

Medical education and best practices in orthopedic patient care in

Poland

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Abstract

The leadership organization focuses on education, teamwork, customer relationship and developing strategy which help in building added value, in managing activities, time and quality. Everyday orthopedic experience shows that medical education is a mixture of: specific knowledge, skills and attitudes of people working together, and that creates effective teamwork in a hospital environment. Apart from the main reason of medical education, teaching about disease treatment and health problem solving, medical education should also concentrate on human factors and behavioral aspects of patient treatment in hospital. Assessment of an organization and medical education process by cultural and teamwork criteria, offers a powerful new way to think about performance at the frontlines of healthcare and in the future it could be gold standard for assessing the success of an organization, and standards in medical education, not only in orthopedics.

Introduction

The orthopedics is a good example to show the best practice in medical education because in easy it way shows how we can connect specialized medical knowledge and interpersonal relationships in treating patients. At the beginning of patient's treatment is medical knowledge and principle of stable fixation such as:

- anatomical reduction,

- absolute stable fixation,
- early motion.

Development of principles of absolutely stable fixation contributes regularly to development of implants and surgical instruments and also development of medical circles of interested in fracture treatment. A huge interest in new treatment methods in orthopedics, builds a new group of specialists working together as a team. Each of team possesses specific skills and attitudes and approaches to how to solve a medical problem (case study). Factors contributing to the success of medical education in orthopedic sector lie in teaching both theory and manual skills, and also in strong school-based orientation on a scientific basis – research, documentation, publications and technical commission. Teaching and using new methods of treatment and discovery of new implants which are used in treating fractures eliminates failures and complication in the treatment process. Understanding the illness procession and the healing potential of bone will help guide the treatment strategy. The healing of a fracture is best achieved by correcting the biomechanical and biological environment. Surgical treatment in this case can be divided into three categories but it has to be individualized for each pathological fracture. In general it is:

1. Non-operative management (includes: teamwork, practice in service – good knowledge of diseases and outcomes). Most fractures in this case are treated conservatively.
2. Intralesional surgery with bone grafts (includes: teamwork, practice in service and case study). New technology and implants are use more often and bone tumors are frequently treated operatively with intralesional curettage.

3. Wide tumor resection with reconstruction of the defect (includes: teamwork, very good practice and a lot of case study). Advanced surgical treatment which needs skills and professional knowledge.

In all cases internal fixation of fracture alters the biology of fracture healing, also fracture hematoma and blood supply of the bone and of the soft-tissue are affected by surgical procedure and by the implant.

Research

One of the discipline in healthcare, where the medical education, quality of care and performance are very important is orthopedics. Methods of measuring performance have two aspects: patient and organization. Kaplan and Norton define strategy as a hypothesis about a cause-and-effect relationship. Thus, healthcare strategy postulates how a specific level of clinical quality will be achieved. The leadership organization focuses on education, teamwork, customer relationship and developing strategy which help in building added value, in managing activities, time and quality. Everyday orthopedic experience shows that medical education is a mixture of: specific knowledge, skills and attitudes of people working together, and that creates effective teamwork in a hospital environment. Apart from the main reason of medical education, teaching about disease treatment and health problem solving, medical education should also concentrate on human factors and behavioral aspects of patient treatment in hospital.

Research Findings

Orthopedic experience shows that the best practices in medical education concentrate on skills and attitudes of people working together on sharing the specific knowledge, building effective medical teamwork and providing more effective patient care. Observation of Polish education practices in hospitals shows that the mix of elements in teaching is a good practice.

Table 1 below presents a mix of elements such as behavior and skills, their definition, and behavioral examples which should be observed in medical practices to create effective teamwork and provide good patient care before, during and after an orthopedic surgery treatment.

Table 1. Mix of elements and behavior that creates effective teamwork and patient care in hospital environment

Complex teamwork in perfect hospital organization	Training (improving the medical skills of a team)		Team leader	Establishes and revises team goals and plans, takes care of team members, has a clear common purpose, conducts effective period meetings. Usually this is a role of the chief medical doctor.
			Personnel behavior	Support each other, regularly provide feedback about patient treatment to each other, learn about new, innovative treatments and attend special training courses provided for medical staff
		Monitoring performance	Periodically diagnose team effectiveness, including the results of the teamwork and monitor medical errors in working teams to ensure patient's safety.	
		Communication	Frequent communication and information exchange, both formal and informal, on each level in hospital environment to provide better healthcare service	
		Adaptability	Relocation of functions in a team, working under stress and adjusting the strategy under stress	
	Training (improving the effective communication in a team)	Delivery of healthcare	Shared mental model	Coordinating without the need to communicate overtly
			Trust	Trust in other team members is essential

