



embedded
precision



Ability Through Science


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OrthocareInnovations™
Ability Through Science

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Art & Science Precisely Aligned
Computerized Prosthesis Alignment System

"Compas™ makes the invisible, visible."

John W. Michael,
MEd, CPO, FISPO, FAAOP

compas™ Shows the Way

Real-Time Gait Analysis With Socket Reaction Force Measurements



Pointing the Way to the Future

Compas™ is a patent pending breakthrough in easy-to-use, sophisticated instrumentation for clinical prosthetists.

This unique system of electronic hardware embedded into the prosthesis combines with computer software to harness the power of objective kinetic gait data to ensure optimal outcomes in everyday prosthesis fitting.

Art and Science: Precisely Aligned

Alignment has been recognized as a key element for optimal prosthesis function for many decades. Prosthesis alignment historically, however, has been a learned art rather than a measurable science. Compas™ enables the prosthetist to use real-time gait analysis data to optimize prosthesis alignment for each individual.

Compas™ ...The New Direction in Care

The Compas™ Gait Analyst software automatically extracts and interprets the relevant information from a series of steps, and instantly provides prosthesis-specific gait analysis based on the kinetic measurements. Feedback to the prosthetist is presented in concise and easy to understand language, including straightforward recommendations for adjusting the pyramid screws to optimize sagittal and coronal plane alignment.

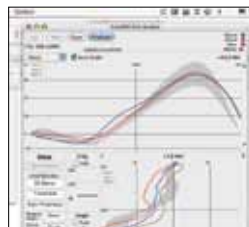
Transforming the Process

Compas™ hardware and software work together automatically so that clinicians can easily and intuitively harness the power of our computerized alignment interpretation. This system is designed for everyday use by prosthetists without need for supporting engineers or specialized staff. The Smart Pyramid™ with its embedded sensors is integrated into the prosthesis. The Compas™ system uses Bluetooth® to communicate wirelessly with automatic gait analysis software on a PC.



STEP ONE

Click Master Unit onto Smart Pyramid™; connect to PC via Bluetooth®



STEP TWO

Capture gait data while walking with prosthesis



STEP THREE

Optimize alignment based on biomechanical analysis

Revolutionary technology. Remarkably easy to use.

Scientific Analysis of the Art of Alignment

A database approach was used, resulting in collection of controlled data from perturbations of well-aligned prostheses, to determine statistically how Socket Reaction Forces are related to optimal alignment. An advanced computer model predicts whether and how a prosthesis is misaligned by measuring the Socket Reaction Forces while walking.

Ease of Use

The Compas™ system Smart Pyramid™ adaptor attaches to any socket using the familiar Euro four-hole pattern or via an integrated tube clamp. To enable gait analysis, the Compas™ Master unit clicks onto the Smart Pyramid™ — providing power, microprocessor control, motion sensing, a laser guide and communications with your PC. The Compas™ system continuously measures dynamic forces and balance while the patient is standing or walking, indoors or outside, on any terrain.

Precision from the Inside Out

Compas™ is based on direct measurement of the Socket Reaction Forces, using a sophisticated electronic instrument integrated within a Smart Pyramid™ adaptor attached near the base of the socket. Our extensive research has measured precisely how these forces change with alignment alterations.

Objective Accuracy:

Time Saving Simplicity

Compas™ shows the prosthetist precisely what is happening biomechanically, eliminating the need for time-consuming iterative changes to refine alignment based on assumptions. Amputees see and feel the results throughout the alignment process, and gain confidence from the objective information at the prosthetist's fingertips. Incorporating the Smart Pyramid™ into the prosthesis saves time during the initial alignment and later through decreased need for adjustment.

