

Interrelations between noise and patients' critical states during surgeries

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ABSTRACT

In modern operating rooms (OR), anaesthesiologists rely on acoustic signals in addition to visual information on the patient monitor to identify critical patients' states, which trigger specific actions (e.g. application of additional medicine). Higher noise levels in the OR can be an interference to the perception of such signals and impair concentration. This may complicate the correct handling of the patient and impact the patients' state. However, anaesthesiologists who react to a critical patient state also generate noise, because handling of materials is one of the main sources of noise in the OR. Aim of the study was to model the interrelations between noise in the OR and patients' critical phases throughout the surgery.

Method: We measured noise per 10-minute intervals during 65 abdominal surgeries with a noise measuring device placed on the main lamp in the OR. In parallel we identified moments of critical patient states during anaesthesia (if patient values exceeded a critical threshold that required the anesthetist to react).

Results: Analyses are ongoing and results will be available at the time of the conference.