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Improving Patient Safety in the Operating Room: Utilizing a Safety Checklist and Briefings

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IMPROVING PATIENT SAFETY IN THE OPERATING ROOM:

UTILIZING A SAFETY CHECKLIST AND BRIEFINGS

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Abstract

The perioperative care setting can be a hazardous environment for patients undergoing surgery. Surgical teams caring for patients undergoing complex surgical procedures may create an opportunity for surgical errors impacting patient safety. The purpose of this project is to improve consistent standardized Surgical Safety Checklist (SSC) use and briefings in the orthopedic perioperative care setting in a large Midwestern hospital, thereby supporting a culture of safety through staff engagement and a team-based communication approach. Watson's Theory of Human Caring guided this project through the theoretical concepts of presence and faith. An initial implementation of the SSC and briefings revealed a decrease in compliance, teamwork, and communication and staff engagement. Introduction of a team training program, Team Strategies and Tools to Enhance Performance and Patient Safety TeamSTEPPS® provided improved communication and enabled more efficient surgical teams, thus improving the compliance of both the SSC and briefings. Further evaluation of compliance and development of a model of care translated the technical and safety processes involved in the operating room into an enhanced patient experience. Conclusions derived from this project suggest that SSCs and briefings provide the standard of care to foster patient safety, teamwork, and communication to aid in the prevention of surgical errors.

Keywords: perioperative environment, patient safety, Watson's Theory of Human Caring, communication, teamwork, TeamSTEPPS®.

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Chapter One: Introduction

The perioperative environment is unique and presents healthcare professionals such as registered nurses, surgeons, surgical technicians, and anesthesia staff with multiple challenges. These challenges include highly variable environmental conditions, caring for patients requiring complex surgical procedures, and working with diverse teams of staff who often undergo frequent personnel changes (Reams, KJrell, Campbell, and Dimick, 2014). In 2009, the World Health Organization recommended implementation of a Surgical Safety Checklist (SSC) for all surgical procedures (World Health Organization, 2009). These SSCs have since become part of the routine surgical practice to ensure patient safety, foster communication and teamwork, and prompt staff adherence to standards of care in the perioperative environment (Norton, 2012). SSCs provide a standardized framework for the review of information for surgical procedures and are credited for decreasing rates of surgical errors and complications and improving patient outcomes (McDowell and McComb, 2014). Consequently, the purpose of this project is to improve consistent standardized SSC use and briefings in the orthopedic perioperative setting that supports a culture of safety through staff engagement and a team-based communication approach.

The provision of patient care in the perioperative environment involves a teamwork approach. Successful surgical procedures incorporate effective staff communication, the processing of multiple sources of information, and cooperative staff synchronizing their actions with each other (Wagner, 2014). In addition to SSCs, briefings are also completed

prior to the surgical incision. Fudickar, Horle, Wittfang, and Bien (2012) stated, "a briefing is a team meeting in which all of the information needed for the joint performance of a task is exchanged and checked" (p. 695). SSCs and briefings provide staff the opportunity to dialog and ask questions.

The significance of the SSC and briefings to nursing practice in the perioperative setting includes the potential for improved communication, team building, and increased patient safety. It provides information to the nurse that they would not have otherwise received. In addition, adherence to the SSC aids in recognizing the perioperative nurse as an important member of the team. Wagner (2014) revealed, "nurses are central to the work of health care organizations and, therefore, central to the culture of safety" (p. 357). When perioperative nurses facilitate the SSC and briefing process, they advocate for the safety of the surgical patient (McDowell, 2014).

Watson's (2008) theoretical framework of human-to-human caring will guide this project. Watson's caring behaviors provide a structure for patients to remain safe and to prevent errors during their surgical intervention (Schmock, Breckenridge, & Benedict, 2009). SSCs and briefings provide the framework to foster patient safety, teamwork, and communication to aid in the prevention of surgical errors. McDowell and McComb (2014) reinforced that:

> perioperative nurses play a pivotal role in the effectiveness of safety checklist and briefings. They have a direct effect on compliance with safety checklist and briefings because they are most often responsible for the initiation, leadership and documentation of these safety measures. (p. 134)

Consistent use of the SSC and briefings helps to create a caring, healing, and patient-centered surgical environment (Schmock et al., 2009).

Definition of Terms

In order to assure shared meaning, definitions are necessary to specify terms used in the project. These descriptive definitions are essential to ensuring readers understand the meaning of the terms. The following definitions are the working terms used in this study:

Preoperative: "This surgical phase begins with the physical and psychological preparation of the patient for surgical intervention and concludes when the patient enters the operating room" (McGarvey, Chambers, & Boore, 2000, p. 10).

Intraoperative: "The intraoperative period runs from the time the patient is transferred to the operating table to the time they are admitted to the recovery area" (McGarvey et al., 2000, p. 11).

Postoperative: This term encompasses the patient's recovery phase of surgery after the surgical intervention is complete (McGarvey et al., 2000).

Perioperative: Refers to the combination of the three phases of surgery: preoperative, intraoperative, and postoperative (McGarvey et al., 2000).

Background

The focus of many healthcare organizations is on constructing a culture of safety (Gillespie, Gwinner, Chaboyer, & Fairweather, 2013). "The safety culture of an organization is the product of individual and group norms, beliefs, attitudes and values that determine the commitment of an organization's management of critical safety issues" (Gillespie et al., 2013, p. 387). The operating room is a hazardous environment because of the opportunity for surgical errors, such as completing an incorrect procedure,

performing surgery on the wrong site, or operating on the wrong person. Even straightforward procedures involve many critical steps, "each with an opportunity for failure and the potential for injury to patients" (World Health Organization, 2009). Team performance, primarily communication amongst the group members, has been found to be crucial for a culture of safety, especially in the orthopedic perioperative team setting (Gillespie et al., 2013).

For the purpose of my project, the orthopedic surgery section, within a large Midwestern hospital will be the location setting. The focus will be improving the use of a Surgical Safety Checklist and briefing tools within the orthopedic surgery section. This specialty practice of orthopedics has nine operating rooms. These rooms are each staffed with a circulating registered nurse, a certified surgical technologist, anesthesia personnel, surgeons, and residents specializing in orthopedics. The nursing role in the operating room is unique because of the intraoperative processes and interventions necessary. Because patients are under anesthesia, the roles in the operating room are more team oriented to aid in a successful operative outcome. The surgical team functions together, but also has specific job roles and responsibilities.

The surgical team is made up of several group members. The circulating registered nurse is referred to as the circulator. This registered nurse is the patient advocate and provides patient care in collaboration with other members of the surgical team. The certified surgical technologist's responsibilities focus on the equipment and instrumentation necessary for the surgical procedure. This surgical technologist is referred to as the scrub. The role of anesthesia is to provide the sedation to the patient. The consultant is the senior surgeon and is the physician leader of the team. The residents

are surgeons in various levels of physician training but are not yet board certified in orthopedics. This multidisciplinary team comprised of diverse educational levels has the shared responsibility for appropriate, respectful, and clear communication to ensure a safe environment for the patient.

This large Midwestern hospital has mostly a trauma-based orthopedic patient population. In the nine orthopedic operating rooms, the average caseload is approximately 82 procedures per week. A staff of 23 circulators and 17 scrubs make up the bulk of the work-force in these nine orthopedic operating rooms. One of the responsibilities of the team is to ensure the rooms are supplied with all of the equipment and supplies necessary for each case. Patient implant devices for specific fractures can include using screws, plates, and other types of metal prosthesis. The magnitude of implantables or items required to repair bones and soft tissues is vast and case specific. In my personal experience, direct communication with the entire surgical team is essential in order to make sure the necessary items are readily available in efforts to reduce operative time. As illustrated, the surgical environment requires a multidisciplinary team, each staff with unique responsibilities to provide a safe operative setting.

In 2009, this large Midwestern hospital opted to engage in the process of initiating the SSC process in the orthopedic operating rooms. This initiative was driven by general recommendations from The Joint Commission and the World Health Organization to increase patient safety (World Health Organization, 2009). The Joint Commission is an accrediting organization requiring hospitals to meet national patient safety goals in order to receive Medicare reimbursement from the government (Wachter, 2010). During initial implementation, in January 2009, of the SSC in the nine orthopedic operating rooms,

nursing leadership was present to support the SSC process and encourage active use and completion of the SSC. The briefing portion of the safety initiative was implemented later, in October 2009, after surgical leadership noted decreased teamwork and communication among the surgical teams. The surgical teams required encouragement from leadership regarding the ability to speak up, ask questions, and seek clarity if needed during the briefing process (Carney, West, Neily, Mills, & Bagain, 2010). After initiation, the surgeons were grateful for the nursing leadership support which helped the SSC and briefing implementation become seamless in the orthopedic operating rooms. In the surgical environment, implementation of the SSC and briefings is a step towards the development of a culture of safety. The SSC is an essential component in preventing and reducing errors and in improving overall health care quality (Wagner, 2014).

Since initial implementation in 2009 of SSCs and briefings in the perioperative setting at this large Midwestern hospital, some members of the surgical team have become unengaged. Staff began viewing some items on the SSC such as antibiotic administration or expected blood loss as a redundant repetition of information. They viewed the SSC as simply a "tick-box exercise" rather than a communication tool (Russ et al., 2013). Surgery staff can thereby end up checking items off on the SSC without proper assessment and communication. Poor collegial relationships combined with ineffective communication and cultural and team barriers have created obstacles for successful utilization of the SSC and briefing process in the perioperative environment (Russ et al., 2013). Staff with narrow viewpoints, who don't foster a culture of safety, can overlook the benefits of improved communication and teamwork that an SSC can provide.

After the initial implementation of the SSC process in the orthopedic specialty operating rooms, observations of decreased staff engagement with each other and reduced compliance using the SSC were identified by leadership. Poor collegial relationships, ineffective communication, and cultural and team barriers were directly observed by leadership. In response, efforts to increase awareness of teamwork and communication, and to enforce the standardized use of the SSC, briefings were introduced within the orthopedic specialty practice. Therefore, the results of this initial implementation led to the purpose of this project to improve consistent and standardized SSC use and briefings in the orthopedic perioperative setting. This project will also lend support for a culture of safety in the perioperative environment.

Significance of the Project

Communication and teamwork are vital for surgical staff working in the surgical environment. McDowell and McComb (2014) stated, "research in surgical safety has identified that breakdowns in communication and teamwork resulted in approximately 43% of surgical incidents" (p. 126). Complications from such events can increase the patient length of stay in the hospital and increase hospital and patient costs (McDowell and McComb, 2014). The significance of using the standardized SSC tool consistently can be credited for improving error and complication rates. Even with a proven tool to improve surgical outcomes, checklists continue to be inconsistently incorporated into practice (McDowell and McComb, 2014).

Complications from surgical care are avoidable and preventable (World Health Organization, 2009). In the fast-paced operating room setting, team members need to be able to work together to provide safe and effective patient cares. Staff needs to ensure

that surgical instruments are sterile and they need to minimize operating room contamination. Additional team responsibilities include opening sterile supplies, answering telephones, and obtaining equipment. These responsibilities are only a few examples of the team needing to work together to create a safe and complication free environment for the surgical patient.

In the orthopedic speciality practice of this large Midwestern hospital, the preoperative area generates the SSC. This is where pertinent information such as the informed consent is verified. The SSC form accompanies the patient to the operating room. Preferably prior to the patient's arrival to the operating room, the surgical team performs a briefing. "Briefings in the operating room improve team cooperation, motivation, discipline, and outcomes" (Fudickar, Horle, & Bein 2012, p. 695). In my experience, surgeons have found briefings to be a valuable gathering because it allows staff the ability to identify unique equipment or supplies required for each procedure. This information sharing reduces stress during the surgical procedure because all of the items needed are readily available to the team. The significance of the briefing process allows the surgical teams to dialog, ask questions, and clarify situations if needed.

The SSC continues to accompany the patient throughout their surgical episode. During the intraoperative period, the SSC is intended to stay in the circulator's immediate possession. The significance of the SSC process is to provide a standardized format for staff to review the patient specific needs for the surgical case. The circulator verifies and checks the pertinent information boxes as the surgical procedure progresses to ensure completion of the SSC requirements. After surgery, the SSC remains with the patient and is used as a communication tool for additional staff providing subsequent care.

