

TETRIX

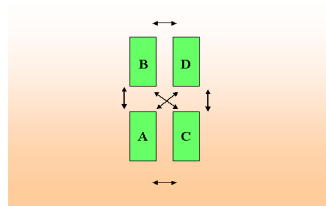


Tetrax – A Distinct Advantage

Traditional Posturography – Measurement of Postural Sway

The core principle and rationale of all balance systems is the measurement of postural sway, as reflected by the displacement patterns of the center of pressure, sensed by the pressure transducers of the platform. All posturography systems, other than the innovative Tetrax system, infer as a basic assumption that the human body is an inverted pendulum pivoting around the ankles, and thus postural sway can be assessed on the basis of the physical laws and corresponding mathematical formulae related to pendular motion.

Tetrax considers the pendulum model insufficient to describe the action of the human body and postulates that human balance is maintained by a complex synergetic and concerted coordination between the heel and toe movements of both feet. Hence, the software focuses on the output produced by the vertical force fluctuations and their interactions on the four independent balance platforms of the Tetrax system, as seen below.



The Tetrax balance platforms, seen at left, evaluate the differing pressure placed on them by the right and left toe and heel parts of the subject.

Tetrax – Taking Balance Measurement Forward

Tetrax provides both the standard clinical information, as well as additional information about the patient not available with any other posturographic device. It has been demonstrated that all parameters obtained by “static” platforms as well as parameters measured by “dynamic” platforms substantially correlate with the corresponding scores measured by Tetrax.

Tetrax differs from traditional posturography, whether defined as “static” or “dynamic”, by virtue of its unique four-point measurement and the additional parameters supplied by the device as a result.

The Tetrax device measures four unique parameters, in addition to general stability:

- Weight percentages
- Weight distribution harmony
- Synchronizations between heel and toe pressure patterns
- Fourier spectral patterns derived from four sources of sway

Normative databases for all of the calculated parameters are an integral part of the Tetrax software, enabling straightforward comparisons of the patient with normative results.

The battery of traditional and innovative parameters provided by the Tetrax system substantially enhances sensitivity for many conditions, especially risk of falling, sources of vertigo and dizziness, and the effectiveness of invasive and non-invasive treatment and therapies. This aids the physician in detecting the source of the patient's instability, as a first step in choosing treatment options that best fit the patient.

References

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