



## Study Explains Role of Human Behaviour in Surgical Errors



A study conducted by Mayo Clinic researchers has identified 69 “never events” among 1.5 million invasive procedures performed over five years and has discovered that there are 628 human factors that contributed to the errors. The findings of the study have been published in the journal *Surgery*.

Surgical errors are called never events because they should ideally never happen. However, they do and the Mayo Clinic researchers used a system and coded human behaviours involved to identify environmental, organisational, job and individual characteristics that led to the never events.

The rate of never events over the period of the study was around 1 in every 22,000 procedures. Approximately two-thirds of these errors occurred during minor procedures including anaesthetic blocks, line placements, interventional radiology procedures, endoscopy and other skin and soft tissue procedures. Of the 69 never events identified by the researchers, 24 were related to performing the wrong procedure, 22 were related to performing surgery on the wrong site or wrong side of the body, 5 were about putting in the wrong implant and 18 were related to leaving an object in the patient. All of the errors occurred at Mayo but none of them proved fatal.

As senior author Juliane Bingener, M.D., a gastroenterologic surgeon at Mayo Clinic points out, preventing never events still remains elusive and the study finding that factors beyond “cowboy-type” behaviour may be to blame only enhances the complexity of preventing never events.

“What it tells you is that multiple things have to happen for an error to happen,” Dr. Bingener says. “We need to make sure that the team is vigilant and knows that it is not only OK but is critical that team members alert each other to potential problems. Speaking up and taking advantage of all the team’s capacity to prevent errors is very important, and adding systems approaches as well.”

During the study, the investigators used human factors analysis, a system first developed to investigate military aviation accidents. They grouped errors into four levels that included dozens of factors:

- Preconditions for actions including poor hand-offs, distractions, overconfidence, stress, mental fatigue, inadequate communication and channelled attention.
- Unsafe actions, such as bending or breaking rules or failing to understand and perceptual errors.
- Oversight and supervisory factors such as inadequate supervision, staffing deficiencies and planning problems.
- Organisational influences such as problems with organisational culture or operational processes.

Dr. Bingener concludes that the most critical thing is the patient perspective and a never event is basically a

breach of trust. That is the main reason why healthcare professionals do not want a patient to experience a never event.

Source: Mayo Clinic

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Published on : Thu, 4 Jun 2015