			Team orientation	Strong belief in team success, willingness to admit one's mistakes and accept feedback
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Source: Author's own study

These are the key reasons why hospitals should stress the effective teamwork in medical education. Focus is on three basic themes:

1. The delivery of healthcare. Patients expect error-free care, good communication and respecting of the human rights (Knox and Simpson, 2004).
2. Improving teamwork is an essential component of complex and ideal medical education.
3. The easiest way of improving quality of service, hospital image and patient care is teamwork and the continuous personal training both in communication and medical practice skills. Team training has been effectively implemented in the commercial airlines and the military with positive results (Thomas et al. 2004). Their positive experience shows that training program in teamwork minimalizes the risk of unwanted incidents, improves communication among team members and builds strong interpersonal relationships. Such training programs are now emerging in healthcare with potentially similar benefits (Baker, Beaubien and Holtzman,2003). Finally, healthcare must work to integrate teamwork throughout every level of training and education of healthcare professionals. Using this approach, team concepts become a part of everyday practice in good medical education.

Discussion and Conclusion

Performing safe orthopedic surgery relies on the ability of surgical team members to combine professional knowledge and technical expertise with non-technical skills e.g. communication,

teamwork, situation awareness, leadership, decision-making (Yule et al. 2006). The surgical team is a dynamic, multi-disciplinary team and consists of surgeons, anaesthetists, operating theatre (OT) nurses and nurse anaesthetists. Many errors that occur in the OT are attributed to the non-technical skills of the surgical team (Yule et al. 2006). In order to work safely and effectively in a surgical environment, with minimum of technical errors, the non-technical skills of communication, teamwork and situation awareness are the most important (Flin et al. 2003). In the context of the Operating Theatre communication is defined as ‘skills for working in a team context to ensure that the team has an acceptable shared picture of the situation and can complete the tasks effectively’, and teamwork is defined as ‘skills for working in a group context, in any role, to ensure effective joint tasks completion and team member satisfaction’ (Flin and Maran 2004). Furthermore, situation awareness is defined as ‘developing and maintaining a dynamic awareness of the situation in theatre based on assembling data from the environment, understanding what they mean and thinking ahead what might happen next’.

Procedures in the OT are complex and demand intense interaction between team members. Surgical teams should be cohesive and have similar perceptions of communication and teamwork to collaborate effectively, establish common goals for improving team performance, and ensure patient safety (Mills et al. 2008). Therefore, work processes should emphasize the interdependency of team members and support a good understanding of each team member’s tasks, roles and responsibilities within the surgical process. This facilitates effective teamwork, ensures that action is linked to reflection, and creates a culture that is open to change.

Assessment of an organization and medical education process by cultural and teamwork criteria, offers a powerful new way to think about performance at the frontlines of healthcare and in the future it could be gold standard for assessing the success of an organization, and

standards in medical education, not only in orthopedics. Experience of Polish and European hospitals and medical schools shows that best practices involve both specific medical knowledge (technical competence) and development of new technology in surgery but also – and these are no less important – social communication, teamwork, patient safety and culture in a work place.

References

1. Baker D P, Beaubien J M, Holtzman A K. Medical Team Training Programs: An Independent Case Study Analysis. Washington, DC: American Institutes for Research; 2003
2. Flin R, Fletcher G, McGeorge P, et al. Anaesthetists' attitudes to teamwork and safety. *Anaesthesia*. 2003;58:233–42
3. Flin R, Maran N. Identifying and training non-technical skills for teams in acute medicine. *Qual Saf Health Care*. 2004;13(Suppl. 1):i80–4
4. Knox G E, Simpson K R. Teamwork: The Fundamental Building Block of High-Reliability Organizations and Patient Safety. In: Youngberg B J, Hatlie M J, editors. *Patient Safety Handbook*. Boston: Jones and Bartlett; 2004. pp. 379–415
5. Mills P, Neily J, Dunn E. Teamwork and communication in surgical teams: implications for patient safety. *J Am Coll Surg*. 2008;206:107–12.
6. Thomas E J, Sexton J B, Helmreich R L. Translating Teamwork Behaviors from Aviation to Healthcare: Development of Behavioral Markers for Neonatal Resuscitation. *Quality and Safety in Health Care*. 2004;13:i57–64
7. Yule S, Flin R, Paterson-Brown S, et al. Non-technical skills for surgeons in the operating room: a review of the literature. *Surgery*. 2006;139:140–9

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