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Building a well-balanced culture in the perioperative setting

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Healthcare institutions are currently under enormous financial, political and social pressure. Especially in the perioperative setting, various professional groups with differing agendas, dynamic teams, high-stress levels and diverging stakeholder interests are contributing to tension on a variety of levels. These players ask for guidance that goes beyond defined goals, clear structures or rules for process optimization. The impact of culture, which is influenced by core values, unspoken behaviours and practices, a shared purpose and implicit norms, has been often neglected. However, culture is a key factor in the search for optimal patient outcomes, quality of care, protection and long-time retention of staff, as well as economic success. In this review, we discuss important aspects to consider in building a great perioperative workplace, discuss indispensable adaptations in times of crisis and touch on urgently

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needed further investigations to optimize the art of developing, protecting, and cultivating a well-balanced culture.

"Culture eats strategy for breakfast."

Peter Drucker

Introduction

The modern hospital environment is complex. Financial pressure, political influence [1] and social media-mediated risks [2] are increasingly important, shaping workflow and influencing individual key interests. Especially in the perioperative setting, there are conflicts between various professional groups that have divergent agendas which may emerge or aggravate. In addition, dynamic team constellations and high levels of both risk [3] and stress characterize the pre-existing setting. However, such challenges within healthcare institutions also in light of their educational tasks cannot be managed effectively with official rules or standardization protocols [4] alone.

Meeting stakeholders' needs requires a shared vision and a well-defined strategy. Providers of perioperative care should be interested in not only caring for their patients but also ensuring the health of the institution. This includes factors, such as interdisciplinary alignment of core values; unspoken behaviours and practices; reliable allocation of operating room (OR) time to surgeons; profitability; safe and technically advanced patient care; and staff satisfaction, which is a key determinant of economic success [5]. This link between strategy and vision is reliant on an enabling environment, referred to as work culture.

In this narrative review, we define and emphasize the far-reaching effects of a positive work culture on resource management, patient safety and outcome, not only in the OR but throughout the perioperative process (Table 1). Further, we describe factors that contribute to a great workplace and propose four key aspects of a well-balanced culture: trust, respect, communication, and purpose.

Culture: Definition in the perioperative setting

As Peter Drucker once stated, "culture eats strategy for breakfast" [6]. Personal interactions should not be left to chance but rather be based on a solid culture that includes shared behaviour, beliefs and

Table 1
Effects of a well-balanced culture paired with examples from the perioperative setting.

Effects of a well-balanced company culture	Example
Staff satisfaction and loyalty increase	Nurse retention was significantly higher in a workplace with greater appreciation [32].
Productivity increases	Staff satisfaction is directly related to increased efficiency in the OR [5].
A safe place of learning can be created	Speaking-up and blame-free cultures enable trainees to develop technical and non-technical skills [30]. Competency levels rise, trust increases among healthcare workers, and patient care is improved [26,30,71].
Reputation of an institution increases	International healthcare rankings (such as HCAPS or YELP) will draw increased attention and highlight the importance of cultural values and safety scores. Social media can greatly influence an organization's reputation among patients and future employees alike [2,25,72].
Burnout rates decrease	Organizational culture, tailored coaching and valuing people as individuals can help decrease the incidence of burnout [30].
Patient outcome improves	A respectful environment, in which leaders provide assertiveness for all team members, can lower 30-day postoperative death rates [73].

core values [7], in line with both strategy and vision [8]. Corporate strategy, processes and goals are easy to identify, track and evaluate within the healthcare setting, while culture involves the unspoken attitudes, implicit norms, hidden assumptions, unwritten rules, values and behaviours on the "path" to achieving those goals. Culture influences the way how multiplex challenges are prioritized and how unforeseen problems are dealt with, thus affecting the overall outcome of an intervention, including the incidence of complications, morbidity and mortality rates, as well as patient satisfaction [9] (Fig. 1).

