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Minimizing Diagnostic Error:
10 Things You Could Do Tomorrow

Lists for physicians, patients, and healthcare organizations

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Despite its obvious importance, diagnostic error has to a great extent been ignored in the world of patient safety. Strategies for finding the actual incidence of misdiagnosis, and beyond that, the diverse sorts of cognitive and procedural blind spots that cause it, are still in their relative infancy. But in the last few years, data is starting to emerge. After first reviewing these findings, I offer some practical tips on how physician practices and healthcare systems can minimize the likelihood of misdiagnosis. Note that there are different considerations here for each of the parties involved: patients, their physicians, and healthcare organizations.

Diagnostic error gets short shrift

In a recent article, I and two of my colleagues noted the dearth of attention paid to delayed, missed, and incorrect diagnosis: “Diagnosis apparently gets overlooked in most efforts to ensure quality and safety.” [1] Tellingly, in the 1998 Institute of Medicine report, To Err Is Human, the term “medication error” was mentioned 70 times, while “diagnostic error” appeared only twice. Yet, in 2002 Lucien Leape et al.[1] estimated from autopsy data that diagnostic errors were responsible for some 40,000 to 80,000 deaths every year. More recently, estimates of the diagnostic error rate in ambulatory practice suggest that one out of every 1000 diagnostic encounters results in harm from a diagnostic error.[2] Applying these figures to the average-sized hospital suggests that diagnostic error will be harm one patient every day in ambulatory care, and be responsible for 5 - 10 patient deaths per year.

Despite these figures, and the voluminous data on the prominence of diagnostic error in medical professional liability (MPL) claims, physicians seem somehow to think that such errors are in fact the problem for the other fellow, physicians less careful or less well trained. How can we explain this yawning discrepancy between the estimated rate of diagnostic error (10% of diagnoses are wrong, according to best estimates), and the physician’s perception that the quality of their care is excellent? First, the vast majority of diagnostic errors, fortunately for all concerned, don’t result in harm. The error is inconsequential, or is caught, or harm is mitigated. Secondly, diagnosis plays out over time and over different healthcare settings. A diagnostic error might not be appreciated until later on, further on down the line. Third, the culture of medicine is such that physicians are reluctant to notify upstream colleagues that the diagnosis changed. And finally, the odds of a truly catastrophic outcome are rare – using the figures provided above, the average busy physician might be involved in just 1 or 2 cases of fatal error over a lifetime of practice, and may never learn about these cases even if they occur.

Let’s also acknowledge the fact that physicians actually do a remarkable job with diagnosis, given the fact that there are over 10,000 diseases, and that the presentations of these disease are typically non-specific.
Solid numbers on prevalence

Determining the actual incidence of diagnostic error has proved to be a daunting task. And yet this information is essential for any studies that seek to understand it. The current estimates of the diagnostic error rate derive from several different types of research approaches, each with its advantages and its corresponding limitations as well. [3]

Data from autopsies are considered the “gold standard”; they furnish precise information on the discrepancy between inpatient diagnosis and postmortem findings. However, autopsies are increasingly rare in the U.S. Other researchers have used surveys, of both patients and doctors, to elicit information on errors in diagnosis. Roughly half of physicians, in such surveys, have said that they encounter diagnostic errors nearly once a month. The use of standardized patients—real or simulated patients assuming the classical symptoms of diseases commonly encountered—makes it possible, because so many elements are controlled, for researchers to delve into the cognitive and other factors that may hinder the process of achieving a correct diagnosis. Diagnostic error rates in such studies are in the range of 10 – 15%.

Data from closed claims are important resources for learning about misdiagnosis. The PIAA’s Data Sharing Project (DSP) currently holds more than 260,000 claims, and problems related to diagnostic error are the most common allegation cited in lawsuits, just as in every other large malpractice claims database in the U.S. In these claims, both the final diagnosis and the diagnosis made by the treating physician are explicitly identified. (See box for more detailed information about what is revealed via the DSP, in regard to diagnostic error.)

Some promising new approaches to measuring the incidence of diagnostic error include “trigger tools” (EHRs provide alerts on cases at high risk of diagnostic error) and asking physicians and patients to report any errors they see, voluntarily.[2, 4]

When do errors occur?

