



***Measuring Function...One Step at a Time!***

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## **Gait Training and Immediate Feedback with *GAITRite***

*GAITRite* is proving to be an excellent tool to measure the functional characteristic of gait. Universities and medical centers all over the world are implementing *GAITRite* into their operations. A new application, one that involves training and immediate feedback has recently been introduced, and it appears to have tremendous potential. Here are the salient points about this application:

The standard *GAITRite* software calculates numerous temporospatial parameters and displays them in tables and graphs. When synchronization to another device is desired, a 5 volt positive pulse is sent out of the *GAITRite* carpet via the BNC cable at the instant the *GAITRite* walkway becomes active. This enables an EMG instrument and/or a video camera to turn on or to precisely record the *GAITRite* "time zero". While the "BNC out" option has been available for several years, and it has become invaluable to our clients, the ability to introduce a signal into *GAITRite* has been missing... until today.

The new "Analog in and integrated metronome (AIM)" option, enables signals to be introduced into the *GAITRite* walkway's firmware simultaneously with the footstep data. These accurate and objective events are combined with the temporospatial parameters numerically and graphically. When analyzed with the *GAITRaw* software, individual sensor information relative to the aforementioned events can be visualized and exported.

The *GAITRaw* software module collects object positional data without regard to reciprocal gait or number of objects, thus any activity occurring on the carpet is captured. These data can be replayed in continuous mode or at various frame rates. The data can be exported either as: time, x and y coordinates, AIM time and relative pressure value; or time, x and y coordinates, AIM time and on/off flag

Documenting the effectiveness of gait training has never been easier. At the beginning of the treatment regimen, *GAITRite* can identify the client's footfall patterns and gait parameters quickly and easily. Since cadence training has been proven to be an effective modality for kids and adults, the ability to set the metronome to a certain frequency, while monitoring the exact foot strike information is more important than ever. Immediate feedback is available for both the client and the clinician. Intra- and inter-session reliability and the efficacy of care are no longer gray, but rather they are black and white.

Gait initiation is also an important functional measure. With the AIM, the "go signal" can be recorded, along with the client's latency to the signal and strategy for movement. How do they shift their weight at the onset of movement? Do they always use the same movement pattern? Is a variable pattern more indicative of pathology, or risk for falling versus a consistent pattern? These questions and many, many more can now be easily tackled with the *GAITRite* AIM option and *GAITRaw* software module.

In summary, *GAITRite* has become a priceless functional gait assessment tool for the research and rehabilitation communities. The integration of measurement and training protocols are just being implemented and their future seems bright. By looking at the individual sensor activation patterns and characterizing multiple continuous footfalls, calculating dynamic stability is now readily possible.

Contact your local distributor or contact me at MAP/CIR for more details.

Sincerely,