Appendices
APPENDIX A

22 October 2010

Dr P Handcock
School of Physical Education
Division of Sciences
46 Union Street West

Dear Dr Handcock

I am writing to let you know that, at its recent meeting, the Ethics Committee considered your proposal entitled "Injury Prevalence in Retired Professional Rugby Players".

As a result of that consideration, the current status of your proposal is: Approved

For your future reference, the Ethics Committee’s reference code for this project is: 10/194. The comments and views expressed by the Ethics Committee concerning your proposal are as follows:

While approving the application, the Committee would be grateful if you would respond to the following:

Please state in the Information Sheet for Participants the expected time commitment involved in participating in the interview.

Items 13(q) and (g), (on pages five and six of the application), should include the supervisor as having access to the information, as well as the student researcher.

On page 12, in the last paragraph of the Information Sheet, please change the word 'above' to 'below'.

Approval is for up to three years. If this project has not been completed within three years from the date of this letter, re-approval must be requested. If the nature, consent, location, procedures or personnel of your approved application change, please advise me in writing.

Yours sincerely,
APPENDIX B

After Rugby: The Health of Retired Rugby Players

Greetings,

My name is Danielle Salmon and I am completing a PhD at the University of Otago, New Zealand. As part of my research I am looking at the possible effects of rugby related injuries on the long term health of retired players. We have developed a survey based on research conducted on retired athletes from other sports, and have received good feedback from a number of Rugby Player Associations who have suggested how to make this survey as relevant as possible to retired professional rugby players.

This email is an invitation to participate in the survey. It should take no more than 10 – 15 minutes to complete. All information provided will remain completely anonymous. If you decide to participate we are very grateful and thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the Aim of the Project?

It is our hope that this information can then be used by the respective rugby administrations to provide support to those players considering retirement or who are currently retired.

What Data or Information will be Collected and What Use will be Made of it?

Information to be collected includes age, weight and height measurements, whether or not you are a smoker, or have been diagnosed with high blood pressure. You will also be asked to provide information regarding your professional rugby career and any injuries sustained during that time. You will then be asked about your current physical activity levels. This is followed by questions concerning your current pain, stiffness and disability levels. The survey ends with a questionnaire looking specifically at any neck disability you may have.

The information collected will be used in a PhD thesis, with possible publications thereafter. No personal information will be revealed and the data collected will only be used for analysis by the researcher. The researchers (Danielle Salmon and Dr. Phil Handcock) will be the only persons to have access to the data and any personal information made available.

Link to the Survey

http://granny.otago.ac.nz/abbey/3C00WSYCX.htm
## What if Participants have any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact either:

<table>
<thead>
<tr>
<th>Danielle Salmon</th>
<th>or</th>
<th>Dr. Phil Handcock</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Physical Education</td>
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<td></td>
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</tr>
<tr>
<td>Email: <a href="mailto:Danielle.salmon@otago.ac.nz">Danielle.salmon@otago.ac.nz</a></td>
<td>Email: <a href="mailto:Phil.handcock@otago.ac.nz">Phil.handcock@otago.ac.nz</a></td>
<td></td>
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</tbody>
</table>

This project has been reviewed and approved by the University of Otago Human Ethics Committee (reference 10/194) and has undergone a Ngāi Tahu Research Consultation.
Hello,

This is a follow-up to our initial invitation to participate in a survey looking at the Health Status of Retired Rugby Players. I would like to thank those that have completed the survey. The results so far look interesting and support research that has been conducted with retired American Football Players and Soccer Players.

For those that have not had an opportunity yet to complete the survey, I encourage you to do so as these findings will give us insight into the issues surrounding retired rugby players. Our hope is that this information can be used by Players Associations and Rugby Unions to help support and meet the needs of its members. Below is a link that will take you directly to the survey.

**Link to the Survey**

http://granny.otago.ac.nz/abby/3C00WSYCX.htm

**What if Participants have any Questions?**

If you have any questions about our project, either now or in the future, please feel free to contact either:

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This project has been reviewed and approved by the University of Otago Human Ethics Committee (reference 10/194) and has undergone a Ngāi Tahu Research Consultation.
Dr P Handcock  
School of Physical Education  
Division of Sciences  
48 Union Street West

18 February 2011

Dear Dr Handcock

I am writing to let you know that, at its recent meeting, the Ethics Committee considered your proposal entitled "The relationship between neck muscle strength and endurance and neck injury in rugby players".