Nursing knowledge encompasses the entire patient care experience. Knowledge refers to expressing knowing in a form that can be shared or communicated with others (Chinn & Kramer, 2011). "Perioperative nurses coordinate multiple aspects of care in an operating room. Communication, teamwork, and collaboration among multiple disciplines within an operating room are paramount to achieving the desired outcomes for the patient's surgery" (Kleiner, Link, Maynard & Halverson Carpenter, 2014, p. 358). A large part of intraoperative nursing is keeping patients safe and preventing errors in the operating room (Kleiner et al., 2014). The ability to share patient assessment information and point out patient concerns is the responsibility of the circulator. Crosson (2015) believed, "ensuring that the patient is the center of all perioperative care allows for open dialogue that includes the ability to ask questions, receive answers, and verify all critical pieces of information" (p. 279). The sharing and integration of nursing knowledge are essential to patient safety in the surgical environment.

Nursing Theoretical Foundation

Watson's (2008) Theory of Human Caring will provide the framework for this project. The purpose of theory is to help make sense of how people react to each other and events that occur (Carlson, Engebretson, & Chamberlain, 2005). Perioperative nursing not only involves technical skills, but also involves providing a caring and healing environment. Watson's theory guides this project by playing a valuable role in defining the caring aspects of the nursing process.

The core elements of Watson's theory include 10 Carative Factors, with a theory foundation focus on the transpersonal caring relationship and caring moments that occur between the nurse and the patient (Watson, 2008). Watson (2008) initially developed her

Carative Factors, which evolved into Caritas Processes that provide the structural core to her theory. The Caritas framework allows for the interconnecting of the professional and personal relationships of nursing care. Of the 10 Caritas Processes that comprise Watson's theoretical framework, this project will focus on Caritas Processes 2 and 9 to guide the incorporation of caring behaviors for nursing in the operating room environment.

Watson's Caritas Process 2 focuses on the nurse being authentically present to honor the patient's views and facilitate faith, hope, and trust by being immediately available to meet their needs (Watson, 2008, p. 282). Perioperative nurses must quickly establish caring relationships with patients in the surgical environment. Nursing interactions with the surgical patient can be brief, and so the perioperative nurse may not have much time to form a strong patient bond. By incorporating Watson's Caritas Process 2 of authentic presence and actively listening, the perioperative nurse can form a strong bond with the patient. This authentic presence helps to honor the patient and their beliefs during the brief encounter and enable them to feel a sense of trust (Watson, 2008, p. 283). "Authenticity involves a sense of self to be intentionally present with the patient or other. This means being able to focus on only the other individual for this time" (Caruso, Cisar, & Pipe, 2008, p. 128).

Another aspect of Watson's Caritas Process 2 involves creating a sense of faith and hope (Watson, 2008). Often times, patients initially meet the nurse directly in the operating room. The nurse's eye contact must assure the patient of deep concern for his or her well-being. Watson believes by meeting a patient's immediate needs, his or her stress level can be reduced (McCutcheon, 2004). In the intraoperative setting, support for

the patient can be achieved by simply holding the patient's hand as they undergo anesthesia. This physical touch translates the circulator's presence to the patient. Likewise, the patient will often respond and squeeze the circulator's hand as he/she drifts off to sleep. This experience creates the opportunity for the patient to feel supported and promotes human connection (Watson, 2008).

Watson's (2008) Caritas Process 9 addresses how the nurse reverently and respectfully assists the patient with basic needs (p. 286). The perioperative nurse must ensure that the patient is the center of all care in the operating room, and meet their basic physical, emotional, and spiritual needs. Often, patients are required to repeat information several times, such as date of birth, the intended surgery, and name of their surgeon. "This repetition encourages the patient to ask questions and to verify the patient's identity, consents, allergies, surgeon, anesthesia professional, and any pre-existing implanted metal or other devices" (Crosson, 2015, p. 279). By involving patients in these repetitive aspects of nursing care, nurses can help patients feel as comfortable as possible and consequently, less worried. This comfort can provide validation to the patients and create a caring moment that the team is focused and respectful of their individual needs (Watson, 2008).

The application of Watson's theory to the surgical practice helps to bring nurses closer to their patients in terms of trust and healing. Watson's (2008) Theory of Human Caring helps to translate the technical and safety processes involved in the operating room into caring moments that can potentially enhance the patients experience in the perioperative environment. The SSC and briefing process are both used to provide a standardized framework and to identify safety concerns related to the surgical episode of care. Chapter

Two will examine the literature to review the successful implementation of SSCs and briefings to identify barriers to standardizing the process.

Chapter Two: Literature Support

Surgical care in the operating room environment is complex. According to the World Health Organization (2009), "a team that works effectively together to use its knowledge and abilities on behalf of the surgical patient can avert a considerable proportion of life threatening complications" (p.1). SSCs and surgical briefings provide the structure for fostering effective teamwork and communication and have shown to reduce the risk of errors for surgical patients (Norton, 2012). Adherence to SSC use and the briefing process has been challenged by surgical staff even though the literature provides evidence these tools can improve safe patient outcomes. Key concepts explored in the literature will be teamwork, communication, culture of safety, barriers to adherence to SSC, and leadership.

Teamwork

SSCs and briefings are beneficial for operating room teamwork and provide for safer patient outcomes (Russ et al., 2013). The staff on surgical teams are diverse and must be able to function together to achieve the best outcome for the surgical patient. The SSC provides a standardized framework of safe behaviors for the surgical team and helps guide them. "The responsibility for surgical safety has to transition from being a team of individual experts to becoming an expert team" (Cima & Deschamps, 2013, p. 6). Within the surgical setting, it has been my personal experience to witness the flurry of activity during the operation. Not one person can stand alone and provide a successful surgical intervention. Surgical teams must be encouraged by leadership who can assess if the teams need additional training or resources in communication. Successful implementation of a SCC requires support from leadership and the institution itself (Russ et al., 2013).

"Teamwork culture in surgery is embodied in the ways in which individuals share physical space, artifacts, communication strategies and teamwork processes" (Gillespie et al., 2013, p. 391).

The operating room is an environment where the patient, staff, and equipment are in close proximity. Teams must be able to work together during difficult and stressful situations. According to Cima and Deschamps (2013), "over the last decade, team development and teamwork has become somewhat of an obsession in medicine. The primary drivers for increased teamwork are to reduce errors, improve quality of care, increase efficiency, and reduce costs" (p. 3).

The SSC allows the surgical team to review patient and case information and ensure the safety of the patient is being addressed. "Safety checklists improve the perceived quality of operating room teamwork and communication and reduce observable errors relating to poor team skills" (Russ et al., 2013, p. 856). Norton (2012) revealed:

> surgical safety checklists have been used to foster an environment of teamwork and communication, while ensuring that staff members consistently adhere to safety standards. Benefits of the checklist include well-coordinated teamwork, increased compliance with evidence-based process measures, and reduced patient care errors. (p. C10)

Safety in the operating room is essential. Russ et al. (2013) confirmed in a systematic review that "given the close association between teamwork and patient safety, these results suggest that the optimization of safety checklists in surgery should be a priority for the prevention of surgical error" (p. 870). A standardized SSC promotes safe behaviors in the operating room and is one consistent tool, along with briefings that the

surgical team can utilize to exchange information and prevent error. Kleiner, Link, Maynard, and Halverson Carpenter (2014) discussed, "improving the quality of briefings provides for more thorough exchange of information concerning the patient's condition, improved preparation for the surgical procedure, and identification of potential concerns, thus providing improved team functioning" (p. 359).

Communication

Communication is identified as a common issue in healthcare. Consistent, precise communication is vital for safe patient care in the operating room. The SSC provides a structural framework that prompts the team for safety-related communication. "Communication failures in the operating room are not uncommon and can jeopardize patient safety" (Carney et al., 2010, p. 722). "Communication limitations in health care frequently have been indicated as the single most important cause of adverse events within the industry" (Kleiner et al., 2014, p. 359). One example of poor communication is mistaking the correct location of the operative site. Even if one member of the team receives the wrong information, that is enough to create additional risk for the surgical patient.

According to Kleiner et al. (2014), "communication among members of health care teams has become a focus for many institutions, in part because breakdowns in communication have been identified as a root cause of many medical errors" (p. 358). Herlehy (2011) revealed, "with an increased awareness of the effects that communication breakdowns have on patient safety and employee morale, the health care community has made substantial investments in the past five years to design safety tools aimed at improving communication" (p. 643). The SSC provides a safety structure for the

operative team to adhere to. Team briefings ensure all the appropriate surgical team members are present to discuss key issues for each patient.

Communication failures in the operating room have been found to be rather simple. Lingard et al. (2004) revealed that failures in communication "are based in strikingly simple factors: communication is too late to be effective, content is not consistently complete and accurate, key individuals are excluded, and issues are left unresolved until the point of urgency" (p. 332). Sharing patient information in an unstructured format is a weakness and can lead to omissions and errors. According to Lingard et al. (2004), "communication patterns were observed to be variable from case to case and team to team. Critical information was often transferred in an ad hoc reactive manner and tension levels were frequently high" (p. 330). Lingard et al. (2004) suggested, "one potential solution to the described weaknesses in operating room team communication is to adapt the checklist system currently in use for systematic preflight team communications in the aviation industry" (p. 330). The SSC and briefing ensures a sequential structure for increased awareness and communication of the identified safety behaviors in the operating room environment. SSCs and briefings allow for dialog to occur amongst the entire surgical team prior to surgical intervention. This proactive communication helps to promote a culture of safety amongst the surgical team.

Culture of Safety

The development of a safety culture is dependent upon the support amongst staff of the healthcare facility. Fudickar et al. (2012) stated, "the concept of safety culture encompasses all of the activities and behaviors in a hospital that are relevant to patient safety" (p. 695). Carney, West, Neily, Mills, and Bagain (2010) suggested "safety culture

means different things to different people, but it is generally agreed to be a professional culture that promotes effective and efficient communication among clinicians that is not hampered by hierarchical status or personality differences" (p. 722). The surgical team is comprised of various members with diverse educational backgrounds that share the responsibility of providing for a safe environment for the surgical patient.

Makary et al., (2006) revealed that having a positive and caring attitude about safety culture amongst staff has been associated with error reduction. Russ et al. (2013) discussed, "on a wider scale, a focus on fostering a strong culture for safety within a hospital is also important for the implementation of checklists and other safety interventions" (p. 870). Fudickar et al. (2012) found that "the measurable benefit of checklists has been found to depend on a parallel improvement of safety culture and communication, but this cannot take place if the items on the list are simply checked off" (p. 700).

According to Gillespie, Chaboyer, and Fairweather (2013), "surgical teams function on a high level of interdependence, and must necessarily exhibit the essential attributes required for building a safety culture in the operating room" (p. 392). "Specifically, our research has demonstrated that open communication and active management of team instability supports a safety culture" (Gillespie et al., 2013, p. 391). As a nurse leader, I encouraged staff to speak up and ask if they needed clarity. Because I was present during the team briefings, I was able to assist or prompt surgeons if they were not participating. Barriers to maintaining a culture of safety in the operating room can directly impact the outcomes of surgical patients.

Watson's (2008) Caritas Process 9 describes the importance of meeting the patient's basic needs, such as safety. According to Schmock, Breckenridge, and Benedict (2009), "the operating room is an environment where meeting basic comfort needs may seem routine, but by applying caring principles and working from a Caritas Consciousness there is a sense of sacredness that is brought into nursing practice" (p. 51). The operating room is a fast paced environment and can often be noisy; therefore the circulator can encourage the patient relationship by actively listening and providing physical touch in the operating room. The circulator has many tasks to complete at the beginning of the surgical procedure but the circulator should be placing their focus primarily on the patient. Caring is often perceived as becoming overshadowed by technical tasks that consume the time of the circulating nurse (Schmock et al., 2009).

Another goal of the circulator is to identify safety concerns and prompt others on the surgical team to address each of the identified safety checkboxes. The SSC and briefing process provides a structured practice for the team to dialog about these surgical patient issues. Preserving the patient's dignity and providing physical and psychological comfort during this time of stress and uncertainly is an important objective of the circulating nurse (Schmock et al., 2009).

Barriers to adherence

Barriers to adhering to the checklist and briefings vary and can be dependent on attitudes and experiences of personnel. Kleiner et al. (2014) believed:

> simple adherence to a checklist does not ensure that quality communication actually occurs during team interaction periods. At times, a team member may go

> through the motions of reading the checklist while other team members are not engaged and are busy with other tasks. (p. 359)

During each surgical procedure, patient safety may be compromised by staff, such as not paying attention, or missing some detail regarding the procedure. Some staff consider the less invasive procedures to be at a lower risk for safety concerns versus the more invasive procedures. Surgical personnel providing care for complex, high acuity patients are perceptually more aware to potential safety risks. Providing tools such as the SSC have been shown to promote patient safety and reduce surgical errors. The opportunity for risk exists for both the simple and complex surgical cases.