In one such study, researchers investigated 190 unique instances of diagnostic errors that were picked up via two trigger queries: one linked with a hospital stay that happened within 14 days after a primary care visit, and the other specifying an emergency department, urgent care, or second primary care visit, again 14 days or less after the original visit.[2] Most of the diagnoses missed were of common conditions, like asthma, pneumonia, and anemia. Several other studies have confirmed this finding – its not rare diseases causing most problems, it’s the common ones. [5] Of particular interest are the chief presenting symptoms implicated in cases of diagnostic error and again it’s the common complaints that top the list: Cough, abdominal pain, shortness of breath, and back and chest pain. The authors comment that of the conditions linked with diagnostic errors, “these conditions were highly variable and sometimes did not bear any obvious direct relationship to the condition that was missed.”

Notably, the cases of diagnostic error in malpractice claim series involve missed or delayed diagnosis of cancer or cardiovascular conditions.

Most diagnostic errors involve a breakdown in the sequential diagnostic processes involving a patient and the physician. In the series just quoted by Singh et al, errors were linked with taking a patient history...
Let’s also acknowledge the fact that physicians actually do a remarkable job with diagnosis, given the fact that there are over 10,000 diseases, and that the presentations of these diseases are typically non-specific.

— Mark L. Graber, MD, FACP
to patients and their physician peers
4. Ensure there is Radiology coverage on WHEN
tours to read stat films
5. Close the loop on diagnostic test results; Send
results to patients; Monitor how many critical test
results are acted upon within 30 days
6. Ensure that providers on vacation have designated
a surrogate to review test results
7. Encourage accurate problem lists, and a differential
diagnosis
8. Establish ways for providers to receive feedback on
their diagnoses
9. Encourage autopsies or virtuopsies
10. Ensure senior clinicians review all new cases with
trainees in real time
11. Encourage and facilitate communication between
frontline clinicians and physician staff in radiology
and the clinical laboratory
12. Use root cause analysis to identify remediable
system-related contributions to diagnostic error; Host
“Morbidity and Mortality” conferences with staff to
review these cases
13. Empower nurses to become involved in
improving diagnosis: Monitor for new or resolving
symptoms, ensure tests get done, facilitate
communication between patients and providers
14. Empower patients to be proactive in their care,
to take advantage of second opinions, and to provide
feedback on diagnostic errors

Steps patients can take to avoid diagnostic
errors
1. Be a good historian; Keep records of your
symptoms, when they started, and how they have
responded (or not) to treatment
2. Take advantage of cancer screening
3. Make sure you know your test results and keep
accurate records of these results. Don’t assume no
news is good news. Follow up if you don’t receive
copies or the results of tests and consults
4. SPEAK UP! Ask:
   a. What else could it be?
   b. What should I expect?
   c. When and how should I follow up if symptoms
      persist or worsen?
   d. What resources can I use to learn more?
   e. Is this test worthwhile? Can we wait? (More
testing does not always mean better care!)
5. Don’t assume the healthcare system will adequately
coordinate your care. Keep your own records, and help
coordinate your own care

6. Provide feedback about diagnostic errors to
providers and organizations
7. Understand that diagnosis always involves some
element of uncertainty.
8. Get a second opinion regarding serious diagnoses or
unresolved symptoms
9. Take advantage of help and support: Support
groups, patient safety staff, patient advocates

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Surgical Team Debriefing and Follow-Up: Creating an Efficient, Positive Operating Room Environment to Improve Patient Safety

Experience from the Memorial Healthcare System, Florida

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Abstract
Crew Resource Management (CRM) training includes teamwork, communication, decision making, and the routine usage of checklists and protocols. The principles of CRM were developed in high-risk, high-reliability industries where mistakes cause disastrous consequences. In recent years, CRM practices have been introduced to hospitals to improve patient safety. This paper examines the role of debriefing in the operating room, in helping to make the surgical suite safer for patients. As one of CRM’s most powerful tools, debriefing improves communication across disciplines, provides a means for practice improvement, and assures that equipment, personnel, and technology issues are identified and addressed. Communication among professionals in the operating room and the practice of debriefing will be discussed through an examination of the experience of the anesthesia and surgical teams at Memorial Regional Hospital and Joe DiMaggio Children’s Hospital in Hollywood, Florida. It was found that the debriefing tool supports continuous process improvement by encouraging each team member to creatively identify solutions to issues encountered during the perioperative period.