As a result of that consideration, the current status of your proposal is: Approved.

For your future reference, the Ethics Committee's reference code for this project is: 11/043.

The comments and views expressed by the Ethics Committee concerning your proposal are as follows:

While approving the application, the Committee would be grateful if you would respond to the following:

The Committee would be grateful if the Information Sheet for Participant could be simplified, and the paragraphs shortened to make it easier for participants to read and comprehend.

Please supply the Committee with evidence that consultation is underway with the Ngāi Tahu Research Consultation Committee (Te Komiti Rakahau ki Kāi Tahu). If you wish to discuss this please contact Mark Brunton (479 8738, research.maori@otago.ac.nz).

It is possible that an older version of the Category A application form has been used in this instance. For future applications, please use the updated form, which is available on the website at: http://www.otago.ac.nz/acadcomm/categorya.html

Approval is for up to three years. If this project has not been completed within three years from the date of this letter, re-approval must be requested. If the nature, consent, location, procedures or personnel of your approved application change, please advise me in writing.

Yours sincerely,
Mr Gary Witte
Manager, Academic Committees
Tel: 479 8256
Email: gary.witte@otago.ac.nz

c.c. Professor D G Booth  Dean  School of Physical Education
APPENDIX E

NGĀI TAHU RESEARCH CONSULTATION COMMITTEE
Te Komiti Rakahau ki Kāi Tahu

13/12/2011 - 27
Tuesday, 13 December 2011

Dr Handcock
School of Physical Education
Dunedin

Teā koe Dr Handcock

Title: The impact of a neck exercise intervention on functional neck strength and endurance in professional rugby players.

The Ngāi Tahu Research Consultation Committee (The Committee) met on Tuesday, 13 December 2011 to discuss your research proposition.

By way of introduction, this response from the Committee is provided as part of the Memorandum of Understanding between Te Rūnanga o Ngāi Tahu and the University. In the statement of principles of the memorandum, it states "Ngāi Tahu acknowledges that the consultation process outlined in this policy provides no power of veto by Ngāi Tahu to research undertaken at the University of Otago". As such, this response is not "approval" or "mandate" for the research, rather it is a mandated response from a Ngāi Tahu appointed committee. This process is part of a number of requirements for researchers to undertake and does not cover other issues relating to ethics, including methodology; they are separate requirements with other committees, for example the Human Ethics Committee, etc.

Within the context of the Policy for Research Consultation with Māori, the Committee base consultation on that defined by Justice McGechan:

"Consultation does not mean negotiation or agreement. It means: setting out a proposal not fully decided upon; adequately informing a party about relevant information upon which the proposal is based; listening to what the others have to say with an open mind (in that there is room to be persuaded against the proposal); undertaking that task in a genuine and not cosmetic manner. Reaching a decision that may or may not alter the original proposal."

The Committee considers the research to be of importance to Māori health and commend the researchers on the detail and thought that has gone into this submission.

The Committee notes the researchers have identified that, “Previous research has identified that individuals of Pacific origin are at a higher risk of neck injury,” and asks for the reference to that research.

As this study involves human participants, the Committee strongly encourage that ethnicity data be collected as part of the research project. That is the questions on self-identified ethnicity and descent, these questions are contained in the 2006 census.

The Ministry of Health website
http://www.MoH.health.govt.nz/moh.nsf/indexxml/publications contains a list of Māori health publications. The Committee recommends you review the Māori health

The Committee suggests dissemination of the research findings to Māori sports organisations regarding this study.

We wish you every success in your research and the Committee also requests a copy of the research findings.

This letter of suggestion, recommendation and advice is current for an 18 month period from Tuesday, 08 March 2011 to 08 September 2012. The recommendations and suggestions above are provided on your proposal submitted through the consultation website process. These recommendations and suggestions do not necessarily relate to ethical issues with the research, including methodology. Other committees may also provide feedback in these areas.

