

Information Sheet

“Preliminary Quantitative Gait Analysis of RGO Users”

NORTHWESTERN UNIVERSITY PROSTHETICS RESEARCH LABORATORY &
REHABILITATION ENGINEERING RESEARCH PROGRAM

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Principal Investigator: Steven A. Gard, Ph.D.

Project Director: Brett Johnson, B.E.

Introduction/Purpose

We are studying how people walk while using Reciprocating Gait Orthoses (RGO's). You may be interested in this study if, as a result of a spinal cord lesion, you use an RGO. We will use the information gathered in this study to further improve RGO design.

Participation Criteria

We are recruiting people 6 years of age and older who routinely use a RGO because of lower limb paralysis.

Procedure

If you choose to participate in this study, you will be required to visit the Northwestern University Prosthetics Research Laboratory (NUPRL) at the Rehabilitation Institute of Chicago (RIC) for one or two data collection sessions. We will ask you to bring a t-shirt, shorts, RGO, and your normal walking shoes for the investigation. We will also ask you not to eat anything 2 hours prior to the experiment. During the first part of the investigation, you will wear a mask that analyzes your breath while you sit quietly and while you walk. Then, we will take the mask off and measure the flexibility and strength of your lower limbs. We will then measure how you walk by placing reflective markers on your skin and orthosis using hypoallergenic tape and having you walk back and forth in our gait laboratory at three different speeds if possible. We will also place force sensors on your orthosis so we can measure the tension in the joints of the RGO. Depending on the level of your spinal cord injury, we may place surface electrodes on your lower back and pelvis to measure muscle activity during walking.



If you become overly tired after the gait analysis, we may ask you to come back another day to complete the walking effort measurement. Overall the procedure should take no longer than 4 hours. We will also ask for your permission to review your medical history so that we may be aware of any surgeries or medical conditions that may help explain how you walk. If you do not wish for us to view your medical history, you may still participate in the rest of the study.

You have the option to withdraw from this study at any time.

Confidentiality

Participation in this research study may result in a loss of privacy, since persons other than the investigator(s) might view your study records. Unless required by law, only the study investigator, members of the investigator's staff, and the Northwestern University Institutional Review Board will have authority to review your study records. They are required to maintain confidentiality regarding your identity.

If you agree to participate in this study, photographs and/or video recordings will be made of you during the experiments. These pictures and video recordings are considered to be a part of the data record. We may publish and present photographs and videos of you, including your face, with your permission. No other personal information about you would be included in the publications or presentations.

Risks

The risks involved by your participating in this study are minimal, and are the same as those that you would experience when walking on level ground with your RGO.

Benefits

There will be no direct benefit to you by your participation in this research study. However, your participation may enable us to develop more advanced prosthetic and orthotic components.

Financial Information

You will not be charged for any study-related procedures. You will be paid \$50 for your participation in this study. If you drive and park at the Huron-St Clair Parking Garage (222 E. Huron St.), your parking ticket will be validated to allow for a reduced parking rate.

Contact Details

If you are interested in participation in this project, please contact the Project Director, Brett Johnson, at (312)-238-6500 between 9am and 5pm, Monday through Friday.