

Promoting effective teamwork in the cardiothoracic surgery department: strategies for success

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Abstract

In daily practice, teamwork is of paramount importance within the healthcare settings, particularly in specialized fields such as cardiothoracic surgery. This is due to the fact that collaboration, communication, and synchronization play a vital role in ensuring successful patient outcomes. The aim of this paper is to propose strategies to promote effective teamwork within a cardiothoracic surgical setting, elaborating general teamwork principles and applicable concepts from healthcare.

Key words: teamwork, cardiothoracic, management, quality of care, leadership.

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Introduction

Throughout the patient's healthcare journey, various teams participate in their care. Across individual team members and between various teams, the central priority is the patient's well-being. Cardiothoracic surgical procedures, in particular, are highly demanding and require a collaborative, multidisciplinary approach. This necessitates a seamless coordination among a team of healthcare professionals (HCPs), including surgeons, anaesthesiologists, nurses, and various supporting staff [1].

Research reveals that poor communication and hierarchical barriers often lead to errors, while strong team climates and training in non-technical skills improve outcomes [2,3]. Moreover, existing studies highlight the need for structured communication protocols and teamwork training to enhance team dynamics and patient care quality in surgical settings [4-6].

Therefore, an efficient team in cardiothoracic practice not only ensures the delivery of high-quality care but also significantly enhances patient safety and satisfaction. The following suggested strategies are fundamental for building a cohesive and effective surgical team capable of meeting these high standards.

Effective leadership and guidance

In principle, the effectiveness of teamwork is significantly dependent upon proficient leadership, which is required in all areas and at all levels of healthcare. Proficient leadership serves to provide safety assurance, ensure service progress, and induce positive clinical results [7]. It promotes the involvement of HCPs in advocating for their patients, enhancing self-awareness, prioritising personal and professional growth, adopting innovative thinking, and

adhering to ethical principles [8-11]. Nevertheless, the facilitation of efficient teamwork necessitates strong leadership skills to boost collaboration among professionals, encourage their involvement in departmental advancement, and ensure the sustained quality of care, job satisfaction, and retention of HCPs [9,12,13].

Effective leadership stands as a central driver in fostering improved teamwork within cardiothoracic surgery teams *via* providing the guidance and direction necessary to ensure smooth operations, as well as optimal patient preparation and post-operative recovery. Various studies have consistently highlighted the direct correlation between leadership practices and patient safety, accentuating the critical role leaders play in creating a secure healthcare environment [14]. Efficient leaders have a triad of providing clear guidance, resolving conflicts, and making adaptive decisions, ultimately leading to better teamwork and patient outcomes.

First, a strong leader adopts a positive work culture, provides guidance during critical situations, and ensures every team member's voice is heard. This can further enhance employee engagement and motivation [15]. Second, for maintaining a harmonious and concentrated working environment, departmental leaders, surgeons, and those in charge must possess adept conflict resolution skills so they address any conflicts or disagreements within the team promptly and constructively. Finally, in terms of adaptive decisions, cardiothoracic surgery may require quick decision-making in critical situations and leaders make adaptive decisions prioritizing the best interests of the patient. This is again applicable in theater, post-operative intensive care unit (ICU), ward, and clinic [16-18].

Clear goals and objectives

Establishing clear and specific goals, whether for the cardiothoracic department as a whole, or for different teams, or for individu-



als, is essential. For leaders such as directors, clinical leads, and team leads, setting a map for progress in the field is important. For consultants, registrars, and junior doctors, communicating surgical care objectives, expected outcomes, and potential challenges to the entire team ensures alignment and clarity. This has a positive impact on patient safety and surgical performance [19]. This enhances understanding and mitigates the risk of miscommunication in the operating room.

Studies emphasize the importance of goal clarity and its direct impact on surgical performance and patient outcomes [20]. When consultants clearly communicate expected surgical outcomes to the entire care team, it increases team members' motivation and commitment to achieving those outcomes. This ultimately leads to better postoperative results [21]. When setting targets and objectives, the "Patient-Centered Care" principle helps to guide and direct team members in every aspect of their daily practice [22]. A patient-centered approach is best achieved when all team members are on the same page. This ensures that the patient's interests remain at the forefront of decision-making throughout their surgical journey.

