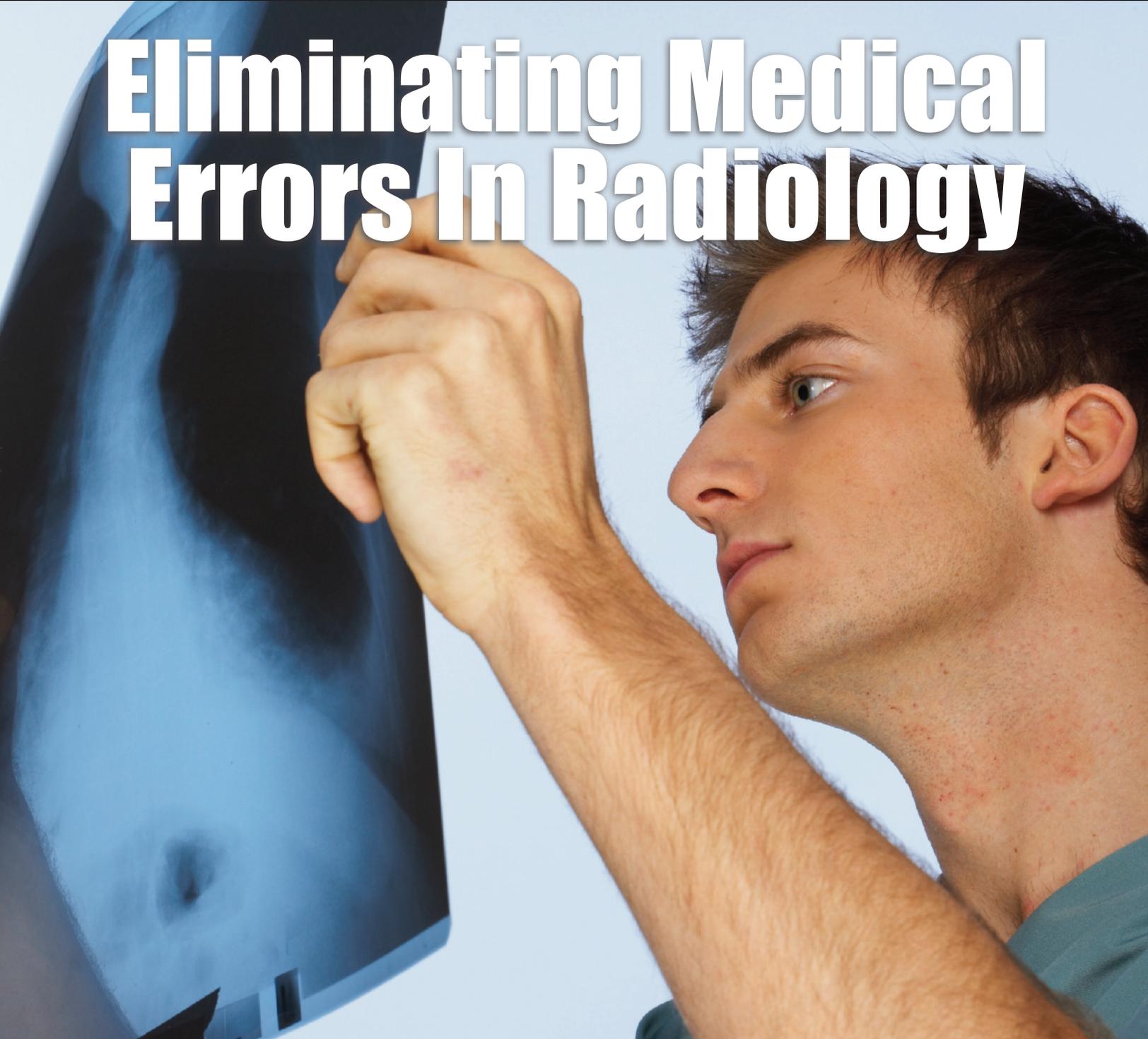


Performance Improvement Series - Volume Two

Eliminating Medical Errors In Radiology

A young man with dark hair, wearing a light blue shirt, is shown in profile, looking intently at a chest X-ray film. He is holding the film with his right hand, and his expression is one of concentration. The background is a plain, light blue color.

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Instructional Objectives:

After studying the information presented, the reader should be able to:

- Provide examples of staff involvement in the commission of medical errors that occur in a Radiology Department.
- Discuss three to seven factors that contribute to the commission of medical errors in a healthcare facility.
- Identify steps that should be taken to create and maintain a safe environment in which to provide care to patients.
- Describe steps that can be taken to provide control over the introduction of process changes, in-services and announcements.
- Define the effect of opting-out and the steps that can be taken to eliminate this practice.
- Discuss the importance and requirements surrounding the practice of providing information each time the care of a patient is transferred from one provider to another.
- List practices that support the safe administration of medications, including the five rights of medication administration.

