# Instrumented Walkways

**Brodie Rice, Katie Toth, Christopher Robinson, CPO (Faculty Mentor)**

Northwestern University Prosthetics-Orthotics Center (NUPOC)

## Systems Available

### What are Instrumented Walkways?
System for measuring the spatial and temporal parameters of gait.

### GaitRite®
- **Well established system (in use for over 20 years).**
- **Width:** 2ft 11.25in; **Length:** 35 ft; also available in custom lengths to meet the needs of individual users.
- **Mat** has an active sensor area equipped with over 13,000 pressure sensors.
- Allows a delay in processing data to accommodate completion of multiple consecutive walks and averaging data from these walks.
- Allows for the comparison of individual footfalls from different conditions (i.e., barefoot vs. with shoes).

![GaitRite](http://www.gaitmat.com)

### Zeno Walkway by ProtoKinetics
- **Available in widths of 2 or 4 feet and lengths of 8 or 32 feet.**
- **Greater width useful for:**
  - Patients utilizing assistive devices.
  - Supports turning maneuvers for children or elderly patients.
  - Utilizes 16,000 to 46,000 sensors depending on mat selected.
  - Customizable top layer available in carpet or linoleum to meet needs of specific facility.
- **Three layer framework** reduces sensor damage and curling of mat edges commonly seen in other systems.
- **Framework** provides smooth transition from mat onto the existing floor.

![Zeno Walkway](http://www.protokinetics.com)

## Advantages and Clinical Relevance

### Advantages
- Provides a means for quantifying gait.
- Portable systems that can be set up in only a few minutes.
- Useful outcome measure for measuring the effect of orthotic and prosthetic device interventions.
- Most systems connect directly to a notebook or PC allowing for ease in data collection.
- Easy to set up and use in a variety of clinical and research settings.
- Results are easily read and understood for fast clinical evaluation.
- Simple to learn and operate.
- Simple instructions, easily used with novice patients.
- Compared to 3D motion analysis labs, Instrumented Walkways are relatively inexpensive.

![Example data from GaitMat II](http://www.gaitmat.com)

### Limitations
- Durability of sensors.
- Limited to measurements on flat surfaces only.
- Unable to measure endurance, obstacles or ambulation on different surfaces.
- Unable to measure joint kinematics of gait unless paired with another system.

## References or Sources of Information


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