Effective communication

In the dynamic and fast-paced environment of the cardiothoracic department generally, and of the operating room, cardiac surgery ICU, and ward particularly, effective communication is critical. Miscommunication during handover between surgical team members or between them and nursing staff can lead to critical information being lost, such as changes in patient status or postoperative care instructions. Additionally, poor coordination between the operating room team and the ICU staff may result in delays in patient transfer and care continuation, potentially compromising patient outcomes.

Hence, there is a critical role of effective communication in achieving better teamwork in cardiothoracic surgery. This depends on clear information sharing, awareness of self and team safety, defined roles, regular briefings, and interdisciplinary collaboration. Also, improved communication in cardiothoracic surgery is linked to enhanced patient safety. When team members communicate effectively, errors are minimized, reducing adverse events and improving outcomes [23].

Furthermore, clear information sharing among surgical teams significantly enhances coordination during cardiothoracic procedures. This helps ensure that everyone is on the same page regarding the surgical plan and patient's condition [24]. It is important to believe that a culture of open communication promotes collaboration and ensures everyone's concerns and insights are heard [25].

Additionally, standards, protocols, and clear policies in every clinical aspect help to guide communication. Implementing standardized communication protocols, such as the Surgical Safety Checklist, significantly enhances information flow, reduces errors, and improves teamwork [26].

Discussing potential challenges with the surgical team is very important. Sharing this information allows the team to be better prepared and make real-time adjustments during surgery, resulting in improved patient care and safety [27]. Regular team briefings and debriefing sessions facilitate open communication, allow team members to discuss potential challenges, and provide a platform for constructive feedback [28].

Constructive communication is vital to achieve interdisciplinary collaboration, which is of paramount importance in our practice

[29]. In cardiothoracic surgery, this means working closely with subspecialists like aortic, mitral, or transplant surgeons, as well as with other HCPs such as anesthesiologists, perfusionists, nurses, general practitioners, and other specialists to ensure the best care is provided *via* wide and seamless teamwork.

Interdisciplinary cooperation with departments such as anesthesiology, cardiology, pulmonology, radiology, and vascular surgery plays a pivotal role, particularly in complex cases requiring multifaceted care approaches. Anesthesiology, for instance, is integral to perioperative assessment, supporting intraoperative hemodynamic stability and postoperative management, while radiology provides essential diagnostic imaging that guides surgical planning. Pulmonology contributes expertise in respiratory assessment and management, critical in cases involving lung pathology; cardiology and vascular surgery aid in cases with concurrent involvement or complications. By fostering regular communication, shared protocols, and multidisciplinary case reviews, the cardiothoracic department can create a collaborative environment that enhances decision-making, reduces complications, and improves overall patient care. Such interdepartmental synergy is increasingly recognized as a cornerstone of high-quality surgical outcomes in cardiothoracic surgery.

Role clarity

Role clarity within a cardiothoracic surgery team is crucial to achieving better teamwork. Within a Cardiothoracic surgery team, each member should have a clear understanding of their role and responsibilities. This clarity enhances efficiency and reduces the risk of misunderstandings during critical moments of surgery.

Each individual in same role has same responsibilities and rights. Variations and discriminated responsibilities according to individual in same team creates negative reflections and responses.

Regular team briefings and debriefings serve to strengthen role clarity and brace the development of a shared mental model [30]. Defining roles during surgery reduces confusion and errors [31]. When team members understand their roles and responsibilities, they are less likely to overlap or miss critical tasks [32]. This proves how role clarity is directly linked to patient safety. Reducing role ambiguity improves patient safety by ensuring that every aspect of the surgery is covered, minimising the risk of adverse events [33]. Role clarity promotes effective communication leading to better coordination during surgeries leading to improved efficiency. This, in turn, can reduce surgery duration and the associated risks [34]. Moreover, it has been shown that when team members are clear about their roles, they are more satisfied with their work. This can lead to a better work environment, reduced stress, and enhanced teamwork [35].

Training and development

Continuous training and skill development are fundamental components for building and maintaining effective cardiothoracic surgical teams. Engaging in professional development programs, courses, workshops, and simulation exercises can significantly improve both individual and team competencies.

