It is undisputed that general anaesthesia is quite a safe medical intervention as process control is quite advanced. But on the other hand the complexity of procedures is steadily increasing. Here’s a different thought of what could hamper implementation of protective ventilation in the operating room.
Looking into literature, distraction of the anaesthetist has already been researched. One observational study has found that on average 34 distracting events were observed in cases with a mean duration of 103 minutes. Sources of distraction included other anaesthetists, the circulating nurse, visitors and the surgeon. But events with the highest level of distraction requiring immediate attention originated from OR equipment (alarms, noises) and other anaesthetists. The spread of distractions across the phases of anaesthesia was equal. Another study found that one distracting event happened every 4 minutes and 23 seconds, most frequently during emergence with one event every 2 minutes. In the first study mentioned above, approximately 8 distracting events per case were judged to be detrimental to current patient care. The second study judged 22% of all observed distracting events to have a negative effect.

Distracting events during key anaesthetic interventions were observed relatively frequently, with about 2 events per case. The role of general background noise in the OR is controversial. General background theatre noise has been associated with deterioration in mental efficiency and short-term memory. But looking into the nature of different tasks, noise does not always have a negative effect. Low demand tasks may be performed better with increasing levels of external stimulation (conversations, noise and music) up to a certain point, but higher demand tasks may suffer with the same degree of external stimulation.

Our perspective and more
From our perspective, the administration of a general anaesthesia, including protective ventilation needs to be considered as a high demand task that requires vigilance and close monitoring of all parameters that can be compromised by distractions as described above. Reported incidences may underline this thought. In one case in Germany, an anaesthetist forgot to switch on the anaesthesia device while the patient was intubated. The reported reasons were distraction and ambient noise level in the OR. In another case, the anaesthetist forgot to re-start the ventilation after deliberately suspending ventilation during cardiac surgery. Among the reasons reported: many distractions.
The abovementioned events can surely not only be attributed to inattention of the anaesthetist or other inadequate behaviour. But they may be a result of the abovementioned contributing factors: complex work environment meets information overload meets constant multitasking meets frequent distraction. Another factor that has been studied but apparently not yet clearly proven to be a factor contributing to human error in anaesthesiology is the mental workload. Methods to measure mental workload have been researched and further research is desirable. However, all this calls for the medical device industry to come up with devices that reduce information overload, are being used intuitively and assist with tasks that can be carried out following evidence based rule sets. Maybe assistance systems that take over those tasks but leave the anaesthetist in the drivers seat, easing the compliance with the standard of care, freeing up cognitive resources of the anaesthetist and reduce the potential negative effects of distractions in the OR may help reduce errors and gain importance.

REFERENCE: