Ergonomic evaluation of the scrub nurse's posture at different monitor positions during laparoscopic cholecystectomy.

Abstract:
OBJECTIVE: Our aims were to measure the posture and movement of the scrub nurse very accurately, without using any markers, during a minimally invasive surgical procedure. SUMMARY BACKGROUND DATA: One of the most important subjects in ergonomic studies of minimally invasive surgery is the question of the proper placement of monitors. METHOD: Two simultaneous and synchronized video recordings were carried out in 2 different monitor setups. The different steps of the operation were identified and measured in seconds. Longer-lasting postures were imported to and analyzed with a software. Results of the different setups were compared with each other, and with an "ideal" comfort posture. RESULTS: Measuring the typical postures of the most pronounced static phase, the evolving stress was significantly influenced by different monitor setups. CONCLUSIONS: With the installation of an additional monitor positioned to satisfy the nurse's comfort, the static stress could be decreased.