Continuous improvement of each team and individual is very vital. The correlation between ongoing team training and reduced surgical complications in cardiothoracic procedures is well-established [36]. In fact, comprehensive training for all team members



plays a crucial role in decreasing surgical morbidity and mortality. This comprehensive approach includes mentoring, training, supervision, monitoring, and assisting team members as needed [37-39]. Advanced and specialized training programs can also significantly enhance the performance of surgical teams and reduce adverse events [40].

In cardiothoracic surgery, introducing new procedures or technologies can be met with resistance, leading to delays in implementation or suboptimal use of new tools, techniques, or technologies. To address this, helpful strategies would include involving staff in the decision-making process when implementing changes and providing thorough training and support to ease the transition. Highlighting the benefits and presenting evidence of the effectiveness of new approaches can also help to gain support.

To achieve better teamwork in cardiothoracic surgery, it is imperative to identify areas in need of development [41]. Also, to overcome near misses, highly functioning cardiothoracic surgery teams must address challenges efficiently, especially under time-sensitive conditions.

Training and simulation sessions equip teams with the skills to handle adverse situations, ultimately leading to better patient outcomes [42]. Examples of effective training initiatives include regular skills assessments, simulation training, and communication workshops. Well trained and cohesive teamwork ensures the delivery of high-quality care even in emergencies, such as a rescue cardiac surgery during complex procedures like transcatheter aortic valve implantation [43].

It is also important to recognize that long hours and high-stress levels in the cardiothoracic workplace can lead to fatigue and burnout among both surgeons and nurses, potentially affecting their performance and interactions. Ensuring that staff schedules allow for adequate rest and promoting a culture of wellness and self-care are essential. Additionally, offering support services such as counseling and stress management workshops can further benefit team well-being.

Team building activities

Team-building activities are a valuable tool for promoting better teamwork, providing a relaxed and informal setting where cardiothoracic surgery team members can interact in a non-clinical context. A study by Kennedy-Metz *et al.* in 2022 accentuated team building as a foundation for effective teamwork in cardiac surgery [42]. Organizing team-building activities outside the operation theater or outside the clinical environment encourages team bonding, enhances trust, and cultivates a sense of unity. By sharing experiences and challenges, team members build stronger relationships, resulting in improved communication and collaboration within the surgical team [44]. Such activities enhance problem-solving skills. Many team-building activities are designed to challenge participants with problem-solving tasks. This can help cardiothoracic surgeons and their teams develop effective strategies for dealing with complex surgical procedures.

Conflict resolution mechanisms

In the high-stress environment of cardiothoracic surgery, conflicts may arise. The high-pressure and complex nature of surgical procedures can lead to conflicts within the surgical team. This might

be between individuals in the same team, between different teams in this specialty, or with other healthcare teams. Early conflict resolution maintains a harmonious surgical team. Implementing a structured conflict resolution process, which includes clear guidelines for addressing conflicts, allows for quick resolution without compromising the team's dynamics or patient care [45,46]. Effective conflict resolution nurtures collaboration and enhances patient safety.

In addition to providing conflict resolution training for all staff members and conducting regular team-building activities to strengthen relationships and build a more cohesive team, implementing conflict resolution mechanisms is crucial for achieving better teamwork in cardiothoracic surgery. Here are some key mechanisms and examples of their application.

- Clear communication: encouraging open, respectful and honest communication allows team members to express concerns and address conflicts promptly. For example, if a nurse notices a potential issue during surgery, they should feel comfortable communicating it to the surgeon.
- Team huddles: preoperative huddles or briefings provide an opportunity for the surgical team to discuss the procedure, potential challenges, and roles. This can help identify and address conflicts before they escalate.
- Mediation: in cases of interpersonal conflicts, a designated mediator or team lead can help facilitate discussions and find resolutions. This could involve differences in opinion on the surgical approach, for instance.
- Structured debriefings: postoperative debriefings allow the team to discuss what went well and what could be improved. It is a constructive way to address conflicts that arose during the surgery and prevent their recurrence [47,48].

Conclusions

Promoting effective teamwork in cardiothoracic surgery is a multifaceted endeavor that requires a combination of clear communication, role understanding, effective leadership, and continuous development. By implementing these strategies, surgical teams can optimize patient outcomes and contribute to the advancement of healthcare in this specialized field.

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