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## ESA2016: Study Showed ICU Noise Still Above Recommended Levels



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A study presented at Euroanaesthesia 2016 in London showed that noise levels in the Intensive Care Unit (ICU) can go well above the World Health Organization (WHO)'s recommended levels, disturbing both patients and the medical teams that care for them.

WHO recommends average sound levels for hospital wards below 35 decibels (dBA) with a maximum of 40 dBA at night time. However, sound levels in ICUs have been reported as much higher with average sound levels always exceeding 45 dBA and for 50% of the time exceeding 52 dBA. Following complaints about noise levels, Dr Eveline Claes, Jessa Ziekenhuis Hospital, Hasselt, Belgium, and colleagues, measured the sound levels in one 12-bed ward of the ICU.

Sounds were measured bedside for 24 hours in a two-bed room as well as at the nursing station.

### Results

#### Bedside

Daytime: 54.6 dBA avg

Nighttime: 52.8 dBA avg

Max Sound Peak: 101.1 dBA

#### Nursing station

Daytime: 53.9 dBA

Nighttime: 52.6 dBA

Max Sound Peak: 90.6 dBA.

Dr. Claes commented that alarm activity likely accounted for the peaks they measured, with equipment noise, hospital noise and staff movement all contributing to the noise levels.

See Also: [Earplugs Are Effective in Reducing Risk of Delirium](#)

She added: "The sound levels in our ICU clearly exceeded the WHO recommendations but are comparable with sound levels in other ICUs. Those elevated sound levels as well as frequent sound level peaks can be responsible for the subjective feeling of noise pollution experienced by patients, nurses and doctors. In our department, measures should be taken to reduce the average sound level and the incidence and magnitude of

sound level peaks."

She cautioned: "It is not easy to create an ICU without noise. We need the alarms to warn us about emergencies. Various programmes of staff education, task scheduling, equipment repositioning and alarm threshold review have not lowered sound levels to within WHO-recommended levels. The practical solution at present seems to be earplugs or other ear defender devices for patients, although there may be opportunities in the future to modulate alerts through the use of smart alarm systems and to develop equipment that produces less noise."

Source and image credit: [European Society of Anaesthesiology](#)

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