Keywords: Briefing-debriefing; Crew resource management; Patient safety

Introduction
Despite continuous improvements in surgical and anesthesia techniques, including the use of less invasive surgical approaches, preventable medical errors account for more deaths annually than breast cancer, automobile accidents, or drowning.2 Poor communication among health care workers is widely recognized as the most common cause of these errors,3 with estimates ranging from 43% to 91% of adverse events and near misses in the operating room (OR) attributable to miscommunication.4-6 In response to preventable surgical errors, the Joint Commission Board of Commissioners has mandated strategies for improving communication, including the Universal Protocol for Preventing Wrong Site, Wrong Procedure and Wrong Person Surgery (2003) which emphasizes pre-procedure verification, site marking, and a time out.7,8

Hospitals have a vested interest in improving the communications among OR staff, but admonitions and behavioral sanctions are seldom sufficiently effective to reduce OR-related errors and the facility’s concomitant malpractice risk. All too often, the spirit of teamwork and collaboration is not present in a typical operating room setting due to an uneven power dichotomy: the surgeon is the one in charge; other staff members are present to support the surgeon’s role. But this one-sided approach discounts the insights and wisdom of others in the room, sometimes to the detriment of the patient.

The surgical arena is not the only environment that requires thorough communications, teamwork, and decision-making to ensure safety, but other industries have integrated Crew Resource Management (CRM) into their daily practices as a way to promote teamwork, communication, decision making, and the usage of checklists, specific protocols, and algorithms.

CRM-based team training has an excellent track record in overcoming communication and collaboration causes of adverse events in such high-risk, high-reliability industries as aviation, nuclear power, and military operations.9-11 In these industries, CRM has contributed to an 86% decrease in the risk of dying on a U.S. major jet air carrier since the 1990s,12 a 52% reduction of military transport squadrons accidents, and an 81% decrease in U.S. Navy Intruder squadrons accidents, among others.13

With miscommunication significantly contributing to the volume of preventable medical errors, some hospitals have begun to tap into CRM training in recent years and document its positive effects on reducing both surgical mortality and OR delays.14-16 While full CRM implementation is multifaceted, this paper addresses how surgical team debriefing following the completion of a surgical procedure is key to creating a culture that continuously improves patient safety.

Materials and Methods
Setting
Memorial Healthcare System (“Memorial”), the fifth-largest public health care system in the nation, has a reputation for providing advanced medicine and technology, and high quality health care services to South Florida residents through its 6 hospital facilities. Memorial and its facilities have earned many awards and accolades including the American Hospital Association’s “Living with the Vision” and Foster G. McGaw awards, for which Memorial was selected from more than 5,000 hospitals as the national model for improving the health of the community. Memorial Regional Hospital, the flagship facility of the health care system and one of the largest hospitals in Florida, offers extensive health care services including Memorial Cardiac and Vascular Institute, Memorial Cancer Institute, and Memorial Neuroscience Center. The value of debriefing and communication was explored among OR professionals from Memorial Regional Hospital and Joe DiMaggio Children’s Hospital.

CRM Tools
CRM training was introduced within Memorial in late 2007 with the goals of creating a culture for patient safety through improved communication, teamwork, and decision making among professionals in its operating suites. The assistance of a hospital consulting group with considerable experience in CRM Patient Safety programs was enlisted to help improve patient safety throughout the hospital system. Hospital executives and physician department chairs, in concert with Memorial’s consultants, began introducing teamwork and communication training to each department. Since buy-in from hospital leaders and key physicians was priority, Memorial’s team members worked together to develop specific tools and expected behaviors that would help each of them position patient safety at the forefront of everyone’s job.

A key element in the communication rigor established through CRM is the time out, which empowers each team member to be responsible for patient safety conducted just prior to surgical incision, the time-out statement concludes with the safety reminder: “If you see anything you think is unsafe, I expect you to speak up, look for red flags, and use the word ‘delta!’ anytime a full stop is needed.” When any member of the team calls ‘delta,’ that statement requires all action to cease because a team member has identified a serious patient safety issue that requires assessment by the team before proceeding. The willingness of staff to speak out in this way is predicated on strong commitment by top personnel to build an institutional culture for patient safety.

Other CRM tools, such as debriefing, are aimed at increasing communication across disciplines. In a study by Zuckerman, et al, debriefing is described as a process that allows individuals to discuss team performance in a constructive, supportive environment—a process which has been linked to improvements in specific procedures, teamwork and communication, and error identification.17 The Bandari et al. study
demonstrated that briefings and debriefings were a practical and successful means of identifying both clinical and operational errors in surgical care.