Nahuku noa, nā

Mark Brunton
Kaiwhakahaere Rangahau Māori
Facilitator Research Māori
Research Division
Te Whare Wānanga o Otago
Ph: +64 3 479 8738
e-mail: mark.brunton@otago.ac.nz
Web: www.otago.ac.nz

The Ngāi Tahu Research Consultation Committee has membership from:

Te Rūnanga o Ōkāreti Incorporated
Kāi Huirapa Rūnaka ki Puketeraki
Te Rūnanga o Moeraki
APPENDIX F

A Study Examining the Neck Strength and Endurance is a Simulated Contact Posture

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. The aim of this project is to examine the relationship self-reported pain and injury in a population of rugby players, followed over the course of a season. Over the course of the season, injury events will be recorded by the team physiotherapist and you will be asked to complete weekly pain body diagrams. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the Aim of the Project?

This project is being undertaken as part of the requirements for the PhD in Physical Education.

The major aims of the study are:

1. To develop a functional and reliable testing apparatus and experimental protocol that would permit evaluation of neck musculature maximal force production in a simulated body contact position.

2. To establish the within day reliability of repeated measurement with this device.

What Type of Participants are being sought?

Participants must be free from any neck injury that would preclude their completion of the strength testing battery

What will Participants be Asked to Do?

Each testing session will take approximately 0.5 hours/session and will require some physical exertion. You will be asked to perform standardized testing protocol to allow the researchers to determine your maximal strength and endurance of your cervical musculature in four testing directions flexion, extension, left lateral flexion and right lateral flexion. Prior to the commencement of testing each participant will be asked to complete a short questionnaire with six Visual Analog Scales (VAS). The first three will ask about self-reported neck pain at ‘present’, ‘worst’ and ‘in general’ over the past month. The remain three VAS question will be of the same format but will related to self-reported stiffness at ‘present’, ‘worst’ and ‘in general’. After completing the questionnaire you will be asked to complete a standard warm of the neck and shoulder muscles to
prevent injury during the testing protocol. An adjustable scrum pad will be set up for you to use during these testing sessions, with an adjustable contraption that surround the head with four pads that will be placed on the top, bottom, left and right sides of the head. When in the tackling stance, the chest and upper body will be supported by the scrum pads and the four head pads will be attached to force transducer, a specialized research tool that can be used to measure the strength and endurance of a muscle or muscle group during activity. You will be asked to perform a series of maximum isometric “pushes” with your neck forwards, backwards, left and right while in the tackling stance. These pushes will provide insight into the maximal force production of your neck muscles. Each push will occur over a period of 5 seconds after which a minute of rest will be provided. You will then be asked to complete four endurance trials where you push at 70% of your maximum force in each respective direction until fatigue or for a maximum period of 3 minutes. Five minutes of rest will then be given between each of the endurance trials and your condition will be monitored at all times by the researcher for risk of injury. All of this equipment can be adjusted for proper fit and should not cause you to be uncomfortable. This same procedure will be followed for the mid- and post-season assessment.

Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

**Can Participants Change their Mind and Withdraw from the Project?**

You may withdraw from participation in the study at any time and without any disadvantage to yourself of any kind.

**What Data or Information will be Collected and What Use will be Made of it?**

The information collected will be used in a PhD thesis, with possible publications thereafter. No personal information will be revealed and the data collected will only be used for analysis by the researcher. The researchers (Danielle Salmon and Dr. Phil Handcock) will be the only persons to have access to the data and any personal information made available.

The data collected will be securely stored in such a way that only those mentioned below will be able to gain access to it. At the end of the project raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

**What if Participants have any Questions?**

If you have any questions about our project, either now or in the future, please feel free to contact either:

Danielle Salmon or Dr. Phil Handcock

School of Physical Education
Telephone 03 479 8038
Email: Danielle.salmon@otago.ac.nz

School of Physical Education
Telephone 03 479 5025
Email: phil.handcock@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.
A Study Examining the Neck Strength and Endurance is a Simulated Contact Posture

CONSENT FORM FOR PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. My participation in the project is entirely voluntary;
2. I am free to withdraw from the project at any time without any disadvantage;
3. The data will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed;

I agree to take part in this project.

