

How You Can Help

To participate, **older adults (age 35-65) with Down syndrome** need to come to the University of Michigan for one visit of about 1.5 hours. Participants must not be taking medications that alter heart rate and must not have other disorders affecting balance, gait or walking ability.

If you would like more information, or want to discuss volunteering to participate please contact us.

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We look forward to talking to you!

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CENTER FOR HUMAN
MOTOR RESEARCH

and

CENTER FOR MOTOR
BEHAVIOR IN
PEDIATRIC DISABILITIES



CURRENT RESEARCH

Persons with Down syndrome (DS) walk differently than persons without DS. However, there is very little research that carefully details and explains why.

We hypothesize that there are three important factors that compromise walking patterns in those with DS: (a) the inherent low tone (stiffness) in their muscles and joints, (b) reduced strength and (c) decreased ability to control their balance.



WHAT OUR RESEARCH INVOLVES

Participants will wear a safety harness and walk across the room, first without distraction and then with common environmental distractions:

Divided Attention: Participants will count by 1's as they walk. Distraction music: A waltz will be played in the background as participants walk. Uneven surface:

Participants will walk over an irregular surface. It is a piece of industrial carpet with prism-shaped pieces of wood (height = 1.5 cm, width = 3.5 cm, length = 6-16 cm) randomly placed beneath it. Obstacle:

Participants will step over a 4-inch visually apparent obstacle while walking on level ground. The obstacle will consist of a folded piece of paper that will move if touched and collapse to flat if stepped on. Low light condition: Low light conditions (average 50 lux) will be maintained by dimming room lights. This is similar to the level of lighting in most family living rooms. Divided attention and low light combination. Uneven surface and distracting music combination

Participants will answer some questions about their physical activity and falls status. We will measure balance, height, and weight.

RESEARCH PURPOSE

With the data we collect we will be able to detail individual and group differences in gait patterns. We will begin to understand stability of walking in adults with Down syndrome and how this relates to falling.



Ultimately, we hope to use this information to affect therapeutic intervention practices, particularly related to reducing the incidence of painful gait symptoms that occur with age.