The OR team debriefing is a very fast postoperative meeting with all members present from a surgery. The lead surgeon calls for input and, with an intentional twist on convention, the least senior member of the team is invited to speak first. The questions to be addressed during the debriefing are:

- What went well?
- What needs improvement (in terms of systems, supplies, staffing, and communications issues)?
- How can these improvements happen?

As demonstrated in these questions, the practice of debriefing provides an opportunity for all involved to identify both what went right with the case and what aspects could have been improved, as also noted in a study by Ahmed et al. that identifies best practices in surgical debriefing across 3 continents. In this manner, the intent is to hardwire teamwork behaviors and open communication into the daily standard of care.

Implicit in the practice of debriefing is the act of follow-up by the institution. Follow through provides an opportunity for continuous improvement not only from the perspective of the team members’ performance but also for the identification of environmental aspects (equipment, supplies, physical layout, etc.) that require attention before the next surgery. Items generated from the previous day’s debriefing are reviewed in the morning OR report by the surgical director, giving staff the assurance that the work they are doing in the debriefing is being put to good use. It is the responsibility of the circulator to communicate specific problems identified in the debriefing session to specific individual(s) who would be responsible for taking corrective action, generally within 12-48 hours. For example, if missing equipment or instruments were noted, those items would be reported to the equipment sterile processing department. If one of the team members could not properly operate a piece of equipment, that person would be referred to the person in charge of OR personnel for follow-up education. Likewise, Bandari et al. describe how the list of defects identified during briefing and debriefing should be sent to administrative personnel on a weekly basis.18 (An example form used during the debriefing process is shown in Figure 1, and an example of how the circulator will communicate follow-up issues to the various hospital departments is shown in Figures 2 and 3 on the following pages) As in Berenholtz’s study, Memorial’s staff members use this information for continuous process improvement and feedback to hospital personnel.

The Results

Through CRM training that emphasizes communication and standardized processes, Memorial has experienced outcomes that include improved quality, improved safety, reduced untoward outcomes and sentinel events, improved patient experience, and improved patient satisfaction. Although it is a natural and inevitable human condition to revert back to poor habits, CRM eliminates such process and protocol variability, substantially reducing this creep towards previous habits by requiring conscious effort and concentration at the point of care.

Memorial saw significant increases in safety, communication, and satisfaction in every hospital as a result of implementing CRM and as evidenced through Memorial’s safety culture survey scores. A year following the implementation of CRM training, physician satisfaction increased substantially in every category, including perception of overall quality, place to practice, patient safety,
teamwork collaboration with nursing, and communication with nursing. In addition to physician satisfaction, Memorial’s staff members developed an extraordinary sense of teamwork combined with a high degree of personal responsibility to assure patient safety, as demonstrated by the 2010 safety survey. Here, teamwork within units and employee satisfaction experienced significant increases across every hospital. In this way, the standardization of communication procedures that CRM facilitated has created an environment where all employees are able to proactively contribute to patient safety.

CRM also contributed to significant improvement in terms of handoffs and transitions as well as improvements across other departments that utilized CRM training, including the radiation oncology department. Since implementing CRM in the radiation oncology department, none of its treatments have deviated from the treatment plan, and the department has been able to identify situations where ambiguity or conflicting documentation could have resulted in inappropriate treatment or significant patient harm. However, not all departments saw significant increases. While moderate or mild increases were also common, pockets of low performance did exist, too. These pockets of low performance may be due to lack of management commitment or support, fewer experienced employees, or other external events. Although some departments demonstrated weaker results than others, CRM has greatly affected each of Memorial’s 6 hospitals by instituting a wide-ranging organizational culture change.

**Examples**

To further demonstrate how debriefing works to facilitate teamwork and promote a better culture for patient safety, we present several examples—some fairly straightforward and some that address the very core of teamwork and communication issues within the operating suite. It is our intent to demonstrate how the actions generated from debriefing can range from quick fixes to much more detailed solutions.

**Environmental Factors**

During open-heart surgery, a monitor measures brain function and blood flow to the brain during cardiopulmonary bypass procedures. In one such procedure, the view of this monitor was obstructed by other equipment. Since the monitor’s information was not visible to all the staff, appropriate adjustments during the surgery were not made as quickly as they otherwise would have been. In the debrief, the OR staff noted this and made a recommendation for future equipment placement that is visible to all staff throughout the procedure.