(Signature of participant)   (Date)

This project has been reviewed and approved by the University of Otago Human Ethics Committee
APPENDIX G

The Relationship between Neck Strength and Endurance and Neck Injury

Name: ___________________ Date: ________________

Handedness: □ Left Handed □ Right Handed

Do you complete specific exercises for your neck: □ Yes □ No

Neck Girth: ________________ Height: ________________

Weight: ________________ Ethnic Origin: ________________

1. On the scale please indicate your CURRENT level of NECK PAIN?

0 No Pain at all 100 Worst Possible Pain Imaginable

2. On the scale please indicate your AVERAGE level of NECK PAIN over the past three weeks?

0 No Pain at all 100 Worst Possible Pain Imaginable

3. On the following scale please indicated your WORST level of NECK PAIN over the past three weeks?

0 No Pain at all 100 Worst Possible Pain Imaginable

4. On the scale please indicate your CURRENT level of NECK STIFFNESS?

0 No Stiffness at all 100 Worst Possible Stiffness Imaginable

5. On the scale please indicate your AVERAGE level of NECK STIFFNESS over the past three weeks?

0 No Stiffness at all 100 Worst Possible Stiffness Imaginable

6. On the following scale please indicated your WORST level of NECK STIFFNESS during the past three weeks?

0 No Stiffness at all 100 Worst Possible Stiffness Imaginable
**APPENDIX H**

**Warm-Up** *(total time = 5 min):*

1. Shoulder Shrugs
   a. Standing in front of a mirror
   b. Slowly lift both shoulders up toward your ears (attempt to lift them as high as possible)
   c. Perform 3 sets of this exercise and repeat 10 times

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<table>
<thead>
<tr>
<th>a.</th>
<th>b.</th>
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<tbody>
<tr>
<td><img src="image1.jpg" alt="Shoulder Shrugs" /></td>
<td><img src="image2.jpg" alt="Shoulder Shrugs" /></td>
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<table>
<thead>
<tr>
<th>2. Shoulder Circles</th>
<th><img src="image1.png" alt="Image" /></th>
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<tbody>
<tr>
<td>a. Stand in front of a mirror and watch yourself slowly roll your shoulders forward as far as they can go.</td>
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<tr>
<td>b. From that forward position, then take the shoulders up toward your ears and then roll them backwards as far as they will go, essentially completing a half circle from front to rear.</td>
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<tr>
<td>c. Repeat the shoulder rolls starting from the rear and going to the front.</td>
<td></td>
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<tr>
<td>d. Repeat this cycle 10 times for 3 sets.</td>
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</tbody>
</table>

![Image](image2.png)

![Image](image3.png)
### 3. Shoulder Protraction/Retraction

| a. Stand up straight and slowly bring both shoulders forward as far as you can (attempt to have the shoulders touch each other in front) |
|---|---|
| b. Then take the shoulders back as far as you can, trying to squeeze the shoulder blades together behind your back |
| c. Repeat this 10 times for 3 sets |

![Image of shoulder protraction/retraction](image-url)
## 4. Neck Half Circles

a. Standing slowly roll your head in a circle by attempting to take your right ear to your right shoulder

b. Then drop your chin to your chest

c. Next take the left ear to the left shoulder and returning the head to center (try to go as far as you can in each direction without pain) *Do not let the shoulders creep up toward the ears. Keep them depressed throughout this exercise*

d. Roll the head to the right 10 times and then to the left 10 times (do not roll the head to the back)

e. Perform 2 sets of this exercise
APPENDIX I

A Study Examining the Relationship between Neck Strength and Endurance and Neck Injury in Rugby Players over the Course of a Season

INFORMATION SHEET FOR PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. To examine the relationship between neck strength and endurance with the incidence of neck injury in a population of rugby players over the course of a rugby season. Neck strength and endurance will be measured pre-, mid-, and post-season along with self-reported neck pain at the time of testing. Over the course of the season neck injury data will be collected by the team's physiotherapist and any training session or games missed as a result of neck injury will be recorded. A correlation will then be conducted to examine whether neck strength and endurance has a relationship to the occurrence of neck injury/neck pain. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the Aim of the Project?

This project is being undertaken as part of the requirements for the PhD in Physical Education.

The major aims of the study are:

1. To investigate the relationship between neck strength and neck pain/injury over the course of a rugby season.
2. To investigate the relationship between neck endurance and neck pain/injury over the course of a rugby season.
3. To investigate the relationship between neck strength and number of days of training and/or games missed due to neck injury.
4. To investigate the relationship between neck endurance and number of days of training and/or games missed due to neck injury.

What Type of Participants are being sought?

To be included in the study participants must be a currently playing rugby with one of the contacted rugby teams.

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What will Participants be Asked to Do?