While the biggest revolution and achievements regarding culture in medicine were sparked by safety issues [10], there is much more to culture and leadership than only one aspect such as highlighting the importance of incident reporting and error management [11]. Leadership and culture are widely and ongoingly explored in history, the military world and modern management. Still, data regarding the unique healthcare environment remain scarce. Healthcare leaders should "walk the talk", demonstrating and actively building a positive culture which will thrive even in difficult times [12].

In the following paragraphs, we summarize available studies and opinions, emphasize the importance of a culture paying credit to unspoken rules, morals and social patterns, such as mutual support and respect, collaboration and an inclusive approach to teamwork and leadership [13], and translate our findings specifically into the perioperative setting.

The optimal workplace

A great workplace culture needs some basic organizational features and structures. In the OR, anaesthesiologists, surgeons and nurses stand in a "locked" position for a long time. An ergonomic workplace provides suitable operating conditions not only contributing to the safety of the patient during a procedure but also protecting staff's health [14]. Light exercises of 1.5–2 min duration can be done in the setting of a sterile field every 20–40 min. This helps lower the incidence of fatigue and stress, as was shown in a study involving salivary stress hormone measurements [15]. However, in most ORs, it is still not common practice to take regular breaks, despite the fact that the length of a surgeon's career can be shortened due to high stress or bad ergonomics [16]. In addition, highly optimized OR ergonomics can increase patient safety [17]. Therefore, a paradigm shift promoting "sustainability" instead of praising perseverance should be initiated.

Apart from workstation organization, optimized OR schedules based on solid long-term data can reduce stress and increase efficiency and profitability while maintaining patient safety [18]. Adequate staffing enables physicians and caregivers to provide the best possible patient care [19].

Fig. 1. Interplay of strategy and culture in working towards reaching a shared vision.

Four core elements of perioperative culture

Undeniably, every institution has its own distinct culture. In the following, we present a four-component model, which includes the main pillars for a rewarding work culture: trust, mutual respect, inclusive communication and a shared quest for finding and supporting purpose at work (Fig. 2).

Trust

In the human search for psychological safety, the need for mutual trust is omnipresent in the healthcare setting. For example, patients trust that they will receive competent and state-of-the-art treatment of their illness by their healthcare providers. However, trust is also a key driver for a safe workplace. The daily tasks in the perioperative setting require a high level of teamwork, and trust in co-workers is beneficial, if not a must [20].

Frances Frei and Anne Morris referred to three traits associated with a trustworthy character as the "triangle of trust": being authentic, empathetic and acting logic. While empathy and authenticity are traits requiring emotional intelligence and will be discussed later, acting logic is mostly based on perceived competence [21].

A lack of competence can negatively affect group dynamics as well as non-technical skills such as communication [22]. To improve competence, every staff member should be given a certain amount of responsibility, carefully balanced by a need for supervision of work, since autonomy can only be given to competent people in high-risk settings such as healthcare [23,24].

Other staff members may be sceptical if there is an imbalance between responsibility and an individual's competence level, which is highly dangerous. On the basis of distrustful relationships, supposedly small fallacies can spread at an extreme speed via social media, with potentially tremendous consequences for individuals and entire institutions [25].

To make the OR a place of learning without compromising the core cultural value of trusting your team, a structured introduction to the techniques, workflows and safety measures developed to safeguard qualitative outcome and patient safety is required. A significant improvement in the knowledge, skills and attitudes of novice trainees was achieved by introducing an OR curriculum consisting of a lecture and simulation of the OR environment [26]. With this approach, it was possible to provide structured guidance and more responsibility without impacting co-workers' impressions of patient safety.

While errors occur, taking responsibility for mistakes is part of a well-established "learning culture" and should be valued [26].

