

## Intensive care errors 'frequent'?



### Yoel Donchin response

It took more than 70 years from the invention of the first microscope by Zaccharias Janssen and his son Hans in 1590 until its rediscovery by Anton Van Leeuwenhoek (1650). It took more than 10 years for the surgical community to accept Lister's recommendation to use carbolic acid for cleaning surgical instruments (1) to say nothing of Ignatz Semmelweis, who was murdered by the psychiatric staff after a nervous breakdown (2). No one believed his theory that the physicians were responsible for the spread of infections among their parturient patients. Sometimes I feel like Semmelweis. For the last 20 years I have attempted with colleagues with expertise in human factors (ergonomy) to convince the medical community that it is possible to overcome the epidemic of errors. It has been difficult to demonstrate our results as leading medical journals that are very keen to publish results of a new drug for a rare disease seem very reluctant to publish papers written by human factors engineers that shed light on the cause of medical error and suggest a remedy. More than once I received a letter of rejection recommending that I publish our studies in "professional" journals, namely those read by human factor experts rather than general physicians who are the ones who treat patients and are the ones who can benefit from improvements. Safety and error management are performed by the hospital quality assistance committees with lawyers. The number of participants in safety courses during Anesthesia and Critical Care Medicine conferences is minuscule compared to the total registrants. Panels on safety are not seen as important or practical such as upper air way management or the use of steroids in sepsis is.

Our research over the last 20 years bringing together human factor engineers and practicing physicians has looked at the working station from the cognitive psychology point of view. This perspective has led us to understand and subsequently change the behavior of the "operators" -namely nurses and physicians to reduce the incidence of errors. If to "to err is human", then the way to overcome the fallibility of humans is by looking at the way they think and the way they perform their daily activities. Therefore we have come to realize that collecting and merely reporting events do not bring about any real change in the rates of error and in fact do take away underlining mishaps. Being passive, waiting for an error to occur and analyzing facts based on hindsight may yield great publishable results. Is this, however, the proper way? I doubt it. In the paper by Valentin et al. (3), there are two references by our group that demonstrate the change in our attitude. In 1995, we published the "nature and causes of human errors in the ICU" (4). We looked at the unit not just by self-reporting but also by direct observation, looking at the way the team worked. There was a good relationship between self-reporting and observation. The main reason for mishaps was a low level of communication among the teams. Fifteen years later, using again reporting and observation we found that in units where there was a high level of "safety culture" or a safety climate, the incidence of errors was almost zero (5). Observations in the operating room and implementation of briefing before surgery reduced error and mishaps by 50%. This research was based on the assumption that

sharing information and responsibility is the way to create a common mental model among the participants.(6) In another study, we asked team members in two hospitals to tell us "what bothered them" rather than just to report errors (7). Within 3 weeks we received more than 300 responses (compared to 18 reports in three years. People became interested and wanted to help solve the problems rather than subject their failure to the management.

I doubt the conclusion of the large survey by Valentin et al (3) will lead to a real measurable change. Safety has a half life of Adrenalin. As long as it is infused, the safety level is high (less errors).

Reporting may lead to an initial change but it is not a preventive measure, it is rather just treating symptoms. The problem remains.

Creating a safe atmosphere, establishing a non-punitive policy, working as teams and not as fiefdoms, working together with other disciplines such as human factors experts may bring the same changes as occurred when washing hands during the epidemic of parturient sepsis.

## References

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