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# Weekly Internal Ethical Case Discussions in an ICU–Results Based on 9 Years of Experience With a Highly Structured Approach

**OBJECTIVES:** Various ethical challenges are prevalent in ICUs. In order to handle these problems, a highly structured internal ethical case discussion within the multiprofessional team was implemented in 2011 in a Swiss ICU and has been regularly practiced almost weekly until present. To explore the results of all ethical case discussions taking place in a general ICU and to discuss the outcomes of the patients. To identify the conditions facilitating the implementation of regular ethical case discussions.

**DESIGN:** Retrospective case series analysis.

SETTING: Mixed academic ICU.

**PATIENTS AND INTERVENTION:** All patients who had an ethical case discussion between January 2011 and December 2019 following the approach called Modular, Ethical, Treatment decisions, Allocation of resources at the micro-level, and Process.

**MEASUREMENTS AND MAIN RESULTS:** Weekly ethical case discussions held regularly on a fixed date were found to be practical for the observed ICU. A total of 314 ethical case discussions were realized in 281 patients. Median patient age was 70 years (interquartile range, 62–77 yr); two thirds were men. The results were categorized into the following groups: established therapy continues, complications to be treated (n = 53; 16.9%); therapy continues, patient's will to be explored further (n = 77; 24.5%); therapy continues, complications to be treated only after evaluation (n = 62; 19.7%); therapy continues with limitations (e.g., do-not-resuscitate order) (n = 98; 31.2%); and change of treatment plan to end-of-life care (n = 17; 5.4%). Of the discussed patients, 115 (40.9%) died in the ICU and 29 (10.3%) after transfer to the normal ward. Seven patients (2.5%) were transferred to a hospice and 55 (19.6%) to another hospital. Sixty-nine (24.6%) were discharged to a rehabilitative facility and six returned home.

**CONCLUSIONS:** Regular ethical case discussions can be successfully implemented, enabling careful review of the patient's will and balancing it with the prognosis of the disease. This facilitates a necessary change of the therapeutic goal whenever appropriate.

**KEY WORDS:** clinical ethics support; end-of-life care; ethical case discussion; ethical decision-making

The concept of clinical ethics support (CES) emerged in Seattle, WA, in the early 1960s with the establishment of a committee to help clinicians to determine which patients to allocate for dialysis on the limited number of machines available at the time (1). During the past 5 decades, CES

Barbara Meyer-Zehnder, MD<sup>1</sup> Ursi Barandun Schäfer, MNS<sup>2</sup> Conrad Wesch, MNS<sup>2</sup> Stella Reiter-Theil, PhD<sup>3</sup> Hans Pargger, MD<sup>2</sup>

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has become well developed, and various forms of support have been put to test in practice (2). Intensive care medicine has also experienced considerable advances and is increasingly able to replace more and more organ systems, at least temporarily (3).

The prevalence of various ethical considerations in ICUs poses frequent challenges for staff. Many patients are unable to make treatment decisions due to sedation, delirium, or coma and thus cannot be asked about their wishes. Surrogate decision-making is often necessary and can be very stressful for the relatives who often respond with anxiety, depression, guilt, and regret (4–8). Decisions in intensive care medicine have serious, far-reaching consequences. Therefore, the patient's will must be carefully assessed. Nurses, physicians, and other ICU team members are burdened by stressful, taxing situations. Maintaining a treatment of very questionable benefit, lack of full disclosure of all facts, and discordance among team members are often mentioned as sources of moral distress by nurses and physicians (9).

Various forms of CES exist in clinical practice, including clinical ethics consultation (CEC), clinical ethics committees, ethics rounds, ethics discussion groups, moral case deliberation, and ethics reflection groups. Furthermore, a variety of patient- and familycentered care interventions have also been developed, such as structured interdisciplinary family rounds and communication bundle interventions (10). Both, CES and family-centered care interventions, can reduce the length of stay, increase patient and family satisfaction, and reduce costs without increasing mortality (10–12).

This article presents a specific type of ethical case discussion (ECD) following an approach called Modular, Ethical, Treatment decisions, Allocation of resources at the micro-level, and Process (METAP). METAP is an ethical decision-making tool conceptualized for easy use in clinical practice and requires only basic ethical knowledge. A core feature of the METAP approach is the requirement for interprofessional exchange, including open communication and compatibility with clinical routines (e.g., clear responsibilities and a process for urgent decision-making).