Participants who have agreed to participate in the study will be asked to complete three testing sessions, a pre-, mid- and post-season assessment. Each testing session will take approximately 0.5 hours/session and will require some physical exertion. You will be asked to perform standardized testing protocol to allow the researchers to determine your maximal strength and endurance of your cervical musculature in four testing directions flexion, extension, left lateral flexion and right lateral flexion. Prior to the commencement of testing each participant will be asked to complete a short questionnaire with six Visual Analog Scales (VAS). The first three will ask about self-reported neck pain at ‘present’, ‘worst’ and ‘in general’ over the past month. The remain three VAS question will be of the same format but will related to self-reported stiffness at ‘present’, ‘worst’ and ‘in general’. After completing the questionnaire you will be asked to complete a standard warm up of the neck and shoulder muscles to prevent injury during the testing protocol. An adjustable scrub pad will be set up for you to use during these testing sessions, with an adjustable contraption that surround the head with four pads that will be place on the top, bottom, left and right sides of the head. When in the tackling stance, the chest and upper body will be supported by the scrub pads and the four head pads will be attached to force transducer, a specialized research tool that can be used to measure the strength and endurance of a muscle or muscle group during activity. You will be asked to perform a series of maximum isometric “pushes” with your neck forwards, backwards, left and right while in the tackling stance. These pushes will provide insight into the maximal force production of your neck muscles. Each push will occur over a period of 5 seconds after which a minute of rest will be provided. You will then be asked to complete four endurance trails where you push at 70% of you maximum force in each respective direction until fatigue or for a maximum period of 3 minutes. Five minutes of rest will then be given between each of the endurance trials and your condition will be monitored at all times by the researcher for risk of injury. All of this equipment can be adjusted for proper fit and should not cause you to be uncomfortable. This same procedure will be followed for the mid- and post-season assessment.

After signing the informed consent a copy will be made and passed along to the physiotherapist so neck injury and training sessions and/or games missed due to neck injury can be recorded for the individuals who have agreed to participate in the study. The research team will not have access to the medical records of the participants. The physiotherapist will relay information to the research team through a standardized injury surveillance form that has been approved by the International Rugby Union for research examining injuries in Rugby. Therefore neck injury information will be indicated when treatment is received and whether or not the participant will be required to miss training or games due to the injury.
Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

**Can Participants Change their Mind and Withdraw from the Project?**

You may withdraw from participation in the study at any time and without any disadvantage to yourself of any kind.

**What Data or Information will be Collected and What Use will be Made of it?**

Information to be collected includes age, weight, height, self-reported neck pain at 'present', 'in general' and 'at worst', and self-reported neck stiffness at 'present', 'in general' and 'at worst'. You will also be asked to provide information regarding your current playing position, neck injury treatment and days of training and/or games missed due to neck injuries. During the pre-, mid- and post-season assessment we will collect maximum voluntary contraction force and endurance times to fatigue from the neck musculature in flexion, extension, left and right lateral flexion.

The information collected will be used in a PhD thesis, with possible publications thereafter. No personal information will be revealed and the data collected will only be used for analysis by the researcher. The researchers (Danielle Salmon and Dr. Phil Handcock) will be the only persons to have access to the data and any personal information made available.

If you wish we will provide you with a copy of all your strength and endurance results from the pre-, mid-, and post-season assessments.

The data collected will be securely stored in such a way that only those mentioned below will be able to gain access to it. At the end of the project raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

**What if Participants have any Questions?**

If you have any questions about our project, either now or in the future, please feel free to contact either:-

Danielle Salmon  
School of Physical Education  
Telephone 03 479 8938  
Email: Danielle.salmon@otago.ac.nz

or

Dr. Phil Handcock  
School of Physical Education  
Telephone 03 479 5025  
Email: phil.handcock@otago.ac.nz
Appendices

A Study Examining the Relationship between Neck Strength and Endurance and Neck Injury in Rugby Players over the Course of a Season

CONSENT FORM FOR PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:-

1. My participation in the project is entirely voluntary;

2. I am free to withdraw from the project at any time without any disadvantage;

3. The data will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed;

I agree to take part in this project.

