

# Rush University Medical Center

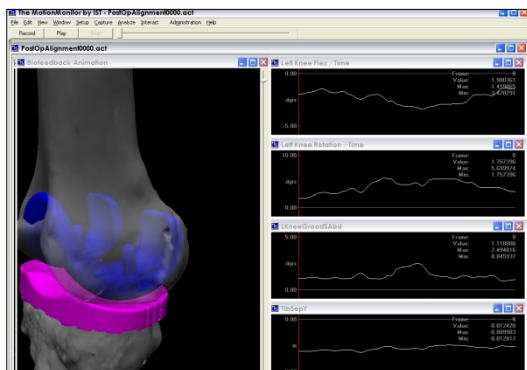
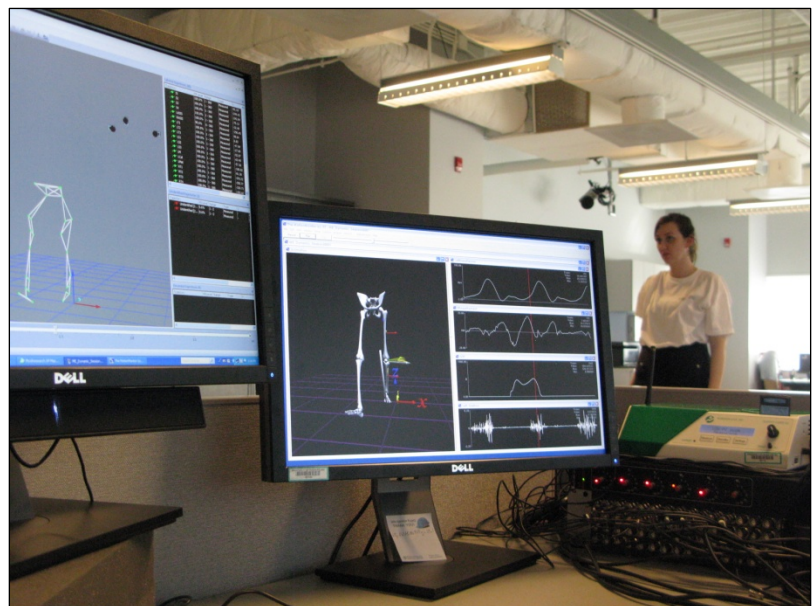
Rush University Medical Center in Chicago recently installed a motion capture system consisting of 12 OQUS 300 cameras, QTM tracking software, Noraxon's Telemetry DTS EMG system, Bertec force plates, Novel's Pedar and The MotionMonitor Acquisition, Analysis and Visualization software.



Midwest Orthopaedics at Rush, a nationally recognized leader in comprehensive orthopaedic services is ranked 12th nationally by *U.S. News & World Report*.

Housed in the Human Motion & Gait Laboratory, a unit of Rush's Section of Tribology, the Qualisys system will provide important information on the kinematics and forces involved in daily human activities as part of the group's study of wear, friction and lubrication of artificial and natural joints. "Our goal is to expand the body of traditional orthopaedic knowledge through bioengineering practices and to investigate new ideas that show potential for improving the physical capabilities of those who suffer from musculoskeletal ailments." said Markus Wimmer, Director of the Tribology Section.

Several factors went into the selection of hardware and software said Bob Trombly, manager of the lab. "Our history with Qualisys and the consistency of QTM's marker tracking made it the logical choice for us. We don't have time to do a lot of post processing and need the real time capability that both QTM and The MotionMonitor provide. We also have a need to switch protocols for the wide range of studies that we will support and The MotionMonitor's ability to selectively choose hardware is a real plus. We can collect from cameras, force plates and emg for a typical gait study and switch to only force plates for a balance study with just a simple mouse click."



The ability to track CT/MRI reconstructions during activity and pre/post surgical implantation was also cited as an important factor in the choice of The MotionMonitor software. "This capability will help our understanding of the friction and wear of natural joints and the components used in knee replacements." said Wimmer. "And the biofeedback capabilities of the system will let us test our ability to change joint loading through retraining of gait kinematics rather than through surgical interventions."