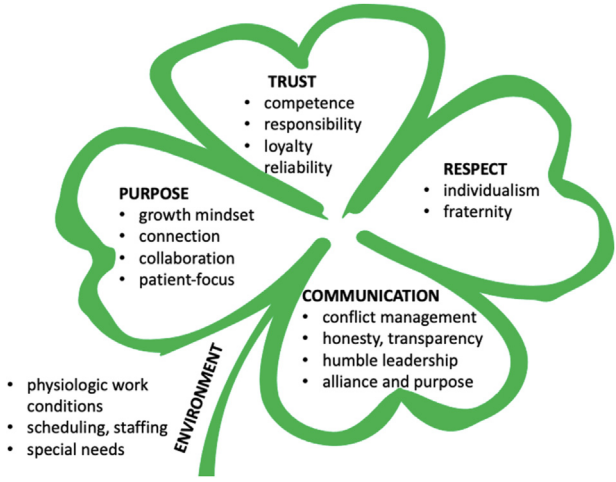

Fig. 2. Four key components for building a well-balanced perioperative culture and its basic environmental prerequisites.

Respect

Just as healthcare workers have to approach each patient with respect and dignity, co-workers and "subordinates" want to feel a sense of respect and appreciation from their leaders as well [13]. Interest in the accomplishments of others is motivating, and guidance and solidarity among healthcare workers and all other stakeholders improve patient outcomes [27]. "First do no harm" is a mainstay of the practice of medicine, not only with regard to patients but also within the organization [28]. Corporate campaigns designed to prevent harm can eliminate disrespect and influence patient outcomes [29].

Respectful environments produce better teams and allow teaching instead of blaming [30]. A "blame-free culture" should be early implemented across all occupational groups involved in the various stages of perioperative care [30].

The field of surgery has been historically based on a hierarchical structure, and the concept of a "gentleman surgeon" is well established [31]. It refers to a practitioner who respects, helps and cares about co-workers, trainees and patients alike. A "gentleman surgeon" gives individuals a "sense of value" by appreciating each and every contribution to success [32].

Communication

While there are numerous studies assessing communication measures for maximizing safety, such as closed-loop communication [33], a solid evaluation of "soft factors" defined within a workplace culture is valuable.

First, communication barriers resulting from the different backgrounds of OR staff have to be overcome. Multidisciplinary decision-making is a standard element of optimal care [34]. Communication failure greatly depends on hesitancy or reservation [35] due to a lack of understanding (which can be overcome by interprofessional training [36]) or lack of mutual respect [37] (a key core value of culture, as discussed above).

The OR is one of the oldest open-space workplaces. Provided that a "common language" is spoken, such a workplace provides the perfect environment for interaction and team cognition, which again has a direct effect on patient safety [38]. Contra-intuitively, this "ultra" open and lean workspace also comes at a cost. When people are always visible (with new technologies even portraying real-time anaesthesia induction or incision times and thereby enabling localization of individuals), people tend to put an imaginary border around themselves to prevent disturbances caused by social interaction, the so-called "fourth wall" effect [39]. Again, perioperative safety highly depends on social interactions. Simple strategies such as allocation and regular use of huddle boards can not only give more regularity and structure to interactions but also increase information and workflow, thereby helping with communication issues [40]. Such a policy affects the feeling of transparency in communication, allows for optimal planning and timely adaptation and optimizes efficiency [40].

A genuine interest in one's employees helps in leading open, direct conversations [41]. Actively listening to complaints about suboptimal workflow or less apparent dissatisfying conditions is key.

The importance of honest, transparent communication was impressively shown in an institution which needed to cut down in turnaround times through major changes [42]. Stakeholders and early adopters were involved early in this change process and analysed the current workflow together, step-by-step. Finally, suggested improvements were implemented gradually and constantly re-evaluated in open-access debriefing sessions. Opportunities for improvement were discussed in consensus, individuals were praised for new ideas, concerns were discussed on a one-to-one basis, and staff received positive reinforcement. The investment in human factors and high-frequency feedback, with public posting of results, created a sense of pride and team spirit and led to a decrease in turnaround time from 45 min to 22.7 min [42].

Apart from increasing team spirit and efficiency, a "speaking-up" culture also invites workers to assert their views or disagree before a mistake is made. A study by Raemer et al. analysing how to improve anaesthesiologists' ability to speak up showed that already realizing the need was problematic [43]. Barriers and at the same time opportunities for optimization of such concerns are corporate culture, hierarchical structures and education [44]. Speaking up necessitates overcoming the fear of conflict. In conflict management, however, individual factors inevitably come into play and limit the

impact of a common culture [9].