"The checklist can become a redundant and even 'boring' repetition of information. This puts it at risk of becoming nothing more than a tick-box exercise" (Russ et al., 2013, p. 869). The entire surgical team must advocate for the patient's safety and for proper use of the checklist during surgical briefings. "The team might not value the use of the checklist and simply see it as a task to get done, so they rush through it without paying attention" (Kleiner et al., 2014, p. 359). In addition, Russ et al. (2013) described, "if team members differ in the degree to which they have bought into the system, a checklist might antagonize team relationships/interactions and accentuate hierarchy gradients" (p. 869). In the same sense, Fudickar et al. (2012) found that:

> reading the checklist can turn into a problem of hierarchy-versus-autonomy if the operating surgeon begins to feel that he or she has suffered a loss of authority by falling under the control of the operating room nurse. Moreover, the interruption of workflow by the briefing can be bothersome. (p. 699)

In my experience, some of the surgeons at the large Midwestern hospital thought the SSC and briefing process was unnecessary and took for granted that the surgical team already knew his or her procedures. Nursing leadership stressed to these surgeons the importance of reviewing the information on the SSC and on having the briefing dialog with the surgical team to engage in conversations where questions could be asked. "The checklist will meet with acceptance only if the physician team leaders integrate it in their safety concept, take it seriously, and serve as an example to others by using it themselves" (Fudickar et al., 2012, p. 699). Physician commitment is essential to the successful integration of SSC and briefings in the operating room environment (World Health Organization, 2009). Steelman (2014) stated, "although 20% of clinicians felt that it took too long to compete, when asked if they would want the checklist used if they were having surgery, an overwhelming 93% indicated they would" (p. 665).

Leadership

Because the use of SSCs and briefings have been supported by literature as improving patient safety, the SSC and briefing are not optional at this large Midwestern hospital. As a nurse leader in the operating room, I enabled my staff to be able to speak up if the surgical team they were on did not adapt to using the SSC or participate in the briefing process. Northouse (2004) described, "transformational leaders set out to empower followers and nurture them in change. They attempt to raise the consciousness in individuals and to get them to transcend their own self-interests for the sake of others" (p. 182). Surgical staff was assured they had support from upper nurse management and physician leaders, both agreed they would not settle for anything but the safest patient care environment possible. If a particular surgeon was noted to be lacking in participation

for either the SSC or briefing process, as a nurse leader I role modeled a communication style to demonstrate to staff of how they too could ask for a briefing. “To create change, transformational leaders become strong role models for their followers” (Northouse, 2004, p. 183).

SSCs have been proven to reduce morbidity and mortality in the operating room. The literature provides evidence for the important concepts of identifying the inefficiencies in teamwork and the need for effective communication. This communication can be organized and standardized by using the SSC and conducting briefings. Communication and teamwork have a profound effect in the proper use of the SSC and briefing tools. The culture of safety needs to be supported and aids in guidance of consistent practice of the SSC and briefings. Barriers to adherence, however, do exist. These safety tools should not be optional and must be enforced for the benefit of the surgical patient. Chapter Three will describe an overview of the improvements to the SSC and briefing process in the orthopedic section of surgery, including the utilization of teamwork tools to refine communication and enhance teamwork.

Chapter Three: Standardization of the SSC and Briefings

The literature sustains that SSCs and briefings provide improved outcomes for surgical patients. Communication prompted by using the SSC follows a standardized framework to ensure information is gathered and exchanged. This in turn enhances teamwork by staff working collaboratively to achieve safe, reliable cares for the surgical patient. Briefings allow surgical teams to interact and have the ability to ask questions if something is not clear. Structured communication between all team members such as using assertive language (e.g., 'I need clarity') is commonly used in a culture of safety (McNamara, 2012). The initial implementation of the SSC and briefings in this large Midwestern hospital was driven by recommendations from the World Health Organization with the intent to improve safety priorities, such as the correct site and patient identification, to prevent communication errors, and to promote a culture of safety.

Lack of Standardization to Initial Implementation of SSCs and Briefings

The specific safety information this large Midwestern hospital chose to identify on the SSC was developed in collaboration with nursing administration, the surgical committee, and the quality oversight team (see Appendix A). The initial implementation of the SSC and briefings at the large Midwestern hospital was accelerated in order to be in compliance with the recommendations from the World Health Organization. If initiatives are launched in response to new regulatory mandates, this can lead to disorganized implementation thus fostering resentment from staff who are asked to change their practice abruptly (Styer, Stanley, Schmidt, Zive & Eappen, 2011). The initial implementation of the SSC and briefings at the large Midwestern hospital was executed

under swift circumstances which created hindrances with integration into the operating room practice. Although I was involved with this initial implementation, my focus then shifted to a project to improve consistent standardization of SSC and briefings because of the development of obstacles in 2012.

After the initial SSC was deployed at this large Midwestern hospital, obstacles became apparent in the orthopedic section. Poor collegial relationships were observed in combination with weak communication and cultural team barriers that inhibited staff from embracing this safety tool. The circulators were challenged by members of the surgical team by not participating in completing the safety items on the SSC.

One of the requirements of the SSC process involved requiring the entire surgical team to pause before the incision to verify the patient information and ensure the surgical site was initialed indicating the correct surgical location. Rarely was this practice performed consistently. This increased stress for the circulator's who perceived he or she was responsible for enforcing the SSC rather than participating as part of the surgical team. McDowell and McComb reinforced, "perioperative nurses are not only integral members of the surgical team, but in many cases they are responsible for initiating a briefing and documenting directly on a checklist or attesting that a checklist has been completed" (p. 134). There is a considerable difference between initiation, participation, and enforcement, and some of the circulators became reluctant to speak up because of this lack of team collaboration. "If nurses believe that their input is not well received, then it is likely that communication will be hampered and patient safety may be negatively affected" (Carney et al. 2010, p. 727).

As the nursing leader, I continued to provide support to staff by encouraging full participation and engagement of surgical team members during completion of the components of the SSC. The staff was urged to inform leadership directly if surgical team members were not complying with portions of the SSC so those staff could be counseled individually. However, some of the staff felt they were tattling on their team members, whom they work with on a daily basis, and just continued to look the other way instead of participating in developing a culture of safety. They were not comfortable speaking up to the surgeons. Some staff were reluctant to speak up because they feared being degraded by the surgeons and peers.

The initial SSC implementation was a learning time for all staff, but not all surgical team members embraced and acknowledged the use of the SSC. During some of the direct observations by leadership, a few of the surgeons were witnessed not adhering to the SSC. Winters et al. (2009) stated:

> in medicine, physicians have largely resisted using checklists. Some feel that relying on a checklist insults their intelligence, whereas others doubt that a document with check boxes will prevent a medical mistake. Physicians believe they know their job and do not need a prompter to guide or remind them. (p. 2)

Some of the surgeons would scoff at the idea of pausing before the incision was made thus creating a level of hierarchy between the surgeon and the team. In fact, Gillespie et al. (2013) found:

> informants described the inherent difficulty in negotiating tacit hierarchical boundaries that were palpable within and between disciplines. The behaviors

> depicted by team members centered on their ability to disclose concerns and speak up, stay focused. (p. 390)

Approximately nine months after the initial implementation of the SSC, the briefing portion of the ongoing safety initiative was implemented to provide the surgical team with information about the surgical procedure and allow for questions if something was not clear. Communication failures, such as team members not speaking up, are directly related to errors in the operating room (McNamara, 2012). As the nurse leader of the orthopedic surgery section, I was toiled with how to achieve surgeon and staff support and participation. By direct observation, I witnessed some of the surgical teams in the orthopedic surgery section struggle with communication and team building, due impart to the hierarchical boundaries. In the past, historically, this Midwestern hospital was primarily physician lead. The surgeon would simply give the orders and expect the surgical intervention to progress along smoothly because they perceive they perform the procedure the same way every time. What they said was to be followed, no discussion was generated. Because of this, I observed how some staff felt they could not speak up and ask questions. These boundaries did not allow for effective safe communication, hence inhibiting the dialog among the surgical team. Thus, when one of the orthopedic surgeons suggested attending a workshop, which would provide a foundation for enhancing communication and build better surgical teams, I agreed to participate in an effort to improve the current utilization of both the SSC and briefings.

Consistent Use of SSC and Briefings Project Plan and Strategies

In response, efforts to increase awareness of teamwork and communication and to enforce the standardized use of the SSC and briefings were introduced. Surgical

leadership, consisting of nurse administration, nurse management, and the chair of the orthopedic surgeon department was approached by an orthopedic surgeon who was still active in a branch of the military. He was fully supportive of the SSC and briefings but recognized some of his peers were not engaged in the process. This surgeon described a teamwork tool that he used in the military hospitals and suggested a team of staff take part in a training program. Kleiner et al. (2014) stated, "crew resource management training has been used to improve teamwork and communication in the perioperative setting" (p. 358). The particular teamwork tool the surgeon had experience with is Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®), and thereby, this training was approved by surgical leadership (Agency for Healthcare Research and Quality, 2015).

Since TeamSTEPPS® is a team based training program, it was recommended to include members of various job classifications which included the nurse administrator, surgeon, nurse manager, nursing education specialist, a circulator, scrub, and an anesthesia supervisor. These select individuals will be referred to as the training team. These members were assembled with the understanding of being key influencers and thought to have the greatest impact on the remaining staff in the orthopedic section. The plan was to attend TeamSTEPPS® training and then implement the tools to enhance SSC use and briefings in the orthopedic specialty of the large Midwestern hospital. The team attended the training sessions during March of 2012.

TeamSTEPPS® teaches evidence-based methods to enhance team performances (Plonien & Williams, 2015). The training consisted of viewing vignettes which depicted proper communication and evaluating case based scenarios as a team. According to

Plonien and Williams (2015), "following team training, personnel understand and buy into the concept of working as a team and not as an individual" (p. 467). The program proposed five continuous phases: assessment, planning, training, implementation, and finally sustainment (Clancy, 2007). Prior to participating in the training, orthopedic staff completed the readiness assessment tool (see Appendix B).

The TeamSTEPPS® training program has four core areas: team leadership, situational monitoring, mutual support, and communication. Leadership connects the skills learned in the training. Leadership is the process of influencing others to accomplish a task (Plonien & Williams, 2015). Situational or mutual performance monitoring is the ability to be aware of common understandings of the team environment and apply appropriate strategies to monitor teammate performance (Clancy, 2007). When providing mutual support to the surgical team, members can recognize the risk of error that may occur when another member's workload becomes overwhelming and take action to assist another (Plonien & Williams, 2015). The communication portion of the training was paramount. By viewing the vignettes, proper dialog techniques were observed and could be applied in our own operating room setting. They illustrated efficient exchange of information and consultation with other team members (Clancy, 2007). It was my hope that these techniques could empower my surgical staff to speak up and respectfully enforce the need for standardized participation of the SSC and briefings.

Watson's (2008) Theory of Human Caring also guided the development of this innovative project by helping to translate the technical and safety processes found in TeamSTEPPS® into caring moments that can enhance the patient experience and perioperative surgical environment. By focusing on how patients react to events that

occur such as excessive noise or entering a cold operating room, caring and healing environments can be created. When the safety tools are used correctly, the entire team takes ownership of the patient experience. The circulator has a brief moment to spend with the patient and when he/she is supported by the team, it allows the circulator time to dialogue with the patient. According to Lindwall, VonPost, and Bergloom (2003), "the nurse listens to the patient's problems with their body, their experiences, expectations and wondering, and can plan to be with the patient" (p. 250). Again, the circulator's presence creates a caring relationship. These concepts combined with leadership influence were integral to the implementation of this improvement strategy.

Upon returning from the training session for TeamSTEPPS®, the training team moved into finalizing the planning phase to develop strategies to improve SSC use and briefings in the orthopedic section. The training teams planning involved creating a PowerPoint to present implementation strategies to surgical leadership, to gain approval, and then share with all surgical staff in the orthopedic section (see Appendix C). This PowerPoint presentation was prepared using TeamSTEPPS® material identified by the training team as the pertinent information to convey. With leadership support, the implementation strategies were approved and applied to the orthopedic practice in the large Midwestern hospital.