.......................................................... ........................................
(Signature of participant) (Date)

This project has been reviewed and approved by the University of Otago Human Ethics Committee
APPENDIX J

The Relationship between Neck Strength and Endurance and Neck Injury in Rugby Players over the Course of a Season

Name: ___________________________ Date: ______________________

Testing: □ Start of Season □ Post-season
Handedness: □ Left Handed □ Right Handed
Tackle Side of preference: □ Left shoulder □ Right shoulder □ None
Do you complete specific exercises for your neck: □ Yes □ No
Neck Girth: _________________ Do you wear padded head gear? □ Yes □ No
Height: __________________ Weight: __________________
Current Position: _________________ Ethnic Origin: _________________
Games Played: _________________ Number Years Rugby Player: ________

1. On the scale please indicate your CURRENT level of NECK PAIN?

0 100
No Pain at all Worst Possible Pain Imaginable

2. On the scale please indicate your AVERAGE level of NECK PAIN over the past three weeks?

0 100
No Pain at all Worst Possible Pain Imaginable

3. On the following scale please indicated your WORST level of NECK PAIN over the past three weeks?

0 100
No Pain at all Worst Possible Pain Imaginable

4. On the scale please indicate your CURRENT level of NECK STIFFNESS?

0 100
No Stiffness at all Worst Possible Stiffness Imaginable
5. On the scale please indicate your AVERAGE level of NECK STIFFNESS over the past three weeks?

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6. On the following scale please indicated your WORST level of NECK STIFFNESS during the past three weeks?

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APPENDIX K

Dr P Handcock  
School of Physical Education  
Division of Sciences  
46 Union Street West  

18 November 2011

Dear Dr Handcock,

I am again writing to you concerning your proposal entitled “The impact of a neck exercise intervention on functional neck strength and endurance in professional rugby players”, Ethics Committee reference number 11/271.

Thank you for sending to us the revised application. We are grateful for clarification of the inclusion of possible adverse effects in the Information Sheet, changes to the Consent Form, and for evidence of Maori consultation. Thank you also for confirmation that the data collection is yet to commence.

On the basis of this response, I am pleased to confirm that the proposal now has full ethical approval to proceed.

Approval is for up to three years. If this project has not been completed within three years from the date of this letter, re-approval must be requested. If the nature, consent, location, procedures or personnel of your approved application change, please advise me in writing.

Yours sincerely,

Mr Gary Witte  
Manager, Academic Committees  
Tel: 479 8258  
Email: gary.witte@otago.ac.nz

cc. Professor D G Booth  Dean  School of Physical Education
APPENDIX L

Ngāi Tahu Research Consultation Committee
Te Komiti Rakahau ki Kai Tahu

13/12/2011 - 27
Tuesday, 13 December 2011

Dr Handcock
School of Physical Education
Dunedin

Tena koe Dr Handcock

Title: The impact of a neck exercise intervention on functional neck strength and endurance in professional rugby players.

The Ngāi Tahu Research Consultation Committee (The Committee) met on Tuesday, 13 December 2011 to discuss your research proposition.

By way of introduction, this response from the Committee is provided as part of the Memorandum of Understanding between Te Rūnanga o Ngāi Tahu and the University. In the statement of principles of the memorandum, it states "Ngāi Tahu acknowledges that the consultation process outlined in this policy provides no power of veto by Ngāi Tahu to research undertaken at the University of Otago". As such, this response is not "approval" or "mandate" for the research, rather it is a mandated response from a Ngāi Tahu appointed committee. This process is part of a number of requirements for researchers to undertake and does not cover other issues relating to ethics, including methodology; they are separate requirements with other committees, for example the Human Ethics Committee, etc.

Within the context of the Policy for Research Consultation with Māori, the Committee bases its consultation on that defined by Justice McGeachan:

"Consultation does not mean negotiation or agreement. It means: setting out a proposal not fully decided upon; adequately informing a party about relevant information upon which the proposal is based; listening to what the others have to say with an open mind (in that there is room to be persuaded against the proposal); undertaking that task in a genuine and not cosmetic manner. Reaching a decision that may or may not alter the original proposal."

The Committee considers the research to be of importance to Māori health and commend the researchers on the detail and thought that has gone into this submission.

The Committee notes the researchers have identified that, "Previous research has identified that individuals of pacific origin are at a higher risk of neck injury," and asks for the reference to that research.

As this study involves human participants, the Committee strongly encourage that ethnicity data be collected as part of the research project. That is the questions on self-identified ethnicity and descent, these questions are contained in the 2006 census.

