required form implies consent. If you decide to participate, you have the right to:

- Decline to answer any question
 - Ask any questions or withdraw from the study at any time during participation
 - Provide information on the understanding that your name will not be used unless you give permission to the researcher
 - Be given access to a summary of the project findings when it is concluded.
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Vegan diet vs Omnivorous diet: Impact on recovery of muscle function

Consent Form for Study Volunteers

This consent form will be held for a minimum period of five (5) years

I have read the Participant Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I understand that I have the right to withdraw from the study at any time and to decline to answer any questions (if I choose to withdraw, I cannot withdraw my data from the analysis after the data collection has been completed).

I agree to provide information to the researcher on the understanding that my name will not be used without my permission. (The information will be used only for this research and publications arising from this research project.)

I agree to participate in this study under the conditions set out in the Participant Information Sheet.

Signature _____ **Date** _____

Full Name (printed) _____

Phone Number _____

Age _____

Date of Birth _____