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Culture for better patient safety

PERSPECTIVES

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Most hospital departments have developed good routines for the reporting and discussion of serious incidents. There is often less discussion of more everyday incidents without consequences for patients.

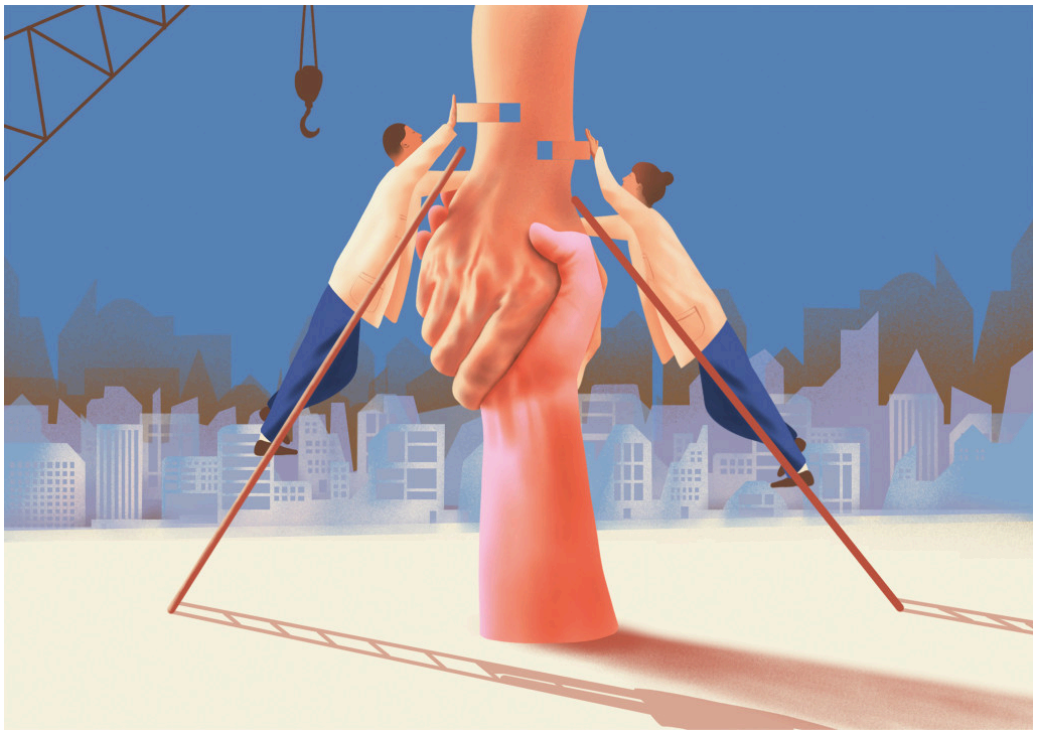

Illustration: Johan Nord

In the department of anaesthesiology at St. Olavs hospital, Trondheim University Hospital, a patient safety culture called *Learning Incidents* has been built up in recent decades. As part of our routine documentation, we record all types of problems we encounter in 'our' part of a patient's care, irrespective of cause or severity. In regular plenary meetings, we address both small and major learning incidents. We believe that collective learning from both serious and less serious incidents requires the systematic building of an open and compassionate departmental climate.

Modern hospitals are high-risk businesses

Hospital management today is characterised by an increasing need for productivity and cost effectiveness to ensure sound use of public resources. In addition, society has an expectation that health services should be safe. Patient safety has emerged as a core value in the Norwegian health service. Modern hospitals have been compared to industrial organisations with extensive requirements for a systematic safety mindset, as in aviation, oil platforms and nuclear power stations for instance (1). An example of a patient safety measure inspired by routines from these high-risk industries is the establishment of perioperative checklists (2).

Patient safety is firmly anchored in Norwegian health legislation. Much of the responsibility today is placed at the system level in the organisations rather than with individual healthcare staff. The organisations are obliged to provide safe services (3). They also have a duty to plan, implement, evaluate and correct the organisation's activities (4). Furthermore, serious incidents should be reported to the Norwegian Board of Health Supervision (3). A total of 732 reports from the specialist health service were submitted in 2020 (5).