When differences in cultures, beliefs or emotions were aligned in a collaborative approach to conflict defined by active listening and collaborative problem solving, better patient outcomes could be achieved [45]. A clearly defined approach to communication especially in conflict management promotes the quality of treatment, patient safety and psychological safety of staff [46].

Purpose

Finally, a critical value is the importance of purpose at work. In a study evaluating the quality of the work-life balance in nurses, two of the most important factors were collaboration in decision-making and organizational culture, both factors which strongly depend on the "people" [47]. A strong team depends on all of its members. Employee retention must be a main goal, especially in healthcare, where the cost of employee turnover is estimated to be "150% of the employee's annual salary" on average, not including the high impact on workplace culture.

Employee retention and turnover can have a direct effect on patient safety [48]. Employee retention can thus be increased by simple measures such as valuing each individual. Laflamme et al., for example, have shown that nurse retention is much higher if each person's input is directly appreciated [32]. Retaining talented persons requires the identification of people who can then create positive organizational cultures. Important factors include "optimal communication; decision-making; compensation; benefits; career development; recruitment; appreciation; sympathy; management." [48].

Despite the increasing demand for non-hierarchical structures, an inclusive approach still requires coordination of teamwork. In trauma room management, for example, a single leader is necessary for effective team performance [49]. James C. Hunter stated that great leaders motivate employees to dedicate their creative minds, excellence and hearts towards common and beneficial goals.

While for a long time the ability to lead was thought to be mostly hereditary [50], nowadays, it is clear that many different styles of leadership (charismatic, transformational, transactional, laissez-faire and servant) exist and can be learned [51]. However, it is necessary to identify the people who share your institution's core values, skills and interpersonal styles [52].

Leadership is not a one-size-fits-all mentality [53]. The development of trainees in the perioperative setting should include coaching for situations where healthcare workers may experience high stress. Pre-existing coping strategies for stressful situations should be evaluated when selecting trainees to promote and support [54]. Arora et al. even advocate quantification and monitoring of stress and associated performance changes by applying tools such as the Imperial Stress Assessment Tool (ISAT) [55]. Only when there is adequate institutional support targeting each individual's background and history [56,57], future leaders can receive assistance in developing those leadership skills [52].

Maintenance of resilience during long shifts and with dynamic team structures or complex scenarios is important to prevent severe mental and physical conditions such as burnout [46]. Shortfalls in resilience can have tremendous consequences for the individual, the patient and the entire team [38,58].

Simulation, coaching [59] and teaching of technical and non-technical skills [60], a solid preselection, and ongoing evaluation of traits, such as emotional and social intelligence, can contribute to sustainable, non-harmful leadership development, which is one of the keys to a well-balanced culture [52]. In the perioperative setting, in contrast to Advanced Trauma Life Support (ATLS) trauma management scenarios, the main challenge within a complex problem can change quickly, demanding a redirection of focus. Instead of simply applying a single leadership style, a more "dynamic leadership approach" might be better suited for this setting. Active listening skills, appreciation of input from co-workers and preparedness to hand over the role of leader when focus changes (such as from the head surgeon to the anaesthesiologist when hemodynamic instability occurs) are key traits of emotional and social intelligence that need to be emphasized in the setting of perioperative leadership. The propagation of a patient-centred approach at all times and in the whole team is paramount. James Reason, in his landmark article about "Human error: models and management" describes that high-reliability organizations in their routine are controlled in the conventional hierarchical manner. However, in emergencies (medical domain included), control shifts to the experts on the spot [61].

According to Barbara Kellerman, “followers are more important to leaders than leaders are to followers” [62]. Depending on energy and individual engagement levels, followers can be subdivided into isolates, bystanders, participants, activists and diehards [62], and it is a leader's duty to find the people to fit the team and the culture of the institution. Highly competitive, jealous or self-involved personalities will not only hinder positive leadership but also threaten the institution's purpose [63]. Ultimately, leaders have to create a culture based on trust, mutual respect, and honest communication. Thus, highly competent individuals who value respectful interactions (i.e., highly resilient people) should be selected, promoted and supported.