The Ministry of Health website
http://www.MoH.health.govt.nz/moh.nsf/indexma/publications contains a list of Māori health publications. The Committee recommends you review the Māori health
Appendices

NGĀI TAHU RESEARCH CONSULTATION COMMITTEE
Te Komiti Rakahau ki Kai Tahu


The Committee suggests dissemination of the research findings to Māori sports organisations regarding this study.

We wish you every success in your research and the Committee also requests a copy of the research findings.

This letter of suggestion, recommendation and advice is current for an 18 month period from Tuesday, 08 March 2011 to 08 September 2012. The recommendations and suggestions above are provided on your proposal submitted through the consultation website process. These recommendations and suggestions do not necessarily relate to ethical issues with the research, including methodology. Other committees may also provide feedback in these areas.

Nāhaku noa, nī

Mark Brunton
Kaiwhakahau Rangahau Māori
Facilitator Research Māori
Research Division
Te Whare Wānanga o Otago
Ph: +64 3 479 8738
email: mark.brunton@otago.ac.nz
Web: www.otago.ac.nz

The Ngāi Tahu Research Consultation Committee has membership from:
Te Rūnanga o Ō Ōritapu
Kāti Huirapa Runanga ki Puketawhiru
Te Rūnanga o Moeraki
APPENDIX M

A Study Examining the Relationship between Neck Strength and Endurance and Neck Injury in Rugby Players over the Course of a Season

Thank you for showing an interest in this project. This project is being undertaken as part of the requirements for a PhD. Please read this information sheet carefully before deciding whether or not to participate.

What is the Aim of the Project?

The aim is to examine the influence that neck exercises have on the incidence and occurrence of neck pain and injury in professional rugby. Neck strength and endurance will be measured before and after the season. A training group will perform 15 mins of neck exercises 3 times a week for the course of the season. Over the season, team physiotherapists will collect injury data and pain severity data from players. We will then examine whether or not a relationship exists between neck strength and endurance and the incidence of pain and injury.

In rugby the majority of neck injuries occur during tackles, we have therefore included an impulsive loading test. The purpose of this test is to apply a small load to the neck and record head-neck movement. We will then examine whether specific neck exercises potentially alter head-neck control.

What Type of Participants are being sought?

Participants must be active members of the rugby teams selected for the study.

Participants must be free from any neck injury that would preclude their completion of the strength testing tasks.

What will Participants be Asked to Do?

Participants who have agreed to participate in the study will be asked to complete two testing sessions, a pre- and post-season assessment. Each testing session will take approximately 30 mins and will require some physical exertion.
Before testing each participant will complete informed consent and a short questionnaire on self-reported neck pain and neck stiffness. Participants will then complete a standardised warm up for the neck and shoulder muscles before testing.

Participants will be asked to complete a maximal strength and endurance test of their neck in forward flexion, extension, left side bend and right side bend.

- Participants will perform a series of maximum “pushes” forwards, backwards, left and right while in a supported tackling stance.
- A minute of rest will then be provided.
- Four endurance trials will then be completed where participants push at 70% and 90% of their maximum force in each direction until fatigue or for a maximum of 3 minutes.
- Three minutes rest will be provided between each of the endurance trials.

For impulsive loading participants will resume their tackle position. They will then be fitted with headgear connected to a system of pulleys that will pull their head in each of the four directions strength tested.

- Initially the head will be centred in the apparatus by having equal amounts of tension in all four directions.
- The subject’s head will then be pulled in one direction.
- The weight in the loaded direction will only be able to travel a distance of 15cm. This will create a load of approximately 4.99 kg (50 N) on the neck.
- Trials will be performed with (2 trials each direction) and without (2 trials each direction) knowing the direction.
- Participants will be asked to relax their neck muscles and to resist neck movement as soon as they feel the tug of the weight. Previous work has shown up to 10 degrees of neck movement when knowing the direction and up to 15 degrees when the direction is unknown.

After signing the informed consent a copy will be provided to the team physiotherapist so that neck discomfort, pain and injury, and any training sessions and/or games missed due to neck injury, can be tracked.

Each participant will perform neck exercises 3 times a week for 15 minutes as part of supervised team training sessions. The exercises in this protocol will focus on strengthening and improving the endurance of the neck musculature. The control group will not be provided with any information on neck exercises and will be asked to continue with their normal exercise routine.