ECDs within the treatment team were implemented in 2011 by the surgical ICU of the University Hospital of Basel (UHB) and have been practiced almost weekly until present. This article analyzes the conditions facilitating regular ECD performance, focusing on the results and patient outcome of all such discussions occurring between 2011 and 2019.

#### METHODS

#### ECD-Level 3 of METAP

METAP is an ethical decision-making model to provide knowledge and procedures for CES (13-15). Its methodologic orientation represents an approach that is based on both research and consensus-building through participation. As with a medical guideline, it was submitted to a scientific and a clinical panel for systematic evaluation and modification (16). A manual offers a body of knowledge including empirical data, descriptions of ethical principles and guidelines, and legal norms and criteria to follow when facing difficult cases. For easy use, the core knowledge has been summarized on a laminated accordion flyer (called Leporello) and includes items such as checklists for collecting and analyzing important information and algorithms for ECD. The aim of METAP is to make medical ethics knowledge available for daily clinical routine and to every team member without requiring support from the professional CES service. A four-level escalation model approach is proposed (Supplemental Fig. 1, Supplemental Digital Content 1, http://links. lww.com/CCX/A523). Level 1 suggests that any staff member can first consult the short form for a quick orientation. At level 2, a care provider is recommended to obtain help from a peer facilitator (trained in ethics) who is a member of the clinical team. For problems of higher complexity, level 3 foresees an internal interprofessional, interdisciplinary, and structured ECD among the entire care team involved in the treatment of the patient. Neither the patient, the family, nor another surrogate decision-maker takes part in the ECD which follows a well-defined and explicit procedure (13). Level 4 designates a formal CEC performed by one or more external persons with professional ethical expertise (17, 18).

An ECD following the procedure described in METAP consists of three phases (**Supplemental Fig. 2**, Supplemental Digital Content 2, http://links.lww.com/CCX/A524). At the beginning, the moderator or another team member briefly summarizes the most important information concerning the patient (characteristics, environment, diagnosis, treatment, and care). All information is collected beforehand and summarized in a

2

special matrix that allows an easy overview of the case (**Supplemental Table 1**, Supplemental Digital Content 5, http://links.lww.com/CCX/A527). The panelists then provide lacking information and issues. Second, the group discusses treatment options respecting the ethical principles respect for autonomy, beneficence, nonmaleficence, and justice (19). This involves answering the following questions: Which option corresponds most closely to the patient's preferences? Is it possible to reach the patient's goals? The third step involves planning and implementation of the selected treatment option. Finally, the contents of the ECD are documented, and the main result recorded in the patient's electronic chart.

#### Implementation in the Daily Routine

One hour is reserved for ECDs in the weekly schedule of the ICU. In addition, it is always possible to arrange for an unplanned session, if need be. This form of weekly ECDs was chosen to give them a place in the daily routine and to permit as many team members as possible to take part in one or more ECDs per year.

A team member trained in ethics and familiar with the METAP process organizes the meeting, moderates the discussion, and is responsible for documentation of the result. Some tasks may also be delegated. The day before the discussion, the responsible person, the senior nurse, and the senior intensive care consultant select the patient to be discussed. The indication for an ECD is rarely a conflict or a real ethical dilemma. More often, there is a need to evaluate the long-term treatment of a patient, discuss the treatment options, and clarify the ethical situation. This allows all team members to raise their concerns about the actual treatment and the situation of the patient. However, the team members are also encouraged to individually call themselves an ECD either during the scheduled time frame or whenever needed.

Since its establishment, mostly, very experienced nurses and nursing experts, and occasionally the chief physician, have taken over the role of moderator. They are usually not directly involved in the care of the discussed patient. Nonetheless, the medical and nursing management team actively support the implementation, including the assignment of the required resources.

Ethics consultation (level 4 of the METAP approach) is provided on a professional basis by the Department of Clinical Ethics in collaboration with the Clinical Ethics Committee ("Ethikbeirat"). This ethics committee was founded in 2007 and currently consists of ten members. In addition to facilitating decision-making in individual cases, the committee assists ethics-related educational programming and policy development within the hospital.

#### **Data Collection and Analysis**

All ECDs performed in the ICU of the UHB between 1 January 2011, and 31 December 2019 were included. Until March 31, 2019, the unit had 22 beds and treated about 2,600 mostly surgical, including cardiac, neuroand trauma surgery, and 20% medical patients per year. On April 1, 2019, the surgical ICU merged with the predominately medical ICU, forming an interdisciplinary ICU with 42 beds and which receives all patients in need of intensive medical care. This amounts to approximately 5,600 patients per year.

