Participant Information Statement

**Project Title:** Does hormone therapy, exercise or a combination of both, improve pain and function in post-menopausal women with greater trochanteric pain syndrome (GTPS)? A randomised controlled trial.

**Investigators:**

1. **Ms Charlotte Ganderton**, PhD Candidate, Department of Physiotherapy, La Trobe University, C.Ganderton@latrobe.edu.au, phone: 9479 1389 or 0401 556 881.

2. **Dr Tania Pizzari**, Musculoskeletal Research Centre, Department of Physiotherapy, La Trobe University (supervisor), T.Pizzari@latrobe.edu.au

3. **Dr Adam Semciw**, Department of Physiotherapy, La Trobe University (supervisor), A.Semciw@latrobe.edu.au

4. **Professor Jill Cook**, Faculty of Medicine Nursing & Health Sciences, Department of Physiotherapy, Monash University (supervisor), jill.cook@monash.edu

5. **Dr Greg Harris**, Sports Physician, Mornington Peninsula Sports Physicians, drgaharris@yahoo.com, phone: 5975 4255 or 9770 2398

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**What is this study about and why is it important?**

Greater trochanteric pain syndrome (gluteal tendinopathy) is a common condition that causes pain on the outside of your upper thigh/side of your hip. It can be a severely debilitating resulting in limited activity, employment and capacity to exercise. It is thought to be due to tears or injury to the gluteal tendons and/or inflammation of the fluid-filled sac (bursa) in your hip. Risk factors for developing the condition include female gender, middle age, increased weight, back pain and a reduced angle of your hip joint to your thigh bone. Conservative management is the first line treatment and usually involves one or more of corticosteroid (anti-inflammatory) injection, shockwave therapy and physiotherapy, with a focus on strengthening of your gluteal (bottom) muscles. However, there is limited evidence to indicate the effectiveness of these treatments. This study aims to determine if hormone therapy, exercise or a combination of both, assist in reducing the pain and dysfunction associated with greater trochanteric pain syndrome.

**What does the research involve?**

The study will examine how effective hormone replacement therapy and exercise therapy are in the treatment of greater trochanteric pain syndrome.

**Before commencing the trial:**

Stage 1 (phone screening): To assess if you are eligible to be included in the study, you will be asked to discuss your condition with the chief investigator (Ms Charlotte Ganderton) and complete a basic questionnaire that asks you about your hip pain during various activities. If you are deemed to be a potential candidate for the study, you will then be required to attend a free consultation with a sports physician (Mr Greg Harris) to ensure your condition is appropriate for the treatments we offer in this trial (hormone therapy and exercise).
Stage 2: You will attend an appointment with Dr Greg Harris. In this consultation, a medical history will be taken and your height, weight and blood pressure recorded. An array of clinical tests of your hip will be undertaken to assess if these reproduce your hip symptoms. If Mr Harris deems you eligible to participate in the study, he will refer you for a blood test and an electrocardiograph: ECG (a non-invasive method of looking at the electrical activity of your heart) at your local Dorevitch Pathology collection centre. Following the analysis of these results which will be made available to Dr Greg Harris and the research investigators, you will be contacted if you are able to be a participant in the study.

Stage 3:

I. You will be randomly allocated to a hormone replacement therapy treatment group (oestradiol 50mcg and NETA 140mcg cream) or a placebo group, and one of two different exercise programs.

II. Using an ultrasound tissue characterisation machine (UTC), we will take ultrasound images of your gluteal tendons. The UTC is a method of investigating the quality of a tendon and how it may change over time, with or without an intervention. Imaging will be performed in the gait laboratory at La Trobe University, Trackside Technologies at VISY Park in Melbourne or at Mornington Peninsula Sports Physicians consulting rooms in Mornington or Frankston. This will involve lying on your side with your hip rolled inwards, knee bent and lower leg supported on pillows. A water-based gel will be placed over the gluteal tendon and the UTC tracking device will take images of your tendon twice. The process takes approximately 15 seconds and causes no sensation.