Therefore, systems for the notification and follow-up of serious incidents resulting in patient injury or death can be considered to be well-established at Norwegian hospitals.

Small incidents are not trivial

The situation is probably slightly different when it comes to the follow-up of less serious incidents and near-misses. In his much-quoted book *Normal Accidents* from 1984, the organisational theorist Charles Perrow states that major accidents and disasters in high-risk businesses often originate from small trivial incidents (6). Similarly, Paul Barach and Stephen Small write that experiences from high-risk organisations suggest that one should not just look at the major adverse events that result in patient injury, but should also continuously keep track of smaller problems and near-misses (1).

Many hospitals today have set up morbidity and mortality meetings in various settings. As the title suggests, these meetings tend to deal with the more serious incidents resulting in patient injury or death. In specialist literature about these types of meetings, it has been pointed out that the meeting setting and discussion climate are crucial, and that there is an inherent danger that the meetings will be perceived as exposing for the doctors involved in the incident (7). Perceptions like this may lead to attempts to hide future incidents. Therefore, establishing a good meeting culture is important so that these meetings can contribute to quality improvement, increased patient safety and shared learning.

All problems are documented

In the department of anaesthesiology at St Olavs hospital, Trondheim University Hospital, we have recorded anaesthesia problems as part of the anaesthetic record since 1985 (8). This recording involves a simple 5-level grading (Table 1) performed by the anaesthesia team after each anaesthetic procedure. Both major and more trivial problems during the anaesthetic process are recorded, irrespective of whether the primary cause is anaesthesiological or surgical or due to the patient's medical condition. There is often a combination of several factors. As Table 1 shows, the statistics are dominated by less serious incidents (grade 1–2), which illustrates how often things do not actually go entirely 'according to plan'. It is easy to extract clinically relevant information from these statistics. By directly linking the recording to the clinical documentation, we also gain an oversight of seemingly small incidents, which would mostly likely never have been included in a separate reporting platform.

Table 1

Recorded problems during anaesthesia at St Olavs hospital, Trondheim University Hospital, in 2020.

Severity	Number
Uneventful	15,379
Grade 1: "Simple situation. Small problem. Patient not affected."	3,256
Grade 2: "Moderately difficult situation. Patient somewhat affected. Low severity."	498
Grade 3: "Very difficult situation. Patient very unwell. Potentially life-threatening."	35
Grade 4: "Death."	3
Not completed	1,895
TOTAL	21,066

The original purpose of the database was internal quality assurance and research. Prompt review of the data collected soon led to major and minor problems during anaesthesia being raised and discussed in plenary meetings of the department, and this marked the start of building a departmental culture.

> ***«The statistics are dominated by less serious incidents, which illustrates how often things do not actually go entirely 'according to plan'»***

In order to learn from problems that arise during an anaesthetic procedure, it is not enough to record, count and categorise the episodes. Answers must also be sought to the questions 'Why did it happen?' and 'Could anything have been done differently?'. This will make it possible to learn from incidents, and to change and improve our own practice (9). Sharing incidents and what has been learnt from them with the team will ideally enable colleagues, and not least future patients, to be spared from the same difficulties.

The concept of *Learning Incidents*

The concept of *Learning Incidents* is simple: Both major and small problems arising in everyday clinical practice can be raised and discussed by the departmental community. Anything that has provided self-perceived learning outcomes, or has led to things being handled differently next time, is of interest. These might involve problems caused by the patient's physiology or underlying condition, consequences of the anaesthesia or surgery performed, mistakes or human error, or a technical problem (Box 1). The term *problem* has been deliberately chosen instead of *complication* to avoid focussing on the fact that 'mistakes' may have been made, and that it is someone's 'fault' that something did not go to plan.

Box 1 Examples of problems recorded in the anaesthetic record.