Patient data including age and sex, admission status, severity of illness using the Simplified Acute Physiology Score (SAPS) II (20), main diagnosis, and the presence of any malignancies were collected from medical charts. The protocols of all ECDs were printed. Analysis of the ECDs led to the development of a system of categories including seven groups (**Table 1**).

Two investigators independently coded all protocols. Points of disagreement about categorization were discussed until a consensus was reached.

Descriptive statistical analyses were performed using IBM SPSS statistical software (Version 26.0; IBM Corp, Armonk, NY). Continuous variables are presented as median and interquartile range (IQR), categorical variables as counts and percentages. This study was approved by the Ethics Committee Northwestern and Central Switzerland (EKNZ) (2019-00675).

#### RESULTS

#### Characteristics of ECDs

Between 2011 and 2019, 314 ECDs were performed in 281 patients. In 33 patients, two ECDs took place. The number of ECD increased over the nine years from 24 in the first year to 46 in 2019. Median patient age was 70 years (IQR, 62–77 yr) and remained relatively stable over the period of investigation. Two thirds of patients were male. The sex ratio showed a quite high variation with a minimum male proportion of 54.8% in 2013 and 73.3% in 2017. About 70% of the patients were admitted emergently to the hospital. The median SAPS-II score

Results	2011, n (%)	2012, n (%)	2013, n (%)	2014, n (%)	2015, n (%)	2016, n (%)	2017, n (%)	2018, n (%)	2019, n (%)	Total, n (%)
Group A	3 (12.5)	9 (27.3)	7 (21.2)	7 (17.5)	7 (23.3)	6 (15.8)	3 (9.1)	4 (10.8)	7 (15.2)	53 (16.9)
Group B	10 (41.7)	5 (15.2)	5 (15.2)	7 (17.5)	6 (20.0)	8 (21.1)	15 (45.5)	12 (32.4)	9 (19.6)	77 (24.5)
Group C	4 (16.7)	2 (6.1)	9 (27.3)	11 (27.5)	5 (16.7)	4 (10.5)	2 (6.1)	3 (8.1)	4 (8.7)	44 (14.0)
Group D	0	4 (12.1)	1 (3.0)	3 (7.5)	2 (6.7)	1 (2.6)	4 (12.1)	0	3 (6.5)	18 (5.7)
Group E	5 (20.8)	9 (27.3)	8 (24.2)	8 (20.0)	7 (23.3)	17 (44.7)	8 (24.2)	15 (40.5)	21 (45.7)	98 (31.2)
Group F	0	3 (9.1)	3 (9.1)	2 (5.0)	1 (3.3)	2 (5.3)	1 (3.0)	3 (8.1)	2 (4.3)	17 (5.4)
Group G	2 (8.3)	1 (3.0)	0	2 (5.0)	2 (6.7)	0	0	0	0	7 (2.2)
Total	24	33	33	40	30	38	33	37	46	314

## TABLE 1.Results of the Ethical Case Discussions

Group A: Established therapy continues, all complications are treated. Group B: Established therapy continues, patient's will to be explored further. Group C: Established therapy continues, complications are treated only after evaluation. Group D: Established therapy continues, evaluation at a defined date. Group E: Established therapy continues, not all complications are treated. Group F: Change to end-of-life care. Group G: Protocol cannot be classified.

was 58 points (IQR, 43–71), showing a variation with a minimum of 50 in 2011 and a maximum of 63 in 2014. Of all ICU patients, 26.7% underwent heart surgery. Nearly 20% required intensive care after abdominal surgery, and 15.3% after pulmonary surgery. After integration of the surgical and medical intensive care wards in 2019, the proportion of patients with an internal disease increased from less than 10% to 24.4%. On average, 24.6% of patients were diagnosed with any malignancy.

The median duration of an ECD was 40 minutes (IQR, 30–50 min). ECD meetings generally consisted of a team of seven, including the moderator: three physicians, three nurses, and a person from outside the ICU (e.g., pastoral caregiver, treating surgeon). The ECDs took place 9 days (IQR, 4–17 d) after admission to the ICU (**Supplemental Table 2**, Supplemental Digital Content 6, http://links.lww.com/CCX/A528).

