BACKGROUND

Currently, there is little or no previous research into the exact gait patterns (kinematics) of late-onset Pompe disease (LOPD). Several authors have documented their clinical observations, but there are no formal recordings or descriptions based on kinematic data of the typical LOPD gait pattern.

MATERIALS AND METHODS

This study is a non-interventional correlation study. Two groups (n = 40), consisting of 20 LOPD patients and 20 healthy age-matched (HAM), individuals will have their gait patterns assessed by instrumented gait analysis (Qualisys OQUS). The aim of the study is to identify the differences in gait between LOPD patients and HAM individuals.

The LOPD group will be recruited from the Mark Holland metabolic unit, Salford Royal NHS Foundation Trust. The HAM participants will be recruited from across the normal population. Participants included in the study will have a genetic diagnosis of LOPD and will be able to walk unaided for a distance of 50–550 m in a 6-minute walk test (6MWT). All participants who have a diagnosis of a significant musculoskeletal or neuromuscular condition will be excluded from the study.

RESULTS

Statistical analysis of the kinematic data will look for differences in gait patterns within the LOPD group, which will be correlated with the individual’s 6MWT result. The study will also look for statistical differences in gait patterns between LOPD patients and HAM individuals.

CONCLUSIONS

An improved understanding of gait patterns in LOPD will help to aid and support the development of physiotherapy treatments, gait aids, braces, standards of care, and ultimately improve a greater degree of patient independence and quality of life.