Importance of mediators for a well-balanced perioperative culture

Inclusive team-based approaches are still prone to certain challenges. Clinical performance can be improved by regular training of knowledge, skills and attitudes (KSAs), greater efficiency and a stronger organizational culture [38].

Non-technical skills and a solid understanding of the very technical setting of perioperative medicine are needed in order for change to be possible [38]. Within the business context, a so-called “business analyst” takes responsibility for solving business problems in the most efficient way, in sync with analytics-derived insight. The business analyst then draws conclusions and formulates easy-to-understand, actionable recommendations that can be executed by all business uesrs [64].

Anaesthesiologists are predisposed to such a mediating role. They are perioperative physicians with very distinct core values [65]: “goal-directed care, responsibility, control and humility” [66]. These are crucial in building and maintaining a well-balanced culture among all health professionals who treat patients in the perioperative period. In order to take on the role of mediator in this setting, clinicians need to be systematically trained in non-technical skills such as empathy, self-awareness, regulation of one's emotions, motivational factors [46] or being mindfully present in the very moment [67]. They need a general understanding of the economic aspects confronting health care institutions [68], allowing the promotion of core values among the interdisciplinary team while acting as advocates for each patient along the perioperative spectrum.

Cultural stress tests

In times of crisis, an institution's culture is challenged. As seen in the recent COVID-19 pandemic, basic measures such as planning of staffing need to be quickly adapted and adopted. Assignment of healthcare workers should consider insights from epidemiology and pathophysiology, providing a better understanding of the spread of a disease and its course [69]. Additionally, support for “physical and psychological self-care” must be guaranteed to avoid further staff shortages due to the burden of stress [12].

With quantification and monitoring of patient satisfaction being identified as important yet neglected outcome parameter [70], research on workplace culture-related parameters is urgently needed. Staff satisfaction—based on levels of trust and respect and perceived quality of interpersonal interactions—can help identify persons at high risk of dropping out. It is important to assess an individual's risk, provide support, monitor the effects of implemented change, and drive innovation. Such findings can help healthcare professionals to act rather than react to a crisis, whether it involves finance, global health, social media or politics.

Conclusion

In summary, it is important to build a solid culture in the perioperative environment. This includes creating a healthy workplace, building trust, demonstrating respect for co-workers, managing conflicts, providing guidance for communication and striving for the purpose at work. An inclusive approach, crediting both individual and group contributions, lays the foundation for innovation. It is equally important to identify individuals who may be well-suited to the role of a leader and then to promote and support the art of leadership. Optimally, creating a well-balanced culture in the perioperative setting will positively affect patient outcome and patient satisfaction, as well as staff satisfaction.

Ultimately, it can enhance success within the perioperative environment.

Contributions

Corina Bello, Mark G. Filipovic, Lukas Andereggen, Thomas Heidegger, Richard D Urman, and Markus M. Luedi wrote the article.

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Key points

- Culture is a key factor in the perioperative setting, directly affecting the quality of care, patient safety and outcome.
- Four core components build the foundation for a positive perioperative culture: trust, mutual respect, communication and a quest for purpose.
- Identifying individuals who dare to lead but are prepared to hand over their role is a prerequisite for building and promoting a well-balanced culture.

Research agenda

- Culture needs to be explicitly defined for the perioperative setting, as it differs from other clinical specialities, such as general wards.
- We need studies assessing and monitoring stress, staff satisfaction, levels of trust and respect, and other factors affecting staff health and staff retention that still need to be identified.
- Researchers should elaborate on how to best incorporate leadership and culture into the curriculum of the developing leaders.
- Quantifying and monitoring improvements in patient safety and outcomes in response to cultural changes within healthcare institutions are paramount.

Declaration of competing interest

Corina Bello: None declared financial, general, and institutional competing interests
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