GAITRite

Assessing mobility using the GAITRite Walkway: A Preliminary Study

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Safely crossing the street is an important factor if an older adult is to remain independent and engaged in their community. However, navigating the physical environment becomes more challenging with age.

This research study uses the GAITRite Walkway to determine the walking speed of older adults in a crosswalk scenario, and compares the findings to the standards employed by the City of Vancouver Engineering Services, the department that oversees responsibility for city streets.

In this study, older adult participants are asked to complete several tasks including walking across the mat at different walking speeds (normal, fast or slow pace), or walking with a bag of groceries while responding to a pedestrian traffic signal. Unsteady gait or “wobbles” are observed on the monitor and quantified by the computer program. Study results will better describe the walking characteristics of older adults and assist in developing future guidelines to meet their community mobility needs.

GAITRite measures how a person walks. It measures gait patterns for both time (temporal) and space (spatial) through pressure sensors in the mat. The software changes the information into foot placement patterns and overall gait patterns.

Research participants can be assessed with or without shoes and using walking aids such as crutches, walkers, or canes. One example: we create a simulated crosswalk scenario and ask participants to carry different loads (a full grocery bag or an open umbrella) to measure changes in gait and balance patterns.

One in three BC seniors over the age of 65 will typically experience at least one fall each year.

The number of falls in BC will double in 20 years if prevention strategies are not put into place.

We use GAITRite

- to provide valid and reliable walking measurements such as footfall patterns, step length, cadence, and speed.
- to measure changes in walking or gait patterns through replication of real life scenarios.