Enhancement for use of the SSC and briefings required a culture change between the surgical teams. The briefings are intended to encourage any team member to speak up if they perceive a problem that could result in harm to the patient (Makary et al., 2006). As mentioned earlier, some of the surgeons failed to see the need to have briefings and were personally addressed by the surgeon on the training team. "Changing a culture is difficult

and is best accomplished through the use of 'physician-champions' who serve as local role models and drivers of change" (Makary et al., 2006). The circulator had also decreased engagement and was not receiving support from some of the operating room teams to participate in the safety discussions. During the effort for standardization of the briefing and SSC utilization, as a nurse leader, I was able to provide the communication tools learned in our training but could not force staff to follow them. Northhouse (2004) believed:

> a transformational leader treats leadership as a process that occurs between followers and leaders. Because this process incorporates both the followers and the leader's needs, leadership is not the sole responsibility of a leader but rather emerges from the interplay between leaders and followers. (p. 184)

By providing unrelenting leadership presence, it was my goal to coach staff, to demonstrate by example the need for improved team cohesiveness, and include the entire team to improve patient safety (Carney et al. 2010). The next step in this project process was development of a conceptual model.

Conceptual Model

Nursing frameworks and conceptual models establish the foundation for practice; they provide recognition and understanding (McCutcheon, 2004). This model was developed to represent the essential components of this project for practice innovation. The selected concepts (see Appendix D) reflect beliefs and attitudes in the perioperative setting at the large Midwestern hospital. Chinn and Kramer (2011) believed, "concept selection is guided by your purpose and expresses values related to your purpose" (p. 163). This conceptual model is comprised of circles and depicts the patient in the center, with the

exterior concepts connected by the band of safety (see Appendix D). If at any time this safety band is broken, harm can occur to the perioperative surgical patient. This model serves as a visual aid for staff to remind them of the importance of how the intertwining of these concepts is necessary to provide safe patient care.

In defining the concepts of my model, leadership and teamwork are represented in the first exterior circle of the model (see Appendix D). Leadership involves influencing a group who has common interests (Northhouse, 2004). As the nurse leader during the initial implementation of the SSC, I witnessed the importance of my presence with my staff. They needed to see me acknowledge the difficulties in getting surgeon buy-in for participation in the SSC and briefings. It was my responsibility to be available to enforce the required participation of the SSC and briefing components. Improving consistent standardized SSC use and briefings in the orthopedic surgical setting by supporting a culture of safety through staff engagement and a team-based communication approach represents the projects purpose.

At times, surgical teams were not functioning and some staff did not embrace creating a culture of safety. As Makary et al. (2006) stated, "an 'unsafe' operating room culture, as assessed by front-line providers, can in fact be an important risk factor for the occurrence of a sentinel event" (p. 629). A sentinel event is a patient mishap which could cause patient harm and is required to be reported to The Joint Commission. It is noted that "perioperative leaders are in the spotlight to develop and manage effective and safe teams caring for patients in the operating room setting" (Plonien & Williams, 2015, p. 465). In addition, teamwork and collaboration are vital with the increasingly complex surgical cases (McNamara, 2012).

The next exterior circle is safety culture and communication (see Appendix D). According to Gillespie et al. (2013), "in surgery, culture is epitomized by the communication and teamwork practices of the interdisciplinary team" (p. 377). Consistent communication between surgical team members can enhance the patient's experience and maintains the coordinated interventions to help the patient return to a state of wellness (Crosson, 2015). Communication breakdowns can negatively impact patient safety and sharing of information between team members. The SSC and briefings provides a standardized format to ensure communication is effective and supports a culture of safety for the perioperative surgical patient.

The third exterior circle represents the surgical team and nursing care (see Appendix D). The surgical team consists of various members with diverse educational backgrounds. Surgical staff member changes can occur at any time but one thing must remain constant, the ongoing nursing assessment. The surgical team is often led by the circulator and he or she coordinates the management of the patient's care in the operating room (Crosson, 2015). Team members must continually work together to create a safe and complication free environment for the surgical patient. The SSCs and briefings help to ensure nursing assessments for the surgical patient are accurately shared and verified between providers.

The final exterior circle incorporates Watson's (2008) Theory of Human Caring and Principles. A description from Schmock et al. (2009) revealed, "the perioperative environment is often perceived as cold and evokes fear in patients" (p. 49). By having the circulator immediately available to the patient, Watson's (2008) Caritas Process 2 can be applied to the setting through honoring the patient's views and the enabling presence of the circulator. It is stated by Schmock et al. (2009) that:

> professional perioperative nurses have a moral and ethical obligation to care for the physical, emotional, and spiritual needs of the surgical patients. It is our opinion that nurses need to demonstrate caring behaviors that define the care of surgical patients within the surgical arena. Perioperative nursing is a unique area of practice with a specific body of knowledge. (p. 50)

These four exterior circles of my model are linked together by a band representing overall patient safety (see Appendix D). This safety band thus fulfills Watson's (2008) Caritas Process 9 by providing the basic need of maintaining patient safety. The SSC and briefings are tools to enhance patient's safety as patients undergo the surgical intervention. "Checklists are increasingly becoming part of routine practice for ensuring safety in operating rooms, and their use has been linked to improved rates of mortality and morbidity" (Russ et al., 2013, p. 869). Surgical team members share in the responsibility of providing for a safe environment for the surgical patient.

The very center of the conceptual model represents the perioperative surgical patient (see Appendix D). The patient is in the center of the four exterior circles which are connected by the safety band. It is my belief that if all of the exterior concepts are adhered to, the band will remain intact, thus keeping the perioperative patient safe. Safety must involve every member of the operating room team with a connection to the patient during a surgical procedure (Plonien & Williams, 2015).

The development of this conceptual model utilizing Watson's Theory of Human Caring is based on several assumptions. The first assumption of the model would simply be that surgical staff desires the best outcome for the perioperative surgical patient experience. All members of the surgical operating team are either licensed by a governing

board or certified and trained in their specific role and are aware of their expectations. The operating room staff have chosen healthcare to provide safe care for patients.

Another assumption would be that the surgical team recognizes communication and teamwork are essential in order to provide safe patient outcomes. “Team members must synchronize their actions and communications to cooperate with one another to successfully and safely complete tasks” (Wagner, 2014, p. 355). Surgical teams must function together to achieve the best outcomes for the perioperative surgical patient.

Building a culture of safety is an assumption which simply must be embraced by all staff. The development of this safety culture is fundamental to any healthcare facility. The understanding of the values, beliefs, and norms are central to providing safe care. A culture of safety undermines what attitudes and behaviors are required and expected (Wagner, 2014).

After initial implementation, enhancing the SSC and briefing process required the staff involved to acknowledge the importance communication has on building an effective surgical team (see Appendix D). The ultimate goal of improving the post implementation compliance of SSC use and briefings was to provide a safe surgical environment for the patients. Enhancing the practice through staff engagement and a team-based communication approach helped to additionally improve some of the identified hierarchical barriers. The end result of the implemented strategy enhanced the consistent use of SSC and briefings and created an increased awareness of teamwork and communication amongst the surgical team. When faced with communication challenges, surgical team members can introduce tools, such as those learned in TeamSTEPPS®, to improve collaboration for safe patient care (Carney et al., 2010). Chapter Four will

provide an evaluation of how the applied communication tools, learned from TeamSTEPPS®, effected increased compliance of using the SSC and briefing.

Chapter 4: Evaluation and Reflection

Quantitative data was collected by this large Midwestern hospital to monitor the standardized use of the SSC and briefings. This data was accumulated and reviewed by using an audit tool designed to measure compliance (see Figure 1). This chapter will discuss the evaluation tools and provide personal reflection on the process of improving the standardized use of both the SSC and briefings.

Evaluation Process

The quantitative audit process illustrates the results of SSC and briefing compliance. The criteria for evaluation will be referenced as indicators. Both of the indicators should consistently reflect 100% compliance. The SSC and briefing audit tool was implemented during initial rollout of the SSC in 2009 and continued through deployment of TeamSTEPPS® training and is current to date. One indicator ensures the appropriate team members are involved and that the circulator is participating in active use of the SSC throughout the operative procedure. The other indicator confirms the entire team is engaged in the briefing (see Figure 1). To ensure consistency, Nurse Managers and Nursing Education Specialists performed these SSC and briefing compliance audits of every orthopedic operating room in this large Midwestern hospital campus which were randomized each quarter to assure an accurate sampling.

Evaluation Tools

The quantitative audits illustrate the results of SSC and briefing compliance using the indicators from the audit tool (see Figure 1). Data collection began during the last quarter of 2009 and is current to date. The initial compliance rate of the SSC started at 74% and fluctuated until quarter two, and then in 2012 the orthopedic speciality first reached 100%

compliance (see Figure 2). It was during this time when I began talking to staff about the training team attending the TeamSTEPPS®. I can't help but think these discussions generated an increased awareness for the need to have standardized SSCs and briefings. The safety tools were not going away which is what some of the staff thought might happen. The compliance dipped slightly to 94% during quarter three of 2013 (see Figure 2) but I believe that was because the training team from TeamSTEPPS® had not started presenting the prepared PowerPoint information (See Appendix C). After the presentation in mid 2013, SSC compliance returned back to 100%. According to Cima and Deschamps (2013), "clearly, there is an evidence to support that teamwork and specific tools to improve communication within operating room teams lead to fewer intra-operative and postoperative adverse events, decreased operative times, and perhaps decreased postoperative mortality" (p. 5).

The briefing compliance trend started off strong at 90% during the last quarter of 2009 (see Figure 3). However, after the first quarter briefing compliance dropped off to 71.4%, rose slightly to 72.7% the next quarter and then went to 100% compliance for two quarters, at the end of 2010. During the course from October 2011 to the third quarter of 2014, the briefing compliance wavered between the mid to high 90% but didn't attain 100% compliance until the first quarter of 2015 (see Figure 3).

Interestingly, both the SSC and briefing compliance decreased in mid 2013. Again, I attribute this to the timing of the PowerPoint TeamSTEPPS® training containing examples of briefings done well. According to Plonien and Williams (2015), "researchers hypothesized that conducting the preoperative briefings is a key component in reducing

mortality. The briefings require active participation and involvement of team members and provide a final chance to correct problems before starting the procedure" (p. 469).

Reflection

Watson's (2008) Theory of Human Caring was an appropriate framework for this project and was used to guide the incorporation of caring behaviors in the operating room. Watson's (2008) Caritas Process 2 focuses on the nurse being authentically present to honor the patient's trust by being immediately available to meet their needs. The historical data indicated a need to reinforce the compliance of SSC and briefings. After the implementation of TeamSTEPPS® training in 2012, the use of standardized SSC and briefings were able to reach 100% compliance. By confirming that the SSC involves all appropriate team members and that it is used throughout the procedure, this allows the circulator more time to spend specifically with the patient and provide reassurance. "When a patient has to go through anesthesia and surgical treatment they have to leave themselves in professional careers charge, and the careers have to take over the responsibility for the person's body and life" (Lindwall, Von Post & Bergbom, 2003, p. 247). This statement focuses on the need for the circulator to be immediately available to meet the patients' needs in the surgical environment during the episode of care.

Watson's (2008) Caritas Process 9 guided the circulators by assisting the patient with basic needs. This reinforces the circulators responsibility as a perioperative nurse to provide individualized care and comfort and create caring moments for the surgical patient in a safe environment. Because the audits reflect 100% compliance by the most recent results of the project in using the SSC and briefing, this assures the team that all safety measures have been addressed. By providing a visual prompt of the conceptual

model (see appendix D), staff will be reminded of the concepts and the band joining them together to make sure the safety measures are all in place.

Throughout my project to standardize and improve the use of SSC and briefing in the orthopedic surgery section, I expected my staff to embrace these safety tools and use them appropriately. One of the problems was forming the teams from the diverse staff of professionals on the surgical team, some of which did not report to me. I had to rely on my staff to govern these tools and lead the way. Lievens and Vlerick (2013) described, "transformational leaders are charismatic and will encourage their employee to do more than is formally expected from them" (p. 653).

Learning and Insight

Improving the standardized use of the SSC and briefings by using techniques learned in TeamSTEPPS® training to improve communication and enhance teamwork has led to a compliance rate of 100% in 2015. As with any new process, there have been opportunities for growth. One thing I have learned by participating in this project is that change doesn't happen overnight. SSCs and briefings were initially introduced in this large Midwestern hospital in 2009. After evaluation in the orthopedic section in 2012, we identified further training was needed to improve communication and teamwork, it has taken until 2015 for the SSC and briefings to be seamlessly integrated into everyday practice. The three years of introducing TeamSTEPPS® tools eventually took a toll on the training team. We were responsible for introducing the communication tools, displaying positive examples to exhibit correct communications to enhance teamwork, and then presenting the material to staff. This took several sessions of presenting and because leadership thought we would get more staff buy- in if staff other than leadership

presented the material. The rest of the training team became stressed because they now had to speak in front of their peers.