**Possible Adverse Effects due to Testing**

Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind. As the testing protocol involves isometric contractions of the neck
there is a risk of muscle soreness in this region for a period of 48 hours after the test. The impulsive neck loading test will involve neck movements in the range of 9° to 15° so there is a possibility of muscle or ligament soreness following this test as well.

**Can Participants Change their Mind and Withdraw from the Project?**

You may withdraw from participation in the study at any time and without any disadvantage to yourself of any kind.

**What Data or Information will be Collected and What Use will be Made of it?**

Information to be collected includes age, weight, height, self-reported neck pain at ‘present’, ‘in general’ and ’at worst’, and self-reported neck stiffness at ‘present’, ‘in general’ and ’at worst’. You will also be asked to provide information regarding your current playing position, neck injury treatment and days of training and/or games missed due to neck injuries. Neck muscle force and endurance times to fatigue will be collected along with impulsive loading data.

The information collected will be used in a PhD thesis, with possible publications thereafter. No personal information will be revealed and the data collected will only be used for analysis by the researcher. The researchers (Danielle Salmon and Dr. Phil Handcock) will be the only persons to have access to the data and any personal information made available.

At the conclusion of the study, each participant will be provided with a summary of their muscular strength and endurance profiles at each of the test sessions and will be provided with generic information on neck strengthening for rugby.

The data collected will be securely stored in such a way that only those mentioned below will be able to gain access to it. At the end of the project raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

**What if Participants have any Questions?**

If you have any questions about our project, either now or in the future, please feel free to contact either:-

Danielle Salmon or Dr. Phil Handcock  
School of Physical Education School of Physical Education  
Telephone 03 479 8938 Telephone 03 479 5025  
Email: Danielle_salmon@otago.ac.nz Email: phil.handcock@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.
A Study Examining the Relationship between Neck Strength and Endurance and Neck Injury in Rugby Players over the Course of a Season

CONSENT FORM FOR PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. My participation in the project is entirely voluntary;

2. I am free to withdraw from the project at any time without any disadvantage;

3. Personal identifying information will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for at least five years;

4. Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

5. The testing protocol involves isometric contractions of the neck there is a risk of muscle soreness in this region for a period of 48 hours after the test. The impulsive neck loading test will involve neck movements in the range of 5° to 15° so there is a possibility of neck muscle or ligament soreness following this test as well.

6. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve my anonymity.

I agree to take part in this project.

........................................................................................................ (Signature of participant)
........................................................................................................ (Date)

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479 8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.
# APPENDIX N

## The Relationship between Neck Strength and Endurance and Neck Injury in Rugby Players over the Course of a Season

Name: __________________________  Date: __________________

Pre-season assessment □  Post-season assessment □

Age: ___________  Handedness: □ Left Handed □ Right Handed

Tackle Side of preference: □ Left shoulder □ Right shoulder □ None

Do you complete specific exercises for your neck: □ Yes □ No

Neck Girth: ___________  Total years of rugby played: ___________

Years Super 15 played: ___________

Height: ___________  Weight: ___________

Current Position: ___________  Ethnic Origin: ___________

1. On the scale please indicate your CURRENT level of NECK PAIN?

<table>
<thead>
<tr>
<th>0</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Pain at all</td>
<td>Worst Possible Pain Imaginable</td>
</tr>
</tbody>
</table>

2. On the scale please indicate your AVERAGE level of NECK PAIN over the past three weeks?

<table>
<thead>
<tr>
<th>0</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Pain at all</td>
<td>Worst Possible Pain Imaginable</td>
</tr>
</tbody>
</table>

3. On the following scale please indicate your WORST level of NECK PAIN over the past three weeks?

<table>
<thead>
<tr>
<th>0</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Pain at all</td>
<td>Worst Possible Pain Imaginable</td>
</tr>
</tbody>
</table>

4. On the scale please indicate your CURRENT level of NECK STIFFNESS?

<table>
<thead>
<tr>
<th>0</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Stiffness at all</td>
<td>Worst Possible Stiffness Imaginable</td>
</tr>
</tbody>
</table>
5. On the scale please indicate your AVERAGE level of NECK STIFFNESS over the past three weeks?

0
No Stiffness at all

100
Worst Possible
Stiffness Imaginable

6. On the following scale please indicated your WORST level of NECK STIFFNESS during the past three weeks?

0
No Stiffness at all

100
Worst Possible
Stiffness Imaginable