III. Following the ultrasound, a physiotherapist will explain your exercises to you and you will be provided with an exercise booklet and an exercise diary to ensure adherence to the program. Self-recording of exercise sessions and hormone therapy administration in a research diary is compulsory to ensure compliance with the exercise protocol.

Note that Dr Harris will be available to be contacted throughout the trial if you have any questions or concerns.

During the trial:

You will be required to attend four free 30-40 minute physiotherapy sessions (baseline, week 4, 8 and 12) during the trial. At these appointments, your exercise program will be reviewed and progressed to assist with the management of your condition.

You will be responsible for:

I. Contacting the chief investigator on the trial (Ms Charlotte Ganderton) or Dr Greg Harris if you have any side effects from the hormone therapy

II. Contacting your physiotherapist on the trial should you have any questions or queries regarding your exercise program

After the 12 week intervention

At 3 months, you will be required to undertake another blood sample and a repeat ultrasound on your gluteal tendon. You will also be asked to complete questionnaires regarding your pain, function and quality of life at 3, 6 and 12 months after the study. These measures are required to assess the effectiveness of the exercise therapy and hormone replacement therapy interventions.
Why were you chosen for this research?

You volunteered to participate in this research after responding to an advertising flyer, and we contacted you after you provided us with your contact details.

Consenting to participate in the project and withdrawing from the research

Before you can participate in the study you will be asked to read this participant information statement and sign a consent form indicating you have understood what the study is about and that you agree to participate. You have a right to withdraw from further participation at any stage without disadvantages, penalties or adverse consequences, and your data will be removed from the study.

What are the possible risks of participating in this study?

- **Clinical Hip Tests:** This may cause reproduction of your hip symptoms (e.g. pain, stretch, tightness). This is to ensure correct diagnosis of your hip (greater trochanteric pain syndrome) before commencing in the study.

- **Blood Testing:** This component of the study may cause mild discomfort whilst blood samples are collected. After the blood has been drawn and the needle has been removed, pressure should be applied to the site to minimise bleeding. It is important to maintain this pressure until the bleeding has stopped. A cotton wool ball and/or Band-Aid will be applied. If you are aware that you have any allergy to alcohol swabs or tapes please let the blood collector know so they can find another alternative. Following collection, it is important that you avoid heavy lifting or strenuous exercise in the following 24 hours to avoid bruising or bleeding. If any signs of infection (fever or any redness, swelling, change in temperature or colour at insertion site), please contact the chief investigator. Should blood sampling reveal abnormal results, it will be the responsibility of the treating research trial medical practitioner to explain blood sample results to you either via phone or via appointment. The investigators or research trial medical team will not be responsible for any costs associated with medical treatment above and beyond the scope of the trial. Instead, it will be your responsibility to organise an appointment to see your local medical practitioner to discuss further management if required.

- **Ultrasound Tissue Characterisation imaging:** There is no foreseeable risk of any stress or discomfort during the imaging procedure. You will however, need to roll up your shorts to expose your gluteal region for the scanning procedure to take place. Your modesty will be preserved with the draping of towels over areas not being scanned.

- **Exercise Program:** There are unlikely to be any risk involved in undertaking the exercise program. You should expect to have some discomfort during the exercise program as the most effective way of rehabilitating tendons is through loading (putting weight through the tendon). You may also experience some muscle fatigue or tiredness in the muscles being exercised. This is normal muscular response to exercise and should settle within 1-2 days. The risk of discomfort associated with your exercise program will be closely monitored by your physiotherapist and should you have any questions, you are able to contact your physiotherapist or research investigators at any stage of the study.