I gained new insights by acknowledging that creating a culture of safety truly involves every employee, and that job classification does not matter. In the perioperative setting, effective communication is essential in order to prevent patient harm. Acceptable forms of teambuilding and communication had to be learned and accepted. Staff had to become comfortable to speak up if they suspected there was a potential threat to patient safety. This comfortable environment was accomplished, in part, by encouraging rapport amongst the entire team. I would agree with Gillespie et al. (2013) who stated, "communications in the form of self-introduction, greeting the patient and surgical pre-briefings created opportunity for open dialogue through asking and confirming, and allowed the team to agree on a plan of action with a common intention- the basis for shared understandings" (p. 389). I was honored to be a part of this project, to watch teams grow together in an effort to prevent harm to our surgical patients.

My view has changed about the hierarchy amongst physicians and surgical staff consisting of circulator, scrub, and anesthesia. Before the SSCs and briefings were occurring, the surgical staff had little interaction and worked in silos, each performing their individual tasks and conversing very little. There was limited sharing of information and understanding of surgical interventions taking place in the operating room because communication was lacking. At times, staff didn't even know each other's names and would often refer to a person by their job classification, such as anesthesia. Gillespie et al. (2013) summed it up nicely:

> undoubtedly, the surgical team's optimal performance relies on open dialogue and understands expectations, and is significantly dependent on how the organizational culture promotes such discussions. The consistent and sustained presence of senior and clinical leadership in embedding and reinforcing the tools and behaviors in daily clinical practice is critical to promoting a safety culture. (p. 392)

By introducing communication tools from TeamSTEPPS®, this large Midwestern hospital has achieved 100% compliance with participation of the SSC and briefings. Surgical teams have fostered building a culture of safety by improving communication and recognizing all staff has value and input. Chapter Five will utilize this evaluation reflection to suggest future plans and implications for the standardized use of SSC and briefings in the operating room.

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Chapter Five: Conclusions

The SSC and briefings at this large Midwestern medical center have met 100% compliance after applying the communication tools learned in TeamSTEPPS® as evidenced by the quantitative audit results. These safety tools have provided increased awareness of the importance of communication and team formation at the beginning of and during the patient's surgical procedure, but what about after the surgical procedure? Could there be added benefit from encouraging a debriefing at the end of the procedure or operative day? The briefings currently don't have a standardized format for information shared. The surgeons simply share what they think is crucial and the staff have an opportunity to ask for clarity. Could there be added benefit to have a speciality specific briefing template to follow in order to address key topics? Currently the SSC at this large Midwestern hospital is a paper copy, what could an electronic checklist, with additional features, have to offer? This chapter will provide implications for the future of the SSC and briefing tools. In addition, implications for advancing nursing practice will be discussed.

Implications for the Next Step

A potential expansion of this project would be to compose a speciality specific briefing template. This template would have topics to discuss which are specific to this orthopedic speciality, such as the required position for the patient on the operating room bed, the metal fixation system required for fixing a fracture, or the necessary postoperative dressings. If a briefing template were to be created, this could be used as a guide to ensure all key topics are discussed during the briefing.

Another potential next step could include implementing an electronic SSC. Currently the SSC at this large Midwestern hospital is a paper copy; electronic checklists could offer additional features which could improve compliance and enhance communication throughout the patient care episode. If the entire surgical team could see the SSC on a monitor, this in turn could help in participation. Norton (2012) described, "interactive electronic checklists are displayed on monitors in operating rooms, which helps to facilitate team participation" (p. 10). This interactive method could improve patient safety by prohibiting teams from skipping steps (Norton, 2012). Electronic checklists can assist with immediate documentation, confirming the SSC was completed. They can be customized for each patient, procedure, or diagnosis thus safeguarding against the standardized *one-size-fits-all* SSC (Norton, 2012). Electronic checklists, according to Norton (2012), "can help to improve compliance by providing triggers, encouraging dynamic teamwork, preventing reliance on memory, eliminating skipped steps, and helping to avoid checklist fatigue" (p. 10).

Although the SSC and briefings are being applied, another safety step would involve a debriefing. This debriefing would happen at the end of the surgical procedure, would involve the entire surgical team, and would allow the team to describe specific portions of the procedure that went well or specifically identify what could use improvement. Wahr et al. (2013) described, "debriefings are intended to facilitate sharing of what was learned after a complex task has been completed and often include the questions, 'What went right today?' and 'What can we do to make sure tomorrow goes more smoothly?" (p. 1145).

Future research exploring debriefings should be done to see if they would provide safety value or if they would enhance teamwork. I would also evaluate if a speciality specific template would be of some benefit or if it could hinder communication. I have personally seen a template attempt at this large Midwestern hospital in another speciality section other than orthopedics. A concern I have would be who would fill out this template and how would it accompany each patient, or would one template be used for all the patients for the day? Another concern would be if this template paper was handed to the team instead of having the entire teams gather for the briefing. Another research topic could be monitoring if an electronic SSC could improve completion of the SSC.

Implications for Advancing Nursing Practice

The initial implementation of the SSC and briefings in 2009 at this large Midwestern hospital were not meeting the required 100% compliance rate consistently. This was due in part to inadequate communication styles which did not foster a team environment. Circulators felt as if they were to govern the SSC instead of having the full surgical team participate in its completion. Some staff was afraid to speak up for fear of being demeaned. By enhancing communication through the use of tools and vignettes learned in the TeamSTEPPS® training, staff participation within the team improved. By having full surgical team participation and thorough communication and teamwork, a safer environment is created because the circulator is less stressed. The conceptual (see Appendix D) model depicts the importance of the connection of concepts to one another to provide patient safety.

Circulators have a direct effect on the compliance of the SSC because they are most often the one who initiates and documents on this safety tool (McDowell & McComb,

2014). Because of this, circulators "have great opportunities to gain increased understanding of the relevance of performing checklists" (McDowell & McComb, 2014, p. 134). This could provide for educational or research opportunities and provide valuable feedback regarding the relevance of using a SSC.

Implications for nursing leadership include the ability to recognize that team building doesn't happen overnight. Nurse leaders are often responsible for managing several different job classifications of staff. Developing relationships with each of these staff classifications requires nurse leaders to role model and communicate the expectations that are essential to create teams which could function well together, thus improving patient safety. The expectations for nurse leaders would be to spend more time in work areas, and allow staff to see firsthand how they should be interacting with surgeons by setting positive examples.

During future TeamSTEPPS® training, the role of the nurse leader will be vital to foster a strong culture of safety. Russ et al. (2013) revealed, "a strong safety culture will increase the chance of checklist being used in the 'true spirit' rather than simply being seen as a bureaucratic irritation" (p. 870). It is inevitable that there will be more training required as new staff join the work force at this large Midwestern hospital, as some could bring ideas which will generate additional projects. Leaders showing active engagement in these future projects will send a message of high priority to improve communication to the staff involved.

Continued monitoring of the compliance regarding the use of the SSC and briefings will be required. The literature review has recognized inadequate information and knowledge transfer combined with poor coordination of care are frequently identified as

underlying causes of errors in the operating room (Cima & Deschamps, 2012). The compliance must remain at 100% to necessitate appropriate communication which augments the surgical team, to prevent operative errors. Medical errors associated with harm have a profound negative impact on patients and their family, and errors are directly associated with significant increases in direct and indirect healthcare costs (Cima & Deschamps, 2012).

The perioperative environment challenges healthcare professionals because of highly variable conditions such as complex surgical procedures and working in diverse teams. Safety tools such as SSCs and briefings can provide a standard of care for the surgical patient. These tools require the entire surgical team to actively participate and communicate the safety information needed for the joint effort of creating an error free operative intervention for the surgical patient.

The project goal at this large Midwestern hospital was to increase compliance of the SSC usage and provide communication tools which would enable the surgical teams to speak up if needed. Nursing leadership was required to role model and encourage staff to form surgical teams that worked together to foster a culture of safety. Watson's (2008) theoretical framework of human-to-human caring guided this project by providing caring behaviors of authentic presence and basic needs. The team-based training that was provided by TeamSTEPPS® improved communication and enabled more efficient surgical teams, thus improving the compliance of both the SSC and briefings.

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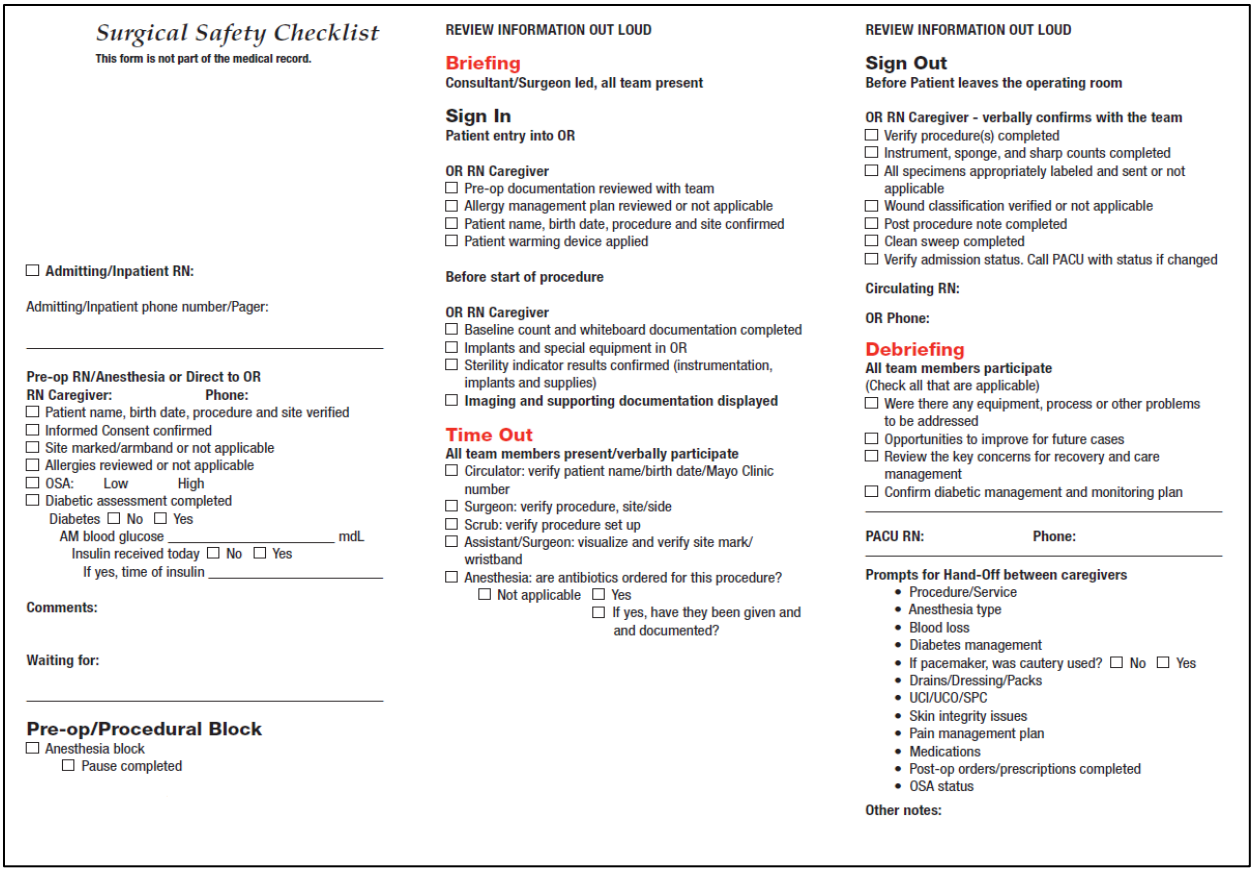
Appendix A: Surgical Safety Checklist



Surgical Safety Checklist

This form is not part of the medical record.

