Acquisition of arm and instrument movements during laparoscopic interventions

Knowledge about the motion of a surgeon's or a surgical assistant's manipulations can support ergonomic assessments as well as the design of computer and robot-assisted technologies. In this study the electromagnetic position tracking system miniBIRD (Ascension Technology Corporation, Burlington, VT, USA) was evaluated for the use of surgical movement acquisition. After presenting the influence of noise and the linear and angular accuracy, the system was applied to measure the kinematics of a surgical assistant moving an endoscope during a laparoscopic cholecystectomy. We conclude that the quality of the system is satisfactory for this kind of task, as long as the markers remain within a relatively small range of movement.
Occurences:

- Einrichtungen > Fakultäten > Fakultät für Medizin > Kliniken und Institute > Chirurgische Klinik und Poliklinik > 2003

entries: