Safer operations by surgeons in quiet theatres

Noise stresses surgeons and puts their patients at risk. However, a study using Danish noise meters in a German hospital shows that simple measures can reduce the noise level and halve the number of complications.

Patients can avoid a number of complications if hospital employees learn to make less noise and use equipment that warns them of the noise level.

Such were the findings of a new study from a German paediatric operation ward, published in the renowned medical journal “Annals of Surgery.”

At the University Hospital in Hannover researchers recorded the noise levels before and after introducing a number of initiatives, such as SoundEar A/S’ electronic noise meters that provide a visual warning as soon as the set noise limit is exceeded.

The initiatives also limited traffic in and out of the operating theatre doors and introduced rules for private chit-chat and mobile phone conversations. These initiatives had a crucial impact on the number of complications, which fell significantly.

According to Ole Juhl from SoundEar, the study adds to the current debate on work pressures and poor work environment leading to mistakes and complications in hospitals.

“It is not just work pressure in hospitals that leads to mistakes and complications, but also the noise level and fortunately we can do something about that. The results of this study show that there is a lot to be saved, both in terms of money and health,” says Ole Juhl.

The researchers conducted their study in an operating theatre where surgeons operated on children of all ages – from premature babies to 16-year olds. 156 operations were included in the study, and they succeeded in lowering the median noise levels in the operating theatre from 63 to 59 dB, a reduction the staff would perceive as the noise level being halved. In addition to that, there was also a noticeable drop in the number of noise peaks equivalent to the intensity of a passing truck.

Before the staff reduced noise emission complications arose after 20 out of 58 operations, while only 10 out of 56 patients experienced postoperative complications after the noise reduction program. Together with this, measurements showed that the surgeons’ stress level fell.

The researchers installed noise meters from SoundEar on the walls at eye level. The noise meter has a display shaped like an ear that changes colour from green to yellow to red as the noise level increases and exceeds the set noise limit.

SoundEar’s ‘ear’, as the noise meter is more popularly called, is well-known for its use in day-care centres and SoundEar have developed similar models that are now more widely used in hospital wards all over the world.

For further information, please contact: SoundEar A/S on (+45) 3940 9002.

Link to abstract from the article in the Annals of Surgery: http://journals.lww.com/annalsofsurgery/Abstract/publishahead/A_Noise_Reduction_Program_in_a_Pediatric_Operation.98263.aspx