**Protocol Development**

After separating a pediatric patient from cardiopulmonary bypass and experiencing difficulty ventilating the patient, the anesthesia team recognized that they should perform more frequent blood gas analysis to ensure that the patient is appropriately ventilating and oxygenating post bypass. In the debriefing that followed, the anesthesia team developed a protocol that is now used routinely to ensure optimal ventilator management for the patient after separation from cardiopulmonary bypass.

**Briefing Information**

In one cardiac debriefing session, the team identified that by routinely addressing the type of anticoagulant the patient is taking during the pre-surgical briefing sessions, each
team member would be more alert as to how it might affect the patient’s response to surgery. By incorporating information about the type of anticoagulant the anticoagulant is still in the patient’s system at the time of the surgery, greater focus can be brought to this issue prior to the procedure.

**Tunnel Vision**

A female patient was to receive a tracheostomy as a palliative measure. As is typical the surgical team expected a 30-minute procedure. However, the surgeon encountered difficult anatomy and consequently performed a major neck dissection and at one point considered aborting the procedure. After 90 minutes of surgery, convinced that he had identified the trachea, the surgeon placed a tracheostomy tube and asked that ventilation be initiated via the newly placed tracheostomy tube. It was immediately obvious that the tube was misplaced as there was no clinical evidence of ventilation and at this point the 3 anesthesiologists in the OR asked the surgeon to remove the tracheal tube so that the patient could be intubated transorally and ventilated. The surgeon insisted that he was in the airway.

Despite the anesthesiologists’ multiple invocations of delta (the signal to stop everything), he did not stop surgery and would not remove his hands from the field. The nursing staff present additionally invoked delta, but the surgeon did not respond to the other team members and continued with this course of action. The patient suffered a cardiac arrest secondary to progressive hypoxia. In desperation, one of the anesthesiologists reached with an unsterile hand into the surgical field and physically removed the surgeon’s hands so that the patient could be intubated transorally. The patient could not be resuscitated.

Here, the debriefing documented that the surgeon did not honor the delta. As a result, the Director of Medical Affairs counseled with the surgeon to make clear the expectations for communications in the operating room and response to delta. Moving forward, other operating room personnel have become empowered to move up the chain of command quickly whenever there is a concern about the effects of tunnel vision and a provider ignores delta.

**Staff Empowerment**

Upon arriving to the OR at 6:30 a.m., the anesthesia attending was greeted by 3 agitated nurses who had assisted with a combined neurosurgery, plastics, and ENT case that had begun the previous morning, approximately 22 hours ago. While obtaining a report from the departing night nurses, they were concerned about surgeon fatigue, the need to assess the patient’s status, the need for patient repositioning, and the appropriateness of keeping the patient under anesthesia for such a long period of time. With the knowledge that the Chief of Anesthesia was out of town, the attending realized that it was their responsibility to address this situation.

The anesthesiologist recounts that they marshaled courage to question the surgeon and call for a delta. The anesthesiologist indicated that they were documenting their request for a time out to ask some specific questions: Do you need extra help? Do you need another surgeon? Do you need any extra equipment? The anesthesiologist also requested that the patient’s coagulation and hematologic status be assessed, the patient be repositioned, and the advisability of proceeding to operate be discussed. The surgeon responded appropriately to the delta, the patient was assessed and repositioned, and the surgery was concluded quickly thereafter. In this case, the debriefing session identified such issues as the risks of keeping the patient under prolonged anesthesia, the need for periodic repositioning, and the importance of periodic reassessment when the procedure is prolonged. Additional cross departmental meetings led to the development of a protocol that requires an automatic delta after 8 hours for reassessment and joint planning. This new protocol will guide staff the next time a similar situation occurs. The anesthesiologist noted that the CRM training and strong support of superiors created a collaborative culture that empowered them to act on behalf of the patient and staff.

**Interventional Radiology Suites**

In addition to Memorial’s OR suite, quality and safety in Memorial’s Interventional Radiology Suites were improved due to the increases uniformity that the CRM process encourages. The reduction of untoward outcomes and sentinel events, improved experience and improved patient satisfaction were the result of the patient being included as a team member who could participate in the pause and call out any red flags of concern. Empowering the patient to ask questions has been found to increase the patient’s confidence in the physicians, team members, and overall experience.

