Terrain Transition Study  
Information for Participants

Slips, trips, and falls are common among elderly and people with Parkinson’s Disease
- More than 1 in 4 older adults (65+) fall each year.
- 2.8 million people are treated in emergency departments for fall injuries.
- Annual costs for falls is estimated to be $31 billion.

Study the effects of transitioning surfaces on gait can give insight on falls related to flooring surfaces. The following surfaces are considered: Carpet, Laminate, Tile, Cobble, Concrete, and Turf.

You will be asked to walk in the Motion Capture laboratory. You will be asked to walk down a 32 foot track with two different surfaces, where the transition occurs half way down the track. Motion data will be collected for evaluation.

You can expect the following progression of events:

1. You will enter the motion analysis laboratory.
2. Next, you will be provided with a black tight fitting shirt and shorts for testing.
3. Demographic and body measurement data will be collected from you.
4. Reflective markers (57) will be placed on you.
5. You will be fitted with a ceiling mounted fall harness and support system to prevent falls to the ground.
6. Next, you will be asked to walk at a self-selected speed on a track.
7. You will be asked to perform a minimum of 39 trials.
   a. 13 surface combinations – 3 trials each.
8. After the walking task is completed, the markers will be removed and you can change back into your street clothes.
9. Following testing participants will be interviewed to gather subjective feedback on the different surfaces and transitions.
10. Process will last approximately 3 hours.

Figure 1 below shows 5 of the surface types

Figure 1: A) Laminate to Tile  B) Turf to Cobble  C) Carpet