In the 9 observed years, few external CECs (level 4 for of the METAP approach) performed by the clinical ethics committee were demanded by the ICU team. For instance, in the years 2016–2019, three CECs were performed on the ICU, compared with about 30–35 per year in the entire hospital.

#### **Results of ECDs and Patient Outcomes**

The results of the 314 ECDs were categorized into seven groups. Patient allocation is shown in Table 1.

The distribution remained fairly stable over the years: 53 ECDs (16.9%) established therapy to be continued, complications to be treated (group A); 77 ECDs (24.5%) established therapy to be continued, patient will to be further explored (group B); 44 ECDs (14.0%) established therapy to be continued, complications to be treated only after evaluation (group C); 18 ECDs (5.7%) established therapy to be continued, evaluation at a defined date (group D); 98 ECDs (31.2%) established therapy to be continued with limitations (e.g. do-not-resuscitate order, group E); and 17 ECDs (5.4%) change of treatment plan to end-of-life care (group F). Seven protocols could not be clearly assigned (group G).

One-hundred fifteen of the 281 patients (40.9%) died in the ICU, and 29 (10.3%) after transfer to the ward. Seven patients (2.5%) were transferred to a hospice, 55 (19.6%) to another hospital, 69 (24.6%) were discharged to a rehabilitative facility, and six were released to their homes. There was considerable variability between the years (**Table 2**) (**Supplemental Fig. 3**, Supplemental Digital Content 3, http://links.lww.com/CCX/A525).

While, 22.1% of the patients died on the ICU, and 3.8% after transfer to a normal ward in group A, in group F, 81.8% died on the ICU, and 7.7% were transferred to a hospice. The proportion of patients who died either on the ICU or the ward increased continuously

# **TABLE 2.**Patient Outcomes

Outcomes	2011, n (%)	2012, n (%)	2013, n (%)	2014, n (%)	2015, n (%)	2016, n (%)	2017, n (%)	2018, n (%)	2019, n (%)	<b>Total,</b> <i>n</i> (%)
Died in ICU	12 (52.2)	14 (48.3)	12 (38.7)	16 (43.2)	9 (36.0)	11 (33.3)	9 (30.0)	20 (62.5)	12 (29.3)	115 (40.9)
Died in hospital	4 (17.4)	2 (6.9)	3 (9.7)	4 (10.8)	2 (8.0)	3 (9.1)	3 (10.0)	2 (6.3)	6 (14.6)	29 (10.3)
Transferred to hospice	0	2 (6.9)	0	0	3 (12.0)	0	0	0	2 (4.9)	7 (2.5)
Transferred to another hospital	4 (17.4)	5 (17.2)	7 (22.6)	9 (24.3)	5 (20.0)	10 (30.3)	7 (23.3)	1 (3.1)	7 (17.1)	55 (19.6)
Discharged for rehabilitation	3 (13.0)	6 (20.7)	8 (25.8)	7 (18.9)	6 (24.0)	9 (27.3)	11 (36.7)	9 (28.1)	10 (24.4)	69 (24.6)
Discharged to home	0	0	1 (3.2)	1 (2.8)	0	0	0	0	4 (9.8)	6 (2.1)
Total patients	23	29	31	37	25	33	30	32	41	281

from groups A to F (**Table 3**) (**Supplemental Fig. 4**, Supplemental Digital Content 4, http://links.lww. com/CCX/A526). Patients who died were older, had a higher SAPS-II score, and more often presented with malignancies (**Table 4**). or more cases refer to CEC (12, 18). However, despite the value of such acute "on demand" ethics consultation, the need for preventive forms of interventions that allow for intervention at an early stage before more severe ethical problems arise is increasingly acknowledged (21, 22). This study fills the gap by analyzing the results of the regular internal ECDs following the METAP level 3 approach from 2011 to 2019. The sample size of 314 ECDs in 281 patients is, compared with the field of CES evaluation, unusually high.

