

Equipment issues account for almost 1 in 4 operating room errors

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Around a quarter of all operating room errors are caused by technology/equipment problems, indicates an analysis of the available evidence, published online in *BMJ Quality & Safety*.

Inability to use the technology/[equipment](#), lack of availability, and faulty devices/machines made up the bulk of the problems, the analysis indicates.

The researchers methodically searched for published studies on errors and problems arising in operating rooms in electronic databases. After applying a quality assessment technique, they found 28 studies out of a total of 19,362 pieces of research that were suitable for inclusion in the analysis.

Technology/equipment issues cropped up in an average of 15.5% of malpractice claims. Across all the studies, an average of 2.4 errors was recorded for each procedure, although this figure rose to 15.5 when an independent observer recorded the errors. Equipment and/or technology issues accounted for almost a quarter (23.5%) of these errors.

Eight studies categorised the different types of equipment error: the configuration or settings caused problems in more than four out of 10 cases (43.4%); availability of the required device/machine was an issue in just over 37% of cases; while in almost a third of cases, the equipment or technology wasn't working properly.

Four studies looked at the severity of mistakes in the [operating room](#), classifying a fifth as "major", of which equipment failures accounted for a fifth, compared with 8% and 13%, respectively, for communication and technical failures.

While the type and rate of equipment failures varied widely, depending on the study and surgical procedure involved, surgery that relied heavily on technology had higher rates of problems.

Three studies reported on the deployment of an equipment/technology checklist before surgery and showed that this could halve the error rate, prompting the authors to recommend that a generic equipment check should become routine practice, and be included in the current World Health Organization Surgical Safety Checklist.

The authors appreciate that technological advances have improved the chances of survival and quality of life of people undergoing surgery. But they caution: "The increasing use of technology in all surgical specialties may also increase the complexity of the surgical process, and may represent an increasing propensity to error from equipment failure."

Previous evidence suggests that medical [errors](#) affect up to 16% of all patients admitted to hospital, around half of which are attributable to surgical procedures, they add.

More information: *BMJ* [DOI:10.1136/bmjqs-2012-001778](https://doi.org/10.1136/bmjqs-2012-001778)

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