Testing Format

- Consent signing (first year only)
- Energy cost of walking
- Gross Motor Testing
- Range of motion
- Strength testing
- Computerized Assessment of Walking
- Step Activity Monitor setup

Parents will complete quality of life, behavior and function questionnaires while child is participating in evaluations.

Breaks are given as needed and the tests can be performed in two days if requested by the family.

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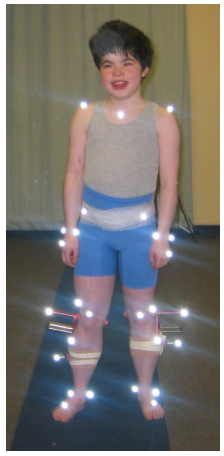
Biomechanical Analysis of Gait in Individuals with Duchenne Muscular Dystrophy

Center for Duchenne Muscular Dystrophy at UCLA
and UCLA Department of Orthopaedic Surgery

Gross Motor Function

Muscle Strength

Energy Cost



Gait Analysis

Purpose

To improve the understanding of the changes in function over time in boys with Duchenne Muscular Dystrophy (DMD) using objective outcome measures

Why is this study important?

As new treatments for DMD become available, it will be important to have information about the present rate of change in function using objective outcome measures. This will allow researchers to determine the impact of these new treatments in as short a time as possible so that the most effective treatment can be offered.

What is Involved?

- Visits every 6 months to the UCLA Kameron Gait and Motion Analysis Laboratory for a total of three years
- Each visit lasts one half of a day (3-4 hours) and can be coordinated with other appointments for ease of scheduling.

Who is appropriate for the study?

- Diagnosis of DMD
- Male
- Four years of age or older
- Can be on or off corticosteroids
- Able to walk independently for 10 minutes at self-selected speed
- Able to understand directions for testing procedures
- Able to complete up to four hours of testing

Tests include

Computerized Assessment of Walking

Individuals will be asked to walk down a short walkway while wearing reflective markers (see photo). The marker information is picked up by the cameras and the computer to determine how the hips, knees and ankles move during walking.

Energy Cost of Walking

Individuals will be asked to rest for 10 minutes and then walk for 10 minutes while wearing a mask over their nose and mouth (see photo). This will allow for the analysis of the amount of oxygen and carbon dioxide used during resting and walking.

Muscle Strength Testing

Individuals will be asked to push or pull using their hip, knee and ankle muscles. The amount of muscle force produced will be measured by a machine (see photo).

Gross Motor Skill Testing

Individuals will perform a set of gross motor skills that go from easy (rolling on the floor) to hard (walking up a flight of steps). Individuals will perform as many skills as they are able.

Quality of Life and Function Questionnaires

Parents and children will be asked how DMD has affected their function in the community, home and school and how they feel about the quality of their lives.

Behavior Questionnaires

Parents will be asked about their child’s behavior at home and in the community.

Measurement of Participation

Children will wear a step activity monitor (a small pager-like device worn just above the ankle) at home for 3 weekdays and both weekend days to determine how active the child is on a regular basis.