

Medical Robotics

Medical robotics spans the broad areas of science and engineering to realize intelligent machineries that can be applied to clinical practice. Robotic technologies can improve existing clinical procedures as well as provide innovative new approaches to current clinical problems.

Motion Analysis works with the medical community to provide cost-effective solutions in applications such as patient positioning, virtual reality simulations for interactive medical training, and simulation of positions and forces for assessment.

The Motion Analysis RealTime systems offers state-of-the-art, high resolution, accurate motion capture systems to acquire, analyze and display three dimensional motion data.

Typical System Configuration

MEDICAL ROBOTICS SYSTEM

- **6-12 Eagle-4, Eagle or Hawk cameras**
- **Cortex**
- **Skeleton Builder**

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 Motion Analysis 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
- Built-in zoom provides more visual options
- Four body mount points for variable positioning
- Software controlled adjustable light output
- Separate zoom, iris and focus settings independent of ringlight

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
- Built-in zoom provides more visual options
- 237 LED's for brighter and better light uniformity
- Four body mount points for variable positioning
- Software controlled electronic shutter
- Software controlled adjustable light output
- Separate zoom, iris and focus settings independent of ringlight

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
- Four body mount points for variable positioning
- Software controlled electronic shutter
- Software controlled adjustable lightoutput
- Separate zoom, iris and focus settings independent of ringlight

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.