☐ **Admitting/Inpatient RN:**

Admitting/Inpatient phone number/Pager:

_____

Pre-op RN/Anesthesia or Direct to OR
RN Caregiver: **Phone:**
☐ Patient name, birth date, procedure and site verified
☐ Informed Consent confirmed
☐ Site marked/armband or not applicable
☐ Allergies reviewed or not applicable
☐ OSA: Low High
☐ Diabetic assessment completed
Diabetes ☐ No ☐ Yes
AM blood glucose _____ mdL
Insulin received today ☐ No ☐ Yes
If yes, time of insulin _____

Comments:

Waiting for:

_____

Pre-op/Procedural Block
☐ Anesthesia block
☐ Pause completed

REVIEW INFORMATION OUT LOUD

Briefing
Consultant/Surgeon led, all team present

Sign In
Patient entry into OR

OR RN Caregiver
☐ Pre-op documentation reviewed with team
☐ Allergy management plan reviewed or not applicable
☐ Patient name, birth date, procedure and site confirmed
☐ Patient warming device applied

Before start of procedure

OR RN Caregiver
☐ Baseline count and whiteboard documentation completed
☐ Implants and special equipment in OR
☐ Sterility indicator results confirmed (instrumentation, implants and supplies)
☐ **Imaging and supporting documentation displayed**

Time Out
All team members present/verbally participate
☐ Circulator: verify patient name/birth date/Mayo Clinic number
☐ Surgeon: verify procedure, site/side
☐ Scrub: verify procedure set up
☐ Assistant/Surgeon: visualize and verify site mark/wristband
☐ Anesthesia: are antibiotics ordered for this procedure?
☐ Not applicable ☐ Yes
☐ If yes, have they been given and and documented?

REVIEW INFORMATION OUT LOUD

Sign Out
Before Patient leaves the operating room

OR RN Caregiver - verbally confirms with the team
☐ Verify procedure(s) completed
☐ Instrument, sponge, and sharp counts completed
☐ All specimens appropriately labeled and sent or not applicable
☐ Wound classification verified or not applicable
☐ Post procedure note completed
☐ Clean sweep completed
☐ Verify admission status. Call PACU with status if changed

Circulating RN:

OR Phone:

Debriefing
All team members participate
(Check all that are applicable)
☐ Were there any equipment, process or other problems to be addressed
☐ Opportunities to improve for future cases
☐ Review the key concerns for recovery and care management
☐ Confirm diabetic management and monitoring plan

_____

PACU RN: **Phone:**

_____

Prompts for Hand-Off between caregivers
- Procedure/Service
- Anesthesia type
- Blood loss
- Diabetes management
- If pacemaker, was cautery used? ☐ No ☐ Yes
- Drains/Dressing/Packs
- UCI/UCO/SPC
- Skin integrity issues
- Pain management plan
- Medications
- Post-op orders/prescriptions completed
- OSA status

Other notes:

Retrieved from Mayo Intranet

Appendix B: Readiness Assessment

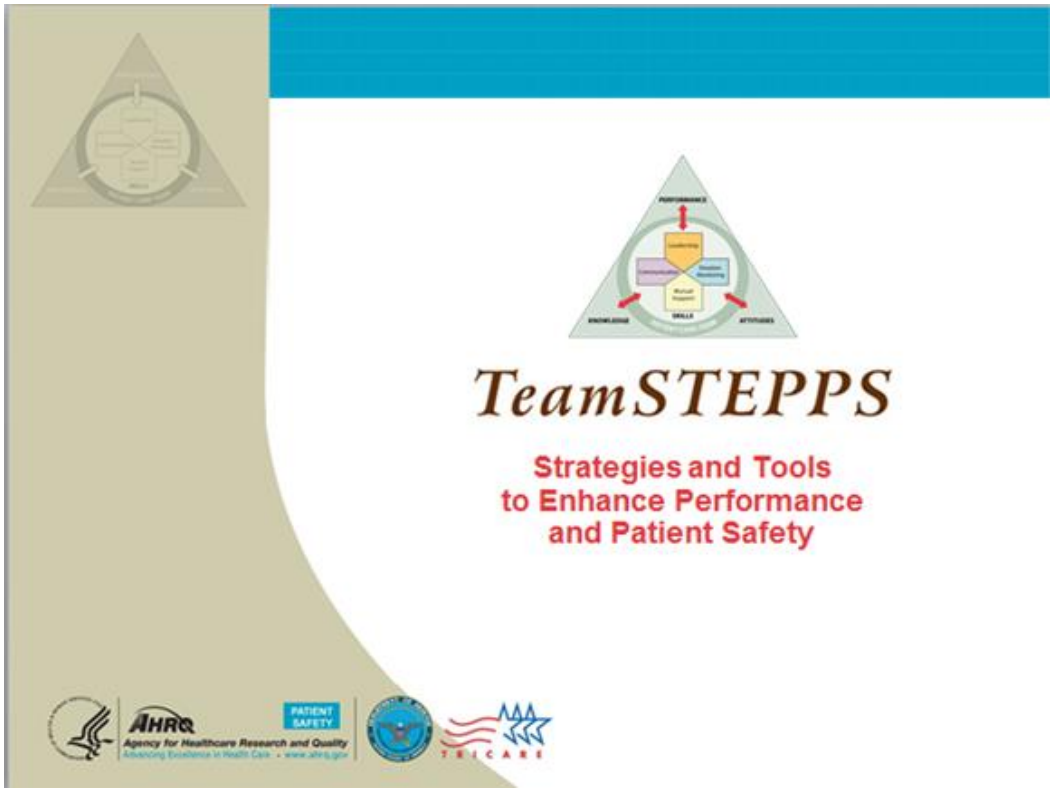
Organizational Readiness Assessment Checklist

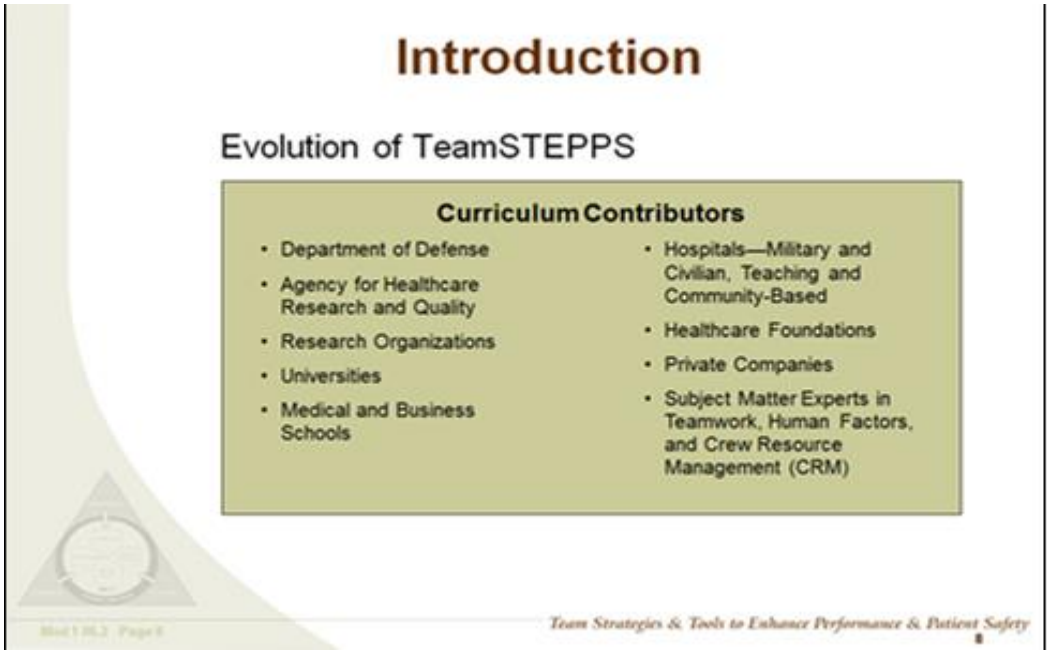
Record your responses to the questions below:

Questions	Response
Defined Need	
1. Have you clearly defined the need that is driving your institution to consider implementing TeamSTEPPS? Explain	○ Yes ○ No
2. Is building a stronger teamwork and safety culture an appropriate strategy to address your institution's need? Explain	○ Yes ○ No
Readiness for Change in Culture	
3. Is now the right time for implementing a culture change (i.e., it will not compete with other major changes currently being made at your institution)? Explain	○ Yes ○ No
4. Is a culture change that emphasizes the importance of teamwork and safety feasible and acceptable? Explain	○ Yes ○ No
5. Will your institution's leaders support culture change and the effort required to implement and sustain the TeamSTEPPS initiative? Explain	○ Yes ○ No
Time, Resources, Personnel	
6. Will your institution provide sufficient staff with the necessary characteristics and attitudes to serve as instructors? Explain	○ Yes ○ No
7. Will your institution provide sufficient staff with the necessary characteristics and attitudes to serve as coaches? Explain	○ Yes ○ No
8. Will your institution allow time to prepare the instructors and coaches for their role? Explain	○ Yes ○ No
9. Will your institution allow time for personnel to attend training? Explain	○ Yes ○ No
10. Will your institution allow time for instructors to potentially customize the course? Explain	○ Yes ○ No
Sustainment of the Change	
11. Will your institution be willing to measure and assess progress and continuously improve processes? Explain	○ Yes ○ No
12. Will your institution be able to reinforce and reward positive teamwork behaviors and improvements in processes? Explain	○ Yes ○ No

Retrieved April 1, 2015, from http://TeamSTEPPS®.ahrq.gov/readiness

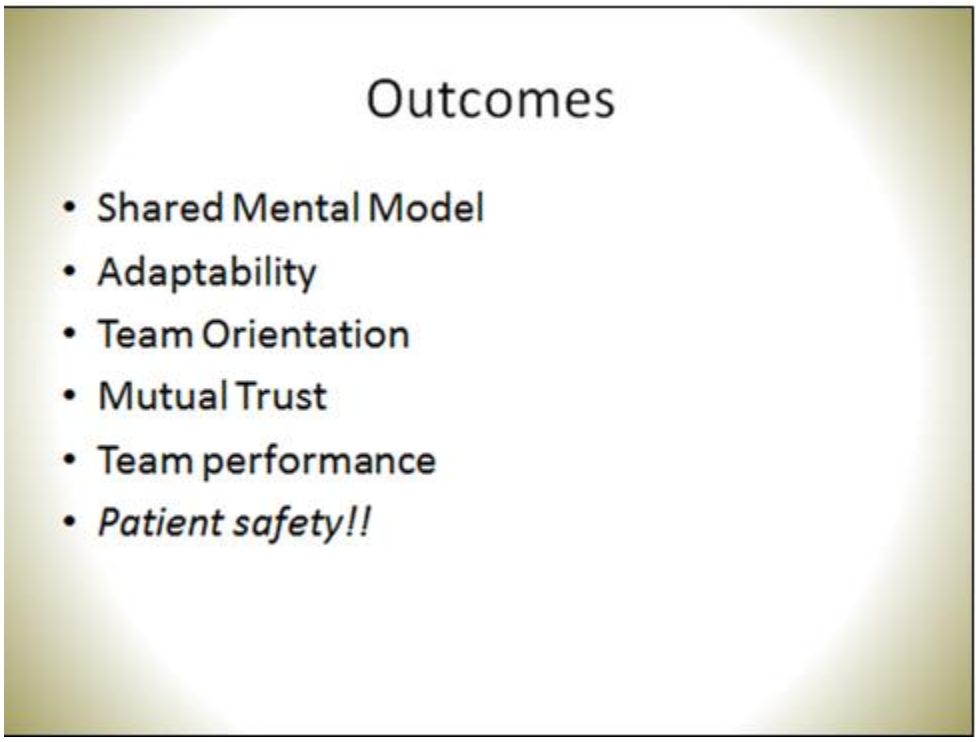
Appendix C: Leadership Presentation of TeamSTEPPS®