**Discussion**

At the outset of the implementation of the CRM Patient Safety System at Memorial, a point of resistance by surgeons and anesthesiologists was the concern that debriefing would add time to the OR after the conclusion of the case. While the value of the routine use of debriefing is huge, the time required to do it is modest. In a study involving more than 37,000 cases in a large medical center, Berenholtz et al. found that debriefing took an average of 2.5 minutes to complete. Contrary to expectations, what Memorial’s OR teams have found is that debriefing actually makes their surgeries more efficient and take less time because less time is spent leaving the sterile field to acquire additional needed instruments or assemble equipment. In this way, the pivotal nature of the debriefing tool has been a major driver of change both in the daily practice of Memorial’s surgical suites, in terms of making things work more efficiently and effectively and in bringing about specific changes to protocols to assure patient safety.

Egalitarianism Raises New Challenges

Parallels with Military Debriefing Debriefing has been an important performance tool in the military since World War II when it was used to question soldiers at the conclusion of a mission,19 and it continues to be routinely used today by military flight personnel at the conclusion of every flight and mission. Drawing the parallel between military pilots...
and surgical teams, Zuckerman et al. noted that mistakes have drastic consequences, so the goal of debriefing is to minimize mistakes and to repeat them with lessening frequency.17

The act of reflection has been shown to be a critical element in adult learning,20 so it is not surprising that debriefing after military operations emphasizes the significance of learning from the experience.21 Furthermore, the more that people associate debriefing with ordinary events, the better debriefing can be integrated into a company’s everyday activities.22

Airborne Warning and Control System (AWACS) navigators, for instance, manage to keep debriefing top of mind throughout their missions, noting any problems encountered, especially if the problems will impact later parts of the mission.23 As noted by Armistead, the debriefing process may occur at multiple intersections during a mission: if the weapons unit is not controlling fighters, they will debrief their missions internally and prepare debriefs to send to the fighter pilots; during the flight home, the technicians will note any problems to debrief with maintenance. Then, after the crew secures the aircraft, they debrief among themselves to evaluate how well they accomplished their training objectives. In this way, AWACS navigators utilize 2 forms of debriefing: the individual crews have the mission debrief on the plane, and then each crew comes together to have a debriefing session as a whole.

The length of such AWACS missions may be analogous to a long transplant case where the surgeon will remain in surgery but the teams change, including anesthesia providers and other surgical team members, thereby having different crews start and finish the procedure. In cases like this, with extended timeframes and multiple “crews,” a joint mission debriefing at the end may be beneficial to ensure critical findings are not missed.

Short cases raise similar yet opposing questions about the need for debriefing. When asking whether or not debriefing is necessary after every short case when the same team is present, one can refer to the process of stealth fighters who often land and take off again without turning the engine off yet still complete a minute debrief over the radio. In the same manner, if a procedure takes a matter of minutes in the OR, the team should still quickly note if improvements or problems were found, and at the end of a series of 4 or 5 cases, the OR team can then take a more thorough look at the cases.

Egalitarianism and Tunnel Vision
The emphasis on egalitarianism within the operating suite has not been without its challenges. Anesthesia professionals routinely provide debriefing to their trainees, making it ingrained in the culture of their specialty, but the same was not found to be true among surgeons, as Ahmed et al. noted.24 Although top down change is a challenging transition for surgeons who are accustomed to being in charge, Memorial’s commitment to the speedy resolution of problems identified in the debriefing process has real appeal for them.

Unfortunately, in example #4, Tunnel Vision, the surgeon had lacked situational awareness and had developed tunnel vision. This singular focus on one aspect, to the exclusion of everything else, is also noted by the National Transportation Safety Board (NTSB) as the reason for the crash of Eastern Airlines Flight 401 near the Miami airport in 1972. Members of that crew were so preoccupied with a malfunctioning indicator that they failed to monitor other instrumentation that would have informed them of their unexpected descent soon enough to prevent a crash into the ground. The plane was destroyed; of the 163 people aboard, 101 died from their injuries. The NTSB report observed that distraction, confusion, and lack of effective coordination among the crew led to the event.25 In our surgical example, the invocation of delta was an attempt to interrupt the surgeon’s tunnel vision, but that same distracted preoccupation led to fatal results.

Continual Process Improvement
As outlined by the methods and results in this paper, Memorial emphasized that each team member, regardless of his or her discipline or status, had an important voice and role in ensuring a safe outcome for the patient. The same dedication to safety holds true in other high risk settings, including military operations where military ranks are temporarily ignored to allow each member to become an equal witness for the duration of the debriefing, as noted by Armistead.