Laryngeal spasm

Intubation difficulties EXPECTED (> 1 min with a trained intubator)

Intubation difficulties UNEXPECTED (> 1 min with a trained intubator)

Difficult laryngeal mask (> 3 attempts)

Difficult mask ventilation

Bronchospasm

Aspiration

Hypoxia (oxygen saturation <85 % > 5 min, oxygen saturation <75 % regardless of duration)

Hypercapnia (pCO_2 > 7.5 kPa)

Hypotension (systolic blood pressure <70 % of baseline pressure > 5 min, or <50 % regardless of duration)

Hypertension (systolic blood pressure > 130 % of baseline pressure)

Arrhythmia or ECG changes

Perforation of the dura

Unsuccessful nerve block (requiring another block or general anaesthesia)

Anaphylactic/allergic reaction

Hypothermia (temperature <35.5 °C)

Temperature > 39 °C (suspected malignant hyperthermia)

Difficult emergence

Bleeding > 20 %

Inadequate analgesia/anaesthesia

Technical problem with equipment

Medication error

Contributions about learning incidents are a regular part of the department's internal teaching programme, but are also presented at some morning meetings. These contributions are very popular, and almost without exception lead to good professional discussions. Everyone contributes voluntarily with presentations of self-perceived incidents, both specialty registrars and senior consultants. There are often more contributions than we have space for on the meeting programme. Since we have a low threshold for addressing major and small incidents, it becomes 'everyday' and unthreatening for everyone to raise learning situations.

> ***«It is extremely important that leaders and senior figures in the field present incidents where they themselves did not appear as heroes»***

Presenting incidents where one has not been in control of the situation is demanding for everyone. We think it is extremely important that leaders and senior figures in the field present incidents where they themselves did not appear as heroes, and where things could have been done better with hindsight.

The fact that everyone can dare to be open about such situations places a large responsibility on the entire departmental environment. It requires a departmental culture in which the team listen, question and are supportive, with professional discussions and professional conclusions at the centre. Departmental leaders must be actively present during the meetings, ensure the focus remains professional and steer away from an individual focus. Leaders must clearly signal that all staff experience problems and that learning from problems is part of the load the department shares together.

Oversight requires structure

Our department has been a standard bearer for learning incidents for many years. With an increasing number of anaesthetic procedures and staff, we felt the concept required more structure to be able to maintain oversight. The most serious incidents (grade 3 and 4) are easy to extract from the database due to the relatively low number (Table 1). In order to identify learning incidents from among the many problems recorded without serious consequences for patients, we are reliant on colleagues reporting these incidents in shared discussions. In 2010, we established a committee for learning incidents in the department. The committee members help to pick up and collect learning incidents that have occurred, and encourage colleagues to present these case reports to others in the department. The committee's secretary keeps track of reported incidents and ensures they are included in the department's internal teaching programme.

Relevant for several specialties

Recording and sharing learning incidents is a concept that we believe could also benefit other specialties besides anaesthesiology, particularly perhaps procedure-based specialties and specialties with a high risk of acute incidents. In Box 2, we share a few points we think may be useful for departments that would like to work on building a similar culture.

Box 2 Suggestions for establishing Learning Incidents.

Recording should be simple and prompt.

It should take place on the same platform as the clinical documentation.

Recording problems must not be perceived as stigmatising.

The database must be owned by the department and treated as confidential.

Identification and retrieval of incidents from the database must be simple.

No learning incident is 'too small' for joint discussion.

Presentation of learning incidents should have a regular place in the teaching programme.

Establishing a coordinating group may be useful in larger departmental environments.

The leaders must be actively present during the meetings.

Trust within the team is essential for a culture of openness.

Professional 'heavy hitters' must be enthusiastic and actively participate.

The concept must be firmly anchored in the departmental management.

Feedback we have received from both Norwegian and international anaesthesia environments gives the impression that our departmental culture is different to others. This may seem surprising since the recording of problems and adverse events is also done elsewhere. It is also not uncommon for problematic case reports to be presented and discussed in departmental meetings. As we understand it, a combination of three factors makes our departmental culture special: Firstly, all types of problems are recorded, not just those that had consequences for the patient, but also those that might have developed into serious incidents if they had not been detected and dealt with early in the process. Secondly, recording is directly linked to the clinical procedure in the patient record, which facilitates easy recording and subsequent retrieval of clinically relevant information from the statistics. The third factor is the deliberate daily use of our internal statistics in an active learning culture, where openness about problems is central.

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