#### DISCUSSION

Empirical evaluation studies on CES are rare and cover mostly small samples. Most studies of samples of 100

#### TABLE 3.

#### **Outcomes Related to Result<sup>a</sup> of Ethical Case Discussions**

Outcomes	Group A, <i>n</i> (%)	Group B, <i>n</i> (%)	Group C, n (%)	Group D, <i>n</i> (%)	Group E, <i>n</i> (%)	Group F, <i>n</i> (%)	Group G, <i>n</i> (%)
Died in ICU	11 (21.2)	21 (30.4)	21 (51.2)	9 (56.3)	39 (47.0)	9 (81.8)	5 (71.4)
Died in hospital	2 (3.8)	9 (13.0)	2 (4.9)	1 (6.3)	13 (15.7)	1 (7.7)	1 (14.3)
Transferred to hospice	0	3 (4.3)	0	0	2 (2.4)	1 (7.7)	1 (14.3)
Transferred to another hospital	17 (32.7)	14 (20.3)	6 (14.6)	2 (12.5)	15 (18.1)	1 (7.7)	0
Discharged for rehabilitation	19 (36.5)	21 (30.4)	12 (29.3)	4 (25.0)	12 (14.5)	1 (7.7)	0
Discharged to home	3 (5.8)	1 (1.4)	0	0	2 (2.4)	0	0
Total	52	69	41	16	83	13	7

<sup>a</sup>For patients with a follow-up discussion, the result of the first discussion was used.

Group A: Established therapy continues, all complications are treated. Group B: Established therapy continues, patient's will to be explored further. Group C: Established therapy continues, complications are treated only after evaluation. Group D: Established therapy continues, evaluation at a defined date. Group E: Established therapy continues, not all complications are treated. Group F: Change to end-of-life care. Group G: Protocol cannot be classified.

		Gender, <i>n</i> (%)		Emergent	Simplified Acute Physiologic	Malignancy, <i>n</i> (%)	
Outcomes	Age, Median (IQR), yr	Male	Female	Admission, <i>n</i> (%)	Score, Median (IQR)	Yes	No
Died in ICU ( $n = 115$ )	71 (65–78)	80 (69.6)	35 (30.4)	77 (66.9)	61 (47–74)	30 (26.1)	85 (73.9)
Died in hospital ( $n = 29$ )	71 (70–79)	22 (75.8)	7 (24.2)	21 (72.4)	54 (41–70)	12 (41.4)	17 (58.6)
Transferred to hospice $(n = 7)$	68 (61–80)	1 (14.3)	6 (85.7)	6 (85.7)	59 (36–75)	2 (28.6)	5 (71.4)
Transferred to another hospital $(n = 55)$	69 (61–79)	40 (72.7)	15 (27.3)	40 (72.7)	57 (44–69)	12 (21.8)	43 (78.2)
Discharged for rehabilitation $(n = 69)$	65.0 (59–73)	43 (62.3)	26 (37.7)	54 (78.2)	56 (39–71)	11 (15.9)	58 (84.1)
Discharged to home $(n = 6)$	67.5 (62–75)	3 (50.0)	3 (50.0)	6 (100)	57.5 (38–63)	2 (33.3)	4 (66.7)

## TABLE 4. Outcomes Related to Patient Characteristics

IQR = interquartile range.

ECDs following the METAP approach are well structured to facilitate the collection of all relevant information, which is a key component for professional and responsible treatment decisions. In our case, the moderators are highly qualified and experienced nurses with low staff turnover, who have accumulated a strong and diverse foundation of knowledge and skills. Competent moderation ensures that participants from different professions and disciplines are able to exchange information and perspectives in a constructive way. The medical and nursing management actively supports the implementation. The regular scheduling of ECDs to a fixed time and day of week has been shown to be of great importance. This gives the discussions a place in everyday practice and makes them well known and accepted among ICU staff. All of these points are important for successful integration of an ethics support structure into everyday clinical practice (13).

Different levels of knowledge and misunderstood medical decisions are common triggers for conflicts within the treatment team (21, 23). Sometimes nurses and physicians have different opinions about the accuracy of the prognosis (24). This may lead to additional conflicts about potentially nonbeneficial treatments near the end of life. Such factors may result in ethical difficulties, blurring the history of preventable triggers. A qualitative study found that building team cohesion, venting, and mentoring are effective coping strategies and constructive behaviors for dealing with moral distress (9). ECDs can help to strengthen the quality of the interprofessional relations and to relieve the staff members (25). A 2014 survey of nurses and physicians who participated to ECDs reported that 55 % of physicians and 71% of nurses perceived a reduction in the burden of decision-making in difficult cases due to the ECDs, and all physicians and 66% of the nurses reported an improvement in the cooperation between the professional groups (26).