In both industries, recording action items from the debriefing session has proven to be a rewarding process in itself because it leads to continual process improvement. In Memorial’s OR environment, for instance, the right instruments for the specific surgeon and procedure are now prepared correctly the next time and the equipment found to be deficient the previous week is now corrected in advance. When deficiencies are corrected promptly and consistently, trust between staff and the hospital builds, and the surgeons are more likely to participate in other aspects of the CRM process as well.

Still, unwavering, impassioned commitment from all senior health care system executives has been the key to implementing the CRM Patient Safety System. From Memorial’s Chief Executive Officer to the Chief Medical Officer, Chief of the Department of Anesthesia, and Chiefs of all surgical departments, their commitment to cultural change in the interest of patient safety has set the tone for conduct within the operating suites. Reinforcement from the top produces changes that support the collaborative culture necessary for improved patient safety. In this way, patients are receiving safer care, and all of Memorial’s staff members are challenged to bring their very best efforts each day on behalf of their patients.

Conclusion
With dysfunctional communication patterns responsible for a considerable portion of adverse events in the hospital setting, effective CRM training in other high risk industries is gaining appeal. But change routinely meets with resistance. Strong leadership from the top levels of the organization has proven to be the key to effective implementation within Memorial. By concentrating on the successes garnered through a well implemented debrief and follow-up process, surgeons, anesthesia professionals, and staff are more likely to be open to the other aspects of the CRM Patient Safety System. By encouraging all members of the team to be fully involved in assuring the patient’s safety, hospitals can draw on the full capabilities of their team members to continually improve their practice. Memorial highly recommends this approach to creating a culture of patient safety.

References


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Part III: Veterinary Records

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University of Florida Health Center Self-Insurance Program
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Over the last few decades, the number of U.S. pet owners has increased. According to the most recent National Council on Pet Population Study and Policy, in the last 30 years the number of dogs and cats in U.S. homes has more than doubled from 67 million to 164 million. In yet another major study, a majority of pet owners reported they considered their pets to be family members. As the number of pet owners and the emotion associated with ownership increases, so shall the likelihood of litigation.

Where there has been an adverse outcome or death of an animal, your natural inclination may be to convey your sympathy. Expressing your sympathy is not an admission of guilt or liability, rather it conveys your understanding that this is a difficult time for all involved and that you empathize. When owners are faced with the loss of a pet, they often seek to find a reason for that loss, and in the absence of any reasonable alternative, they may seek to blame the veterinarian. It is appropriate to explain the adverse outcome to the client and express disappointment that better results were not achieved.

In the face of complications and loss of a pet, the owner may also incur additional medical bills. Too often, a slight issue with care can become magnified when the owner receives the bill. Though it would not be cost effective to write off bills for any perceived slight, this is a good resource to consider from a customer service perspective that may also serve to avoid litigation. This allows the veterinarian to convey appropriate goodwill, again without admitting liability, and encourages the owner to return, knowing that medical bills will be handled reasonably.

Despite best efforts, not all relationships are fruitful for the veterinarian or the owner. Some are toxic and need to be terminated, as those are not in anyone’s best interests. It may be that there is another veterinarian within the practice who is better equipped to deal with certain personalities and if willing, can provide a better experience for all those involved. If the relationship is terminated, make sure to document the reasons for termination. It may prove a more positive experience for the client if you make yourself available to provide emergent care to the patient for a limited amount of time during the transition to another veterinarian.

When all other options are exhausted and the relationship between the veterinarian and pet owner becomes irretrievably broken, the pet owner may seek to pursue litigation alleging negligence. Negligence is generally defined as a failure to act as a reasonable person would act under similar circumstances. The creation of the provider-patient relationship or provider-client relationship is the first step in establishing a negligence action against a veterinarian. This relationship is what establishes a duty to the patient by the veterinarian or the practice. The client must establish, either by
implication or contract, that the veterinarian has created a professional medical relationship with the patient. This relationship may also be created with extenders of that provider, including other employees of the practice.

Included in the veterinarian’s duty to the client is the obligation to provide care that falls within the standard of care provided by reasonably prudent veterinarians under similar circumstances. Given that it is defined by comparison with other veterinarians under similar circumstances, it is relevant where the veterinarian is practicing and what type of practice has been established. For example, a veterinarian that handles predominantly small, domesticated animals would not be held to the same standard as a veterinarian that deals exclusively with wild or exotic animals. Nor should a veterinarian in a small practice with limited resources and equipment be held to the same standard of care as that of a veterinarian in a large academic facility with state-of-the-art equipment. The standard of care is often established through the use of experts in that same field or specialty who can better articulate what is expected of a veterinarian in that same circumstance.

