

# A Moving Experience

GAITRite offers clinicians a solution for quantifying gait changes.

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**G**ait isn't as simple as putting one foot in front of the other. Numerous dysfunctions can sacrifice proper ambulation and lead to decreased independence.

Helping patients with impaired walking ability requires quantifying initial gait characteristics and observed gait changes. However, it's challenging to identify changes in measurable parameters when reporting to physicians, third party payers and clients.

The best way to measure qualitative gait changes is in a gait lab. But these labs are too expensive and inaccessible for most clients. Alternative methods include analyzing walking patterns on paper or other surfaces on which footprints are left using chalk or paint. Although inexpensive and informative, these methods are slow and generally aren't an efficient use of clinicians' time. Picture and videotape analysis are also time-consuming measures and may not provide sufficient objective data to document changes.

Since our clinic began using the GAITRite® system, our needs have been served. The system provides a portable and efficient method to quickly and accurately quantify aspects of a client's gait. The main component is a mat, which connects to a computer that has GAITRite software installed on it. Set up only takes a few minutes. When the mat isn't being used, we simply roll it into the storage case, which frees up clinic space.

During an evaluation, a client walks across the mat and embedded sensors record footfalls and the parameters of each step, such as timing, stride length and step width. This information is saved, and a pressure map of each step is generated. The system is thorough and provides more information than we usually need. We can scan the results and select significant parameters to address with individual client reports and treatment plans.

Our primary focus is pediatric care, and the ease of collecting and saving data quickly allows us to keep young clients' attention long enough to obtain what we

need. Children enjoy walking on the "magic carpet," and are interested in seeing their footprints on the computer. Our child assessments are so efficient that we can now conduct pre- and post-treatment walks in a 30-minute treatment/evaluation session and determine if an intervention is successful.

We use the GAITRite system to assess changes before and after inhibitory neuromuscular injections, with and without serial casting. This helps determine responses to neuromuscular taping, and changes in gait patterns following joint mobilization. The results enable us to adapt our intervention strategies to maximize efficiency. Instant feedback also motivates children and parents to follow home program recommendations.

The GAITRite's ability to demonstrate gait changes that result from using an orthosis is one of its most useful and cost-effective benefits. Without the system, such changes aren't obvious to some patients. The system lets clients visually identify toe-walking versus flatfooted stance by observing the pressure maps of each footfall. We also supplement this information with a videotape of a client's steps.

When we're trying a new orthosis, we collect data barefoot, with the current orthosis and with the new orthosis, and allow the client or parent to view the differences. This process enhances our communication with orthotists and physicians to ensure that we achieve desired outcomes.

The GAITRite system has a variety of report options. The reports are easy for referring physicians to understand, and can be accompanied by graphic or illustrated data, which eliminates the need to read through a lot of numbers or text. The data is also beneficial to justify treatments with third party payers. In addition, a functional ambulation profile score is generated so we can measure change over time. Although this profile isn't normed for pediatrics, it's still informative.

The GAITRite system has given us a convenient and efficient way to evaluate our interventions, and improve the quality of care and outcomes of our clients. ■



**Andrea Batt, PT, PCS, watches as the GAITRite® system records a young client's gait.**

Photo courtesy United Cerebral Palsy Center