In the ICU, critically ill patients require a high level of care and support. At the beginning of a treatment, it is often not possible to reliably estimate the chances of success, and the patient's will can rarely be explored directly. Treatment decisions are commonly based on the presumed patient's will, mostly together with their relatives or other surrogate decision-makers, in more or less agreement (27). The relatives have an important, but also stressful task to perform. Wendler and Rid (8) reviewed 40 studies investigating relatives who had to make therapy decisions for critically ill next of kin. At least one third of the relatives reported experiencing emotional stress for several months, sometimes even years. Stress symptoms, feelings of guilt, and doubts emerged as to whether they had made the right decision. Knowing that a decision corresponds to the

6

patient's wishes might provide relief to the relatives. ECDs explicitly support the team to carefully evaluate the patient's wishes, mostly reported by the relatives, and to compare these with the prognosis as part of the defined process.

In Switzerland in contrast to Northern America, CES have only developed in the last 20 years. They arose on-site out of perceived needs, with locally determined structures and processes. In 2002, only 18% of Swiss hospitals had an ethics committee (28). In 2014, a survey by the Swiss Academy of Medical Sciences showed that 48% of acute care hospitals, 41% of psychiatric clinics, and 21% of rehabilitation facilities had established CES (29). The Ethics Committee at the UHB was founded in 2007. The first few years were devoted to setting up the committee, and hardly, any ethics consultations were conducted. However, these were already offered by a clinical ethicist previously and in the first years of the establishment but were only used regularly in some wards (particularly in the neonatology and gynecology ward).

METAP was developed between 2007 and 2011 in parallel with the establishment of the ethics committee. As part of a pilot implementation, the ICU of the UHB was the first ward to work with the METAP approach. This parallel history of development is probably a reason why the ICU staff rarely requests ethics consultations. They have experienced that many ethical challenges can be dealt with independently on site. Nevertheless, ethics consultations are requested once or twice a year, mostly in situations of pronounced conflict with relatives, where an external review of the situation is indicated. Over the years, ECDs have become a part of the standard treatment of complex patient situations. In contrast to reports of classical CEC (17, 18), ethical conflict or uncertainty experienced by team members is rarely the "indication" to perform an ECD. Rather, patients who have experienced or are expected to have a long course of complications are discussed. Thus, such level 3 internal ECDs have a preventive function as they may contribute to avoiding ethical uncertainty or conflict altogether.

Comparing our results with other studies is difficult, as we did a single-site study attempting to evaluate one very structured—form of CES without a control group or comparative study. Similar articles mostly describe and evaluate classical CECs (18, 30). In contrast to METAP, CECs are performed on the request of clinicians, nurses, or therapists by one or several ethics consultants from outside the unit (16). In 2018, Au et al (11) published a meta-analysis of evaluation studies on the outcome of CEC in different ICUs. Most CEC participants as well as involved family members reported positive experiences. CECs were associated with a shorter ICU stay. Andereck et al (31) investigated the effects of proactive CECs in an ICU. All patients requiring ICU treatment for greater than 5 days were randomized for CEC or were treated conventionally. The outcome of patients in the group receiving CEC was not different from the conventional treatment group, and the respective length of stay was comparable between groups.

This study has limitations. As a retrospective observational study without control group involving one institution, its results cannot be generalized. There are no qualitative or quantitative data added about the experiences and perception of the participants of the ECDs. Certainly, not all ICUs have the requirements to perform ECDs at a regularly basis. However, the data from almost a decade clearly show that it is possible to implement and regularly conduct ECDs as part of daily routine in a busy ICU.

#### CONCLUSIONS

It has proven practical for the observed ICU to schedule weekly internal ECDs on a fixed day and time. The regular and structured practice of ECD renders the ward independent of professional CES services and permitting the collection of an unusually rich sample of data on the outcomes of ECDs. Facilitating factors include dedicated team members responsible for the preparation and realization as well as active support from the medical and nursing management.

The mortality of the discussed cases is high. Nevertheless, the ECDs in our sample rather seldom triggered a switch of therapeutic orientation toward palliative care. ECDs make it possible to reliably check and evaluate the patient's will and compare it with the prognosis based on experience and the previous course of the disease. This facilitates a change of the therapeutic goal whenever appropriate.

<sup>1</sup> Department for Anesthesia, Prehospital Emergency Medicine and Pain Therapy, University Hospital Basel, Basel, Switzerland.

<sup>2</sup> Intensive Care Unit, University Hospital Basel, Basel, Switzerland.

3 Department of Clinical Ethics, University Hospital, University of Basel, Basel, Switzerland.

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For information regarding this article, E-mail: Barbara.meyer@ unibas.ch

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