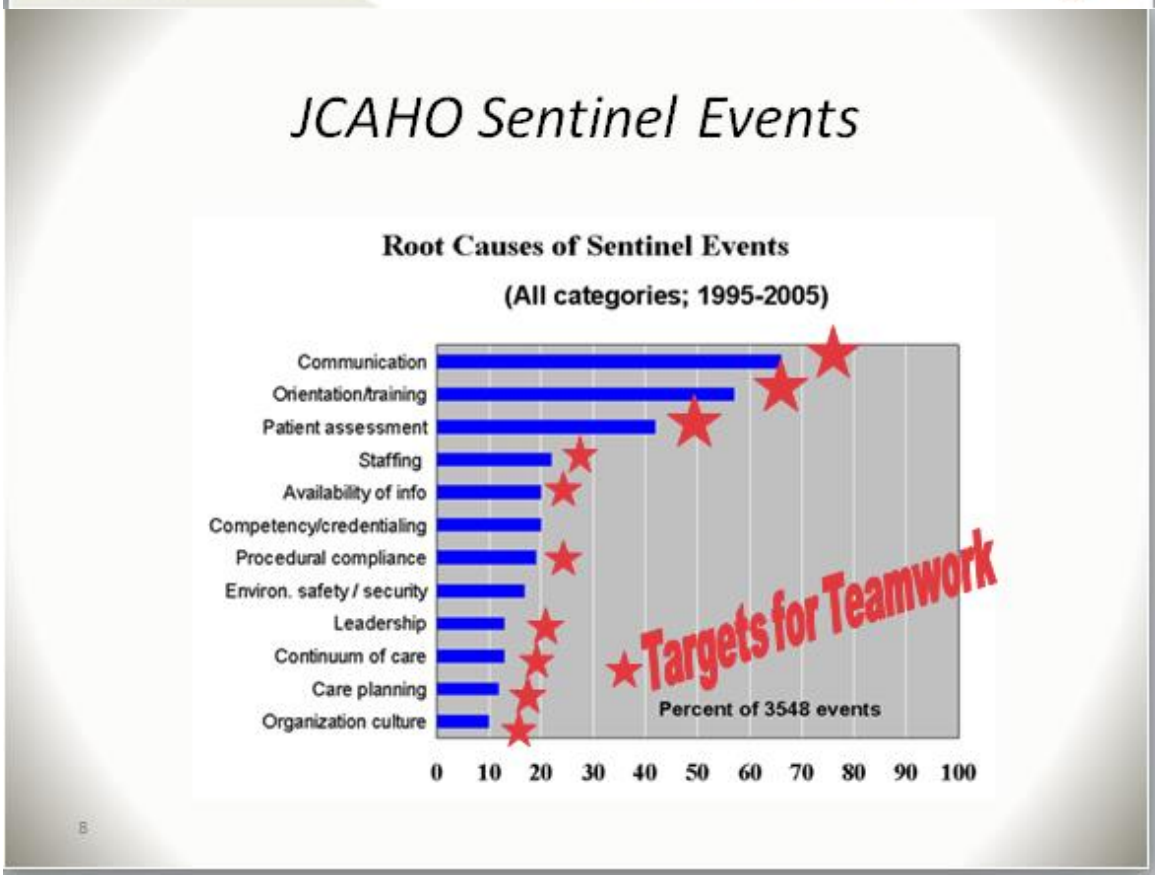
After the initial introduction of the evolution of team steps, a few of the training staff created a vignette of a proper briefing. For comparison, the training team then performed a poor briefing. The following presentation provides the intention and goal of team-based training.

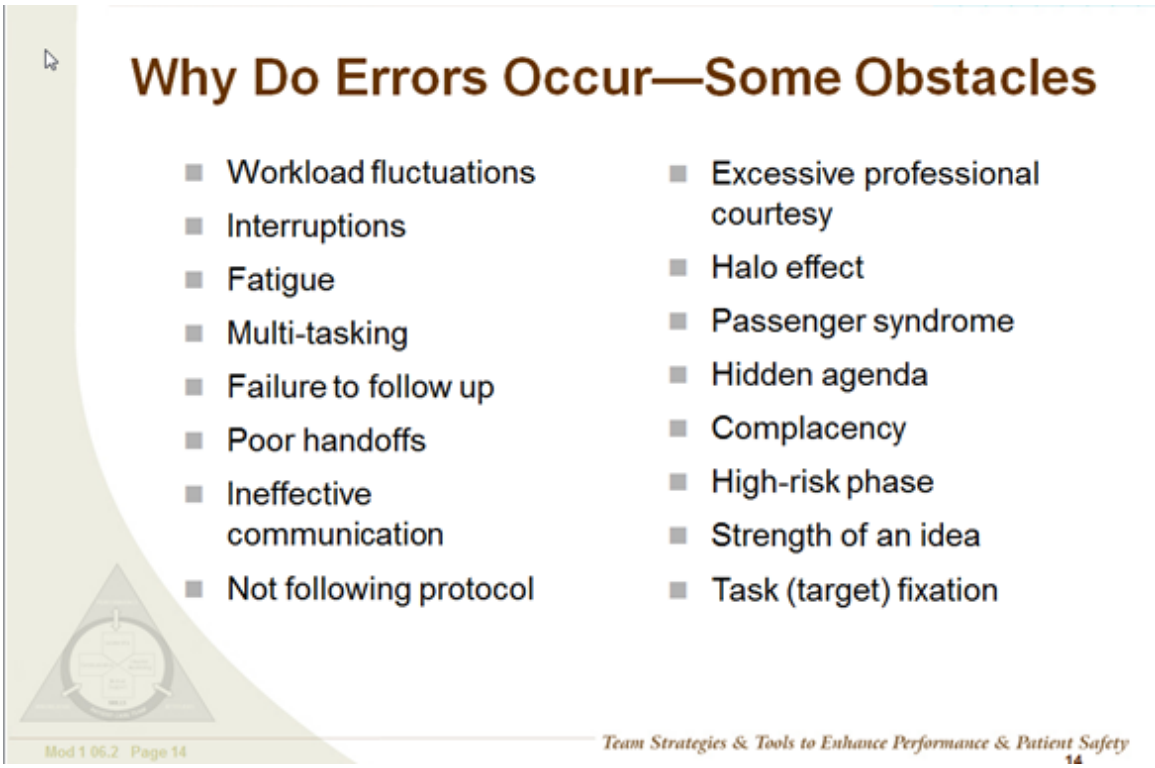
Identification of the four core areas involved in the team-based training.

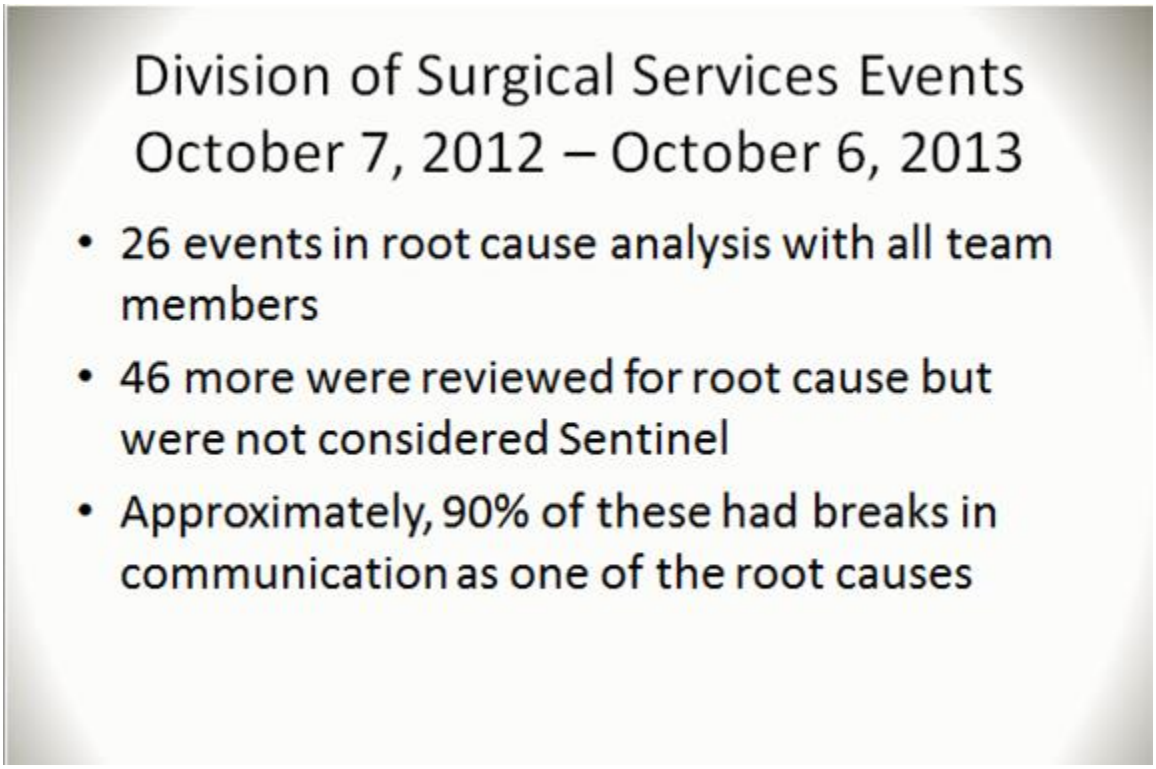


Desired outcomes from successful implementation on team-based training.


The Components of a Patient Safety Program
TEAM TRAINING
REGULATORY COMPLIANCE
PROCESS IMPROVEMENT
ORGANIZATIONS SHARING/COLLABORATING
EDUCATION
RESEARCH & DEVELOPMENT
REPORTING/DATA COLLECTION
INNOVATIONS/ LESSONS LEARNED
Culture of Safety
Team Strategies & Tools to Enhance Performance & Patient Safety
11


JCAHO Sentinel Events
Root Causes of Sentinel Events
(All categories; 1995-2005)
Communication
Orientation/training
Patient assessment
Staffing
Availability of info
Competency/credentialing
Procedural compliance
Environ. safety / security
Leadership
Continuum of care
Care planning
Organization culture
Targets for Teamwork
Percent of 3548 events
0 10 20 30 40 50 60 70 80 90 100
8





