

Rehabilitation

Quantitative assessment of function is important in determining the functional status of patients immediately after neurological injury to aid in the determination of a pharmaceutical or therapeutic treatment regimen. It is also useful in assessing sequential progress of the patient as well as determining the effectiveness of the treatment protocol. Optical motion capture offers unrestricted movements within the limitations of the patient. Whether assessing spine and back disorders in ergonomics or determining a patient's function, Motion Analysis allows you to quickly and easily measure performance to determine the patient's functional outcome.

The Motion Analysis RealTime system offers state-of-the-art motion capture to quantify upper or lower extremity function in patients with neurological problems such as stroke, head injury, Parkinson's disease, etc.

Typical System Configuration

REHABILITATION SYSTEM

- 8-12 Eagle-4, Eagle or Hawk cameras
- Cortex
- Skeleton Builder
- KinTools RT
- OrthoTrak
- UETrak
- BioFeedTrak
- Motion Composer
- SIMM

Choosing the correct camera and number of cameras for your motion capture system is dependent on various factors including:

- Size of capture area
- Size of physical room
- Complexity of movement
- Speed of movement
- Current and future needs

Your account representative will work with you to determine the best system configuration. Our systems integrate fully with EMG and forceplate data, as well as many other hardware. Customers have full access to an SDK in order to develop their own software interfaces.

Recommended Cameras

Eagle-4 Digital Camera

- Resolution of 4 million pixels
- 1-200 Hz selectable frame rates
- Up to 10,000 frames per second at reduced resolution
- High quality 35mm lenses for low optical distortion
- 237 LED's for brighter and better light uniformity

Eagle Digital Camera

- Resolution of 1.3 million pixels
- 1-500 Hz selectable frame rates
- Up to 2,000 frames per second at reduced resolution
- High quality 35mm lenses for low optical distortion
- 237 LED's for brighter and better light uniformity

Hawk Digital Camera

- Resolution of .3 million pixels
- 1- 200 Hz selectable frame rates
- C-Mount or Zoom lenses available
- 237 LED's for brighter and better light uniformity

Recommended Software

Cortex - our core motion capture software comprises tracking, editing, scripting and modeling functions in a *single integrated package*.

Skeleton Builder - creates skeletons that are relatively simple, direct and fast calculations of segments (bones) that are defined and calculated from one marker center to another.

KinTools RT - a full-body, three-dimensional kinetics and kinematics analysis package .

OrthoTrak - a fully automated, three-dimensional, clinical gait measurement, evaluation and database management system.

UE Trak - calculates three-dimensional upper extremity kinematics for upper body movement measurement.

BioFeedTrak - design and implement biofeedback programs that can enable clinicians and patients to receive instantaneous audio feedback to kinematic movements.

Motion Composer - tools for collating, integrating and presenting interactive motion capture data.

SIMM - create computer models of musculoskeletal structures.