- **Hormone replacement therapy:** Hormone therapy is widely prescribed to patients to assist women with menopausal symptoms. Risks of developing side effects from hormone replacement therapy are unlikely however the possible known side effects are outlined below:
  - Risk of developing endometrial hyperplasia. In this study, your risk of developing endometrial hyperplasia (thickening of the lining of the uterus) is minimised as the hormone administered is a topical cream rather than a tablet. Additionally, it is a combined hormone replacement therapy (oestradiol 50mcg and NETA 140mcg cream) to protect the endometrium (lining of the uterus).
Risk of venous thromboembolism (blood clot) increased from 0.23% to 0.62% in older women with pre-existing coronary heart disease. Therefore any participant with pre-existing coronary heart disease will be excluded from participating in the study.

Risk of breast cancer increases by 2.3% each year for current or recent users of HRT, however, there is no significant excess risk of breast cancer five or more years after ceasing HRT.

Mild skin irritation, headache, depression, change in libido, leg cramps, dry eye syndrome, breast tenderness, nausea and vaginal bleeding are also known side-effects from HRT.

If you experience any possible side-effects/symptoms we encourage you to contact the chief investigator as soon as possible. You will be advised as to whether you should continue to use, or cease using, the hormone therapy cream.

In the case of an emergency or you experience CALF PAIN/SWELLNG/REDNESS, CHEST PAIN OR SHORTNESS OF BREATH, you are advised to go directly to the emergency room at your nearest hospital and contact the chief investigator as soon as possible.

What are the benefits of participating in this study?

- Free medical examination, including blood testing and ECG
- Free clinical examination of your hip performed by a medical practitioner and/or physiotherapist

What are the possible benefits of participating in this study?

- Reduction in hip symptoms (pain and dysfunction)
- Improved function of your hip
- Improvement in your hip tendon health
- Improvements in quality of life measures
- Free ultrasound examination of your hip

Additionally, completion of this project will enable us to assess if hormone replacement therapy has any role to play in the treatment of tendon pathology, and to determine which exercise program is more effective in treating pain and dysfunction associated with GTPS.

What will happen to the results?

With the exception of the blood sample results, all results from the study will be confidential and only accessible by the researchers named above. No-one other than the investigators will have access to the data. Blood sample results will be accessible by Dorevitch pathology however, all staff must abide by standard privacy laws, and sign a confidentiality clause in their employment contracts regarding the appropriate use and access to pathology results. Ultrasound scans will be kept on a password protected computer located at Trackside technologies VISY Park and any data collected will be stored on a password protected computer at La Trobe University Health Sciences 3 building. Hard copies of questionnaires will be kept in a locked filing cabinet at La Trobe University. Records will be kept for 15 years following completion of the project and then destroyed.

The results of this project will appear in a thesis to be written by Ms Charlotte Ganderton, in journal publications and in conference presentations, but you will not be able to be identified in any of these reports. Data may also be used by members of this research team in future projects to compare with results from similar studies relating to the same testing procedures.
You also have the opportunity to consent to having photographs or videos taken of the procedures. Again, these will be solely used for educational purposes and conference presentations. Furthermore, results of the experiment will be made available to you upon request. This may entail a mailing of results to your home residence, or if you prefer, a discussion with one of the investigators in person.

**Funding**
Funding for this project has been kindly provided by the La Trobe Sports Exercise and Rehabilitation Research Focus Area.

**Who can I contact if I have any questions?**
Questions concerning the procedure and/or rationale used in this investigation are welcome at any time. Please ask for clarification of any point, which you feel, is not explained to your satisfaction. Your initial contact is the person conducting the experiment (Charlotte Ganderton, phone 9479 1389 or email C.Ganderton@latrobe.edu.au).

**Complaints**
If you have any complaints or concerns about your participation in the study that the researcher has not been able to answer to your satisfaction, you may contact the Executive Officer, University Human Ethics Committee, Research Services, La Trobe University, Victoria, 3086, (P: 03 9479 1443, E: humanethics@latrobe.edu.au). Please quote UHEC application reference number UHEC 14-055.

Thank you

Charlotte Ganderton (PhD Candidate)