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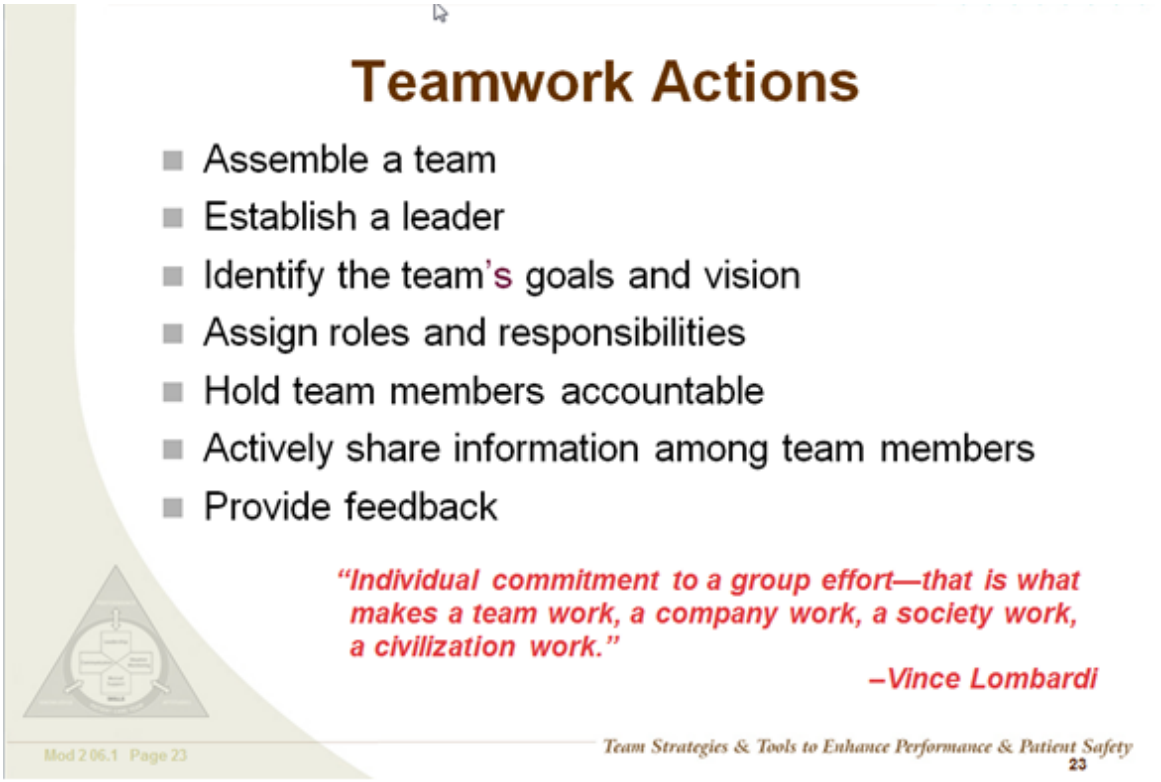
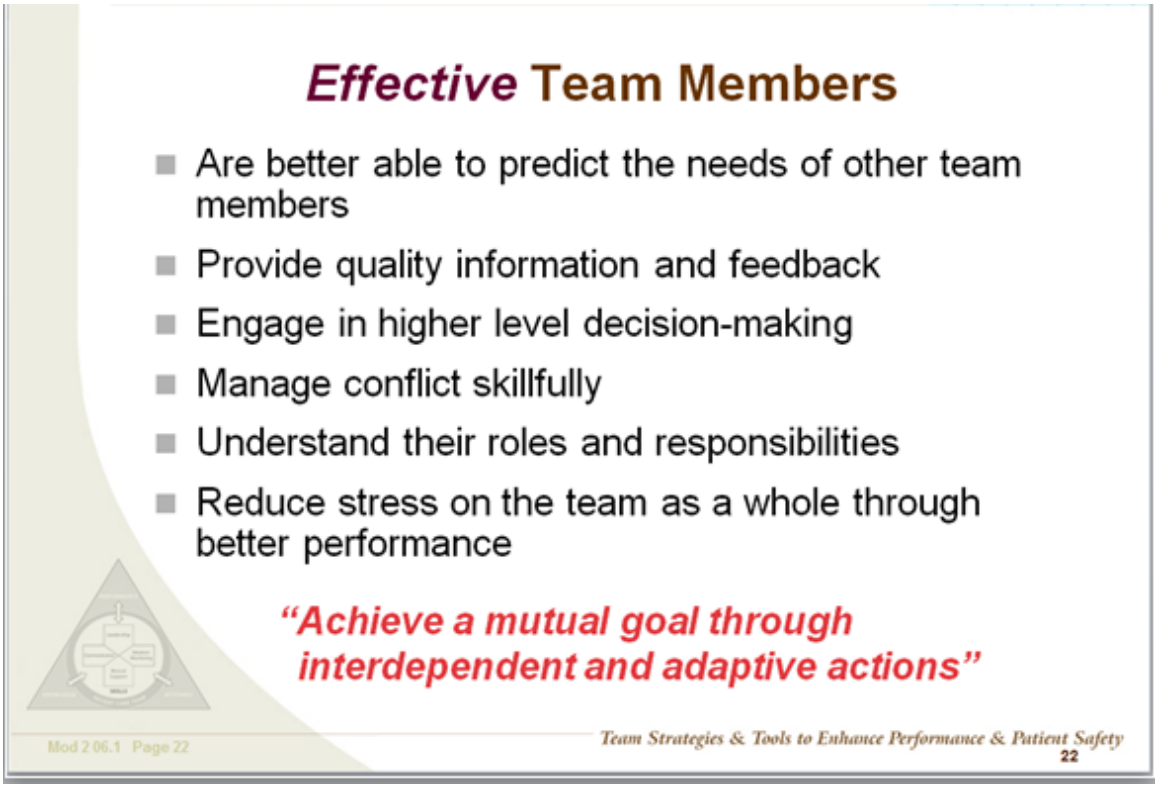
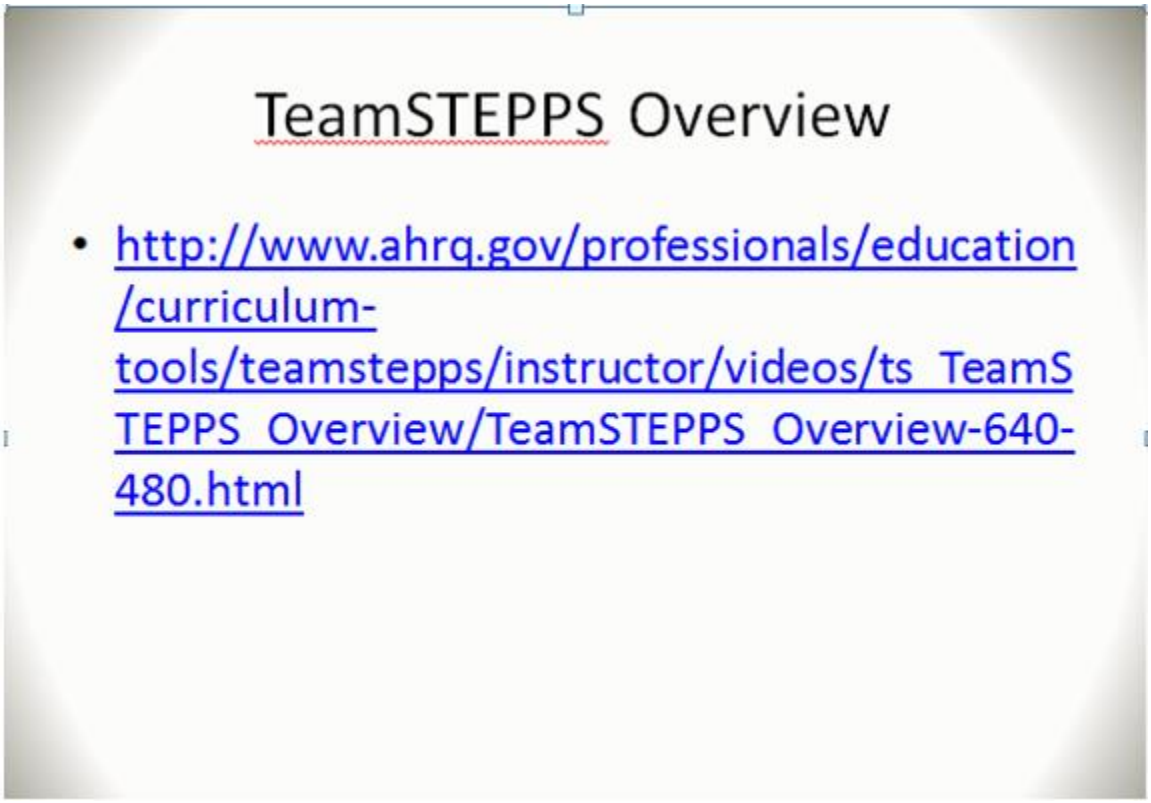


Discussion regarding effective teamwork actions, thus improving briefings.

Literature supported barriers to team performances.


Effective Team Members
Are better able to predict the needs of other team members
Provide quality information and feedback
Engage in higher level decision-making
Manage conflict skillfully
Understand their roles and responsibilities
Reduce stress on the team as a whole through better performance
"Achieve a mutual goal through interdependent and adaptive actions"
Mod 2 06.1 Page 22
Team Strategies & Tools to Enhance Performance & Patient Safety
22


TeamSTEPPS Overview
http://www.ahrq.gov/professionals/education/curriculum-tools/teamstepps/instructor/videos/ts_TeamSTEPPS_Overview/TeamSTEPPS_Overview-640-480.html

Appendix D: Effective Surgical Team

Figure 1: Learning Observation Audit Structure

Indicators:	Yes	No	NA	% Met	% Met Previous Month/Quarter
Briefing					
1. Entire surgical/procedure team is enganged in the briefing.	101	0	1	100.0	96.3
Surgical Safety Checklist					
2. All appropriate team members involved, checklist actively used (readily available, used as a reference throughout the procedure), and Preop portion is completed.	93	7	2	93.0	98.1

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Figure 2: Quality Learning Observations for SSC

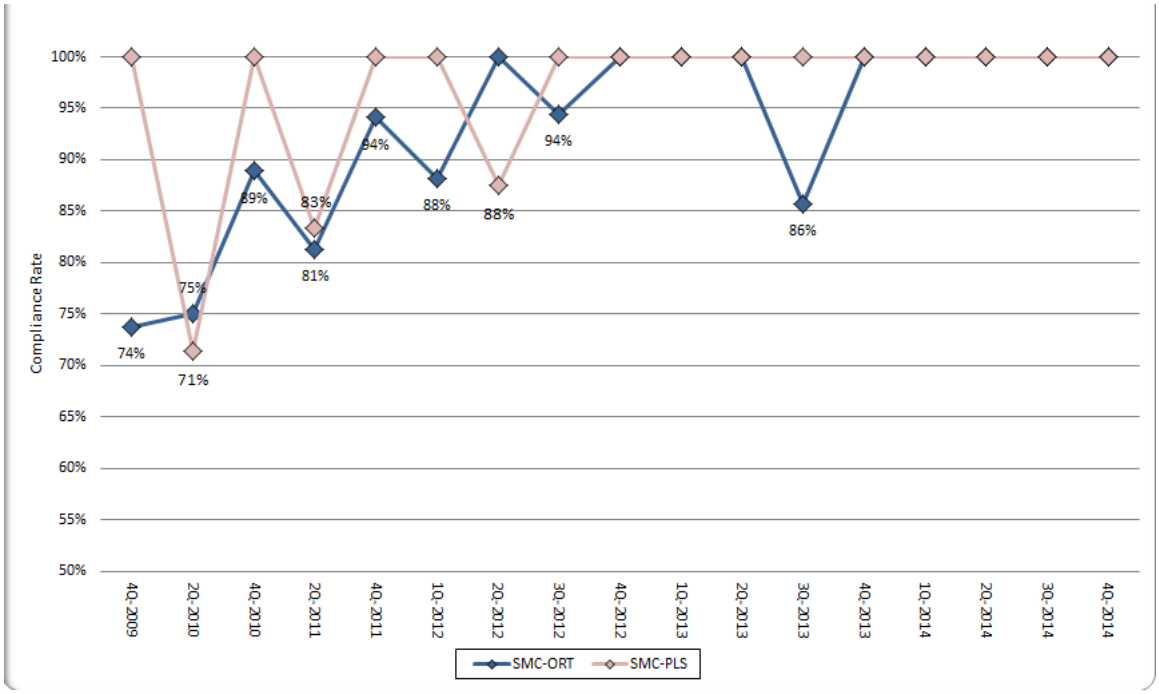

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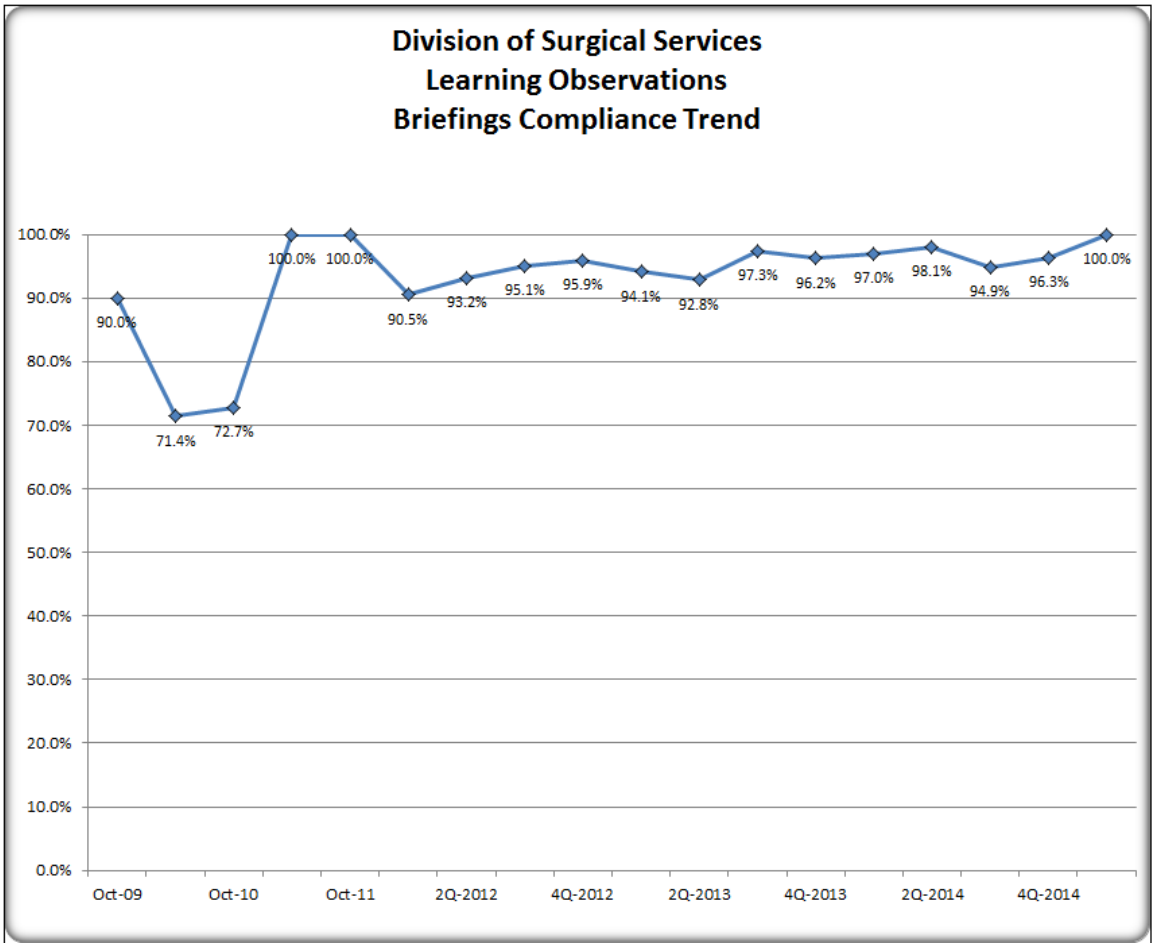
Figure 3: Quality Learning Observations for Briefings



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