The client must also establish that a breach of the veterinarian’s duty resulted in an injury. This must be established within a reasonable degree of medical probability to be the proximate cause of the patient’s injury. If the client is unable to establish that the injuries are as a result of the veterinarian’s breach of the standard of care, then causation cannot be established and there is no cause of action for negligence. Though an accident or incident may occur in the course and scope of the veterinarian’s treatment, it does not mean that the breach is causally linked to the resulting injury or damages.

Finally, the owner must establish that damages were suffered. Because animals are considered property under the law, the damages to the owner are rooted in economic loss as a result of the animal’s death or need for further medical care. Economic loss will usually include the fair market value of the animal if it died or the costs associated with veterinary care as a result of the injury. The market value of the animal often depends on its purpose. Loss of income may also be awarded where the animal provides some service or generates a profit for the owner.

Under the laws of the State of Florida and most other states, animals are considered to be personal property. As property, the loss of an animal cannot result in damages rooted in emotional distress. Therefore, the value of the claim is measured by the value of the animal and, potentially, the value of the veterinary services in dispute. As a result, when these cases go to court they are usually relegated to county court, which handles matters with damages under $5,000. However, many animals in our society have a higher value because of either their purpose or breeding. The market value of some animals is exceedingly high because they are relatively rare and in high demand. Where pet owners seek to make a claim for emotional distress, they must show some physical impact. The typical exception to the “impact rule” is the presence of a familial relationship when, for example, a parent suffers emotional distress from the injury of a child as a result of malpractice. The courts have not gone so far as to extend that application to animals. For as much as many consider a pet to be a member of the family, Florida law does not.

Like most states, Florida also has a Good Samaritan Act that limits the liability of veterinarians rendering care to an injured animal in emergent circumstances. The statute provides that, “Any person, including those licensed to practice veterinary medicine, who gratuitously and in good faith renders emergency care or treatment to an...
injured animal at the scene of an emergency on or adjacent to a roadway shall not be held liable for any civil damages as a result of such care or treatment or as a result of any act or failure to act in providing or arranging further medical treatment where the person acts as an ordinary reasonably prudent person would have acted under the same or similar circumstances.” Unlike the provisions of the Good Samaritan Act involving human patients, the protections do not include emergent care provided in a veterinary office or facility.

Legal recourse is not the only avenue available to disgruntled veterinary clients. For some clients, there is greater satisfaction in pursuing disciplinary sanctions. Whether the complaint is valid or not, the Florida Board of Veterinary Medicine investigates most claims. Some insurance carriers may provide optional endorsements that would cover settlements or judgments rendered for veterinary malpractice, and they may also cover legal fees for the defense of legal actions or licensure investigations.

Once an owner takes the step of initiating a claim or lawsuit, contact your liability insurance carrier as soon as possible in order to avoid compromising the defense of the claim. Personnel at the insurer's office will often handle the management of the claim and assign an attorney to represent your interests in any ensuing litigation. Make certain to keep all correspondence with your carrier and attorney in a separate place and not within the medical records, as you may possibly lose the protections afforded by the attorney-client privilege. In addition, though you may feel that you can resolve or address the owner’s concerns yourself, let your liability carrier and attorney handle the matter. Continuing discussion with the owner about a claim or litigation can only serve to add to the confusion and is unethical if the claimant is represented by counsel.

As we have discussed in each segment of this series, communication is the cornerstone of a good veterinary practice. Begin with an informed consent that advises the owner of all likely risks and complications. This should serve to create reasonable expectations and advise the owner of their options. Document all relevant medical care in a timely and organized manner in the medical record. Where there has been an adverse outcome, inform and discuss this with the owner, and express your empathy. Proactive communication with the client and within your documentation is key to avoiding litigation and to the defense of good veterinary care.

1 U.S. Pet Ownership & Demographics Sourcebook, 2012 Edition
3 §768.13(3), Florid Statutes (2012)
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Risk Rx, which has been provided to our Self-Insurance Program participants for the past ten years, gives us an opportunity to communicate with you on a quarterly basis about the many issues impacting health care providers. Its intent is to share and promote useful subject matter and strategies to enhance patient safety, prevent loss, and minimize exposure to liability.

-Jan Rebstock, RHIT, LHRM, CPHRM
Editor