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Eliminating Medical Errors in Radiology

I. Introduction:

Medical errors have been determined to be a major problem in our health care system. In the first report from the Institute of Medicine, *To Err is Human: Building a Safer Health System* (2000), it was stated that as many as 98,000 patients hospitalized in this country die each year as a result of errors committed in their care. At this rate, deaths due to medical errors, exceeds the number of people who die from motor vehicle accidents, breast cancer or AIDS. Since this data was found to be alarming when published, it led to multiple changes in the way patient care was delivered in an effort to reduce this number. The report and the number 98,000 deaths remain as the report that truly caught the attention of many, both within and outside of the healthcare environment.

Thirteen years later, the 2013 Journal of Patient Safety reported that the number of hospitalized patient deaths related to "...some preventable harm" (James, 2013) is actually between 210,000 and 440,000. This number of deaths was determined as the result of recent studies which indicated that serious adverse events occurred in at least 21 percent of 4,200 cases reviewed with lethal adverse events as "high as 1.4% of these cases (2013). The methods used to determine this number are believed by many patient safety experts to lead to greater accuracy than what was achieved in 2000.

As the research was completed leading to this new number of deaths resulting from medical errors, James determined that part of the discrepancy in these two numbers (210,000 and 98,000) was due to the number of cases where treatment should have been provided but was not. When the initial data was determined, these cases were not targeted as errors as notes related to missed treatments often were not included in the medical record. Also, diagnostic errors were not regularly captured by the tools available in 2000 (James). While the number of patient deaths as a result of medical errors is an important piece of information "even on the low end, [these numbers] expose a crisis...and it needs to be corrected" (Marshall, 2013, p. 4).

It is essential that all who work in healthcare, particularly those who provide care and services to hospitalized patients, become actively involved in the identification and reporting of errors and in the development of approaches and solutions to avoid the commission of medical errors. The magnitude and the impact of these medical errors make this a problem for everyone and not one that can be resolved by a committee or a variety of project teams. The responsibility rests with each and every person in the system.

Authors today are openly addressing the issue of accountability in the provision of care to patients and, "most doctors and hospital administrators agree that accountability is a good thing" (Makary, 2012 p. 193). Identifying and reporting of errors is an essential demonstration of accountability. It is also recognized that assuming this accountability and ramifications of identifying and reporting errors takes considerable time that many practitioners do not believe is available to them. Using technology to assist in these

processes and depending on all members of the team to help each other achieve this level of accountability can make these behaviors a part of one's daily practice and belief systems.

II. Definitions Related to Medical Errors:

There have been studies regarding the use of incident reports to document when a medical error occurred. One reason provided by the study participants as to why there is not a higher level of documentation of errors is due to the fact that there is confusion over what is considered a medical error (IOM, 2000). Therefore, it is important to provide definitions of the key words used in the discussion of patient safety, medical errors and the reduction of these errors.

Adverse Events: an injury resulting from a medical intervention (ie, not due to the underlying medical condition of the patient) (IOM, 2000).

Failure Mode Effects Analysis: a systematic, proactive method for evaluating a process to identify where and how it might fail and to assess the relative impact of different failures, in order to identify the parts of the process that are most in need of change. FMEA includes review of the following:

- Steps in the process
- Failure modes (What could go wrong?)
- Failure causes (Why would the failure happen?)
- Failure effects (What would be the consequences of each failure?(IOM, 2011)

Human factor: the study of inter-relationships between humans, the tools they use, and the environment in which they live and work.

Medical Error: A medical error is defined as the failure of a planned action to be completed as intended, or the use of a wrong plan to achieve an aim. Errors can include problems in practice, products, procedures, and systems (IOM, 2000).

Patient-Centered Care: treating patients as partners, involving them in planning their health care and encouraging them to take responsibility for their own health (Family, 2011).

Preventable adverse event: an adverse event that was attributable to a medical error. Negligent adverse events represent a subset of preventable adverse events that satisfy legal criteria used in determining negligence; whether the care provided failed to meet the standard of care reasonably expected of an average physician qualified to take care of the patient in question (IOM, 2000).

Protocol: A medical protocol is considered to be a set of predetermined criteria that define appropriate interventions that articulate or describe situations in which the provider makes judgments relative to a course of action for effective management of common patient care problems.

Root Cause Analysis: a method of problem solving that tries to identify the root causes of faults or problems. RCA practice tries to solve problems by attempting to identify and correct the root causes of events, as opposed to simply addressing their symptoms (Wikipedia).

System: a set of interdependent elements working to achieve a common aim. The elements may be both human and nonhuman (eg, equipment, technologies).

Types of failure: errors of execution where the correct action does not proceed as intended, or errors in planning, where the original intended action is not correct.

Unpreventable Adverse Event: an adverse event resulting from a complication that cannot be prevented given the current state of knowledge (IOM, 2000).

III. Relationship of Medical Errors in Radiology to Medical Errors in the Facility

Radiology, as part of an acute care hospital, out-patient setting or similar facility has become a major part of the care and treatment of almost every patient who enters the healthcare system. As staff and physicians work to implement patient-centered care, it becomes essential to review and address medical errors that occur while receiving care/treatment in a radiology department in the same way as when addressing medical errors in the rest of the facility.

In general, the basic causes and corrections of medical errors are the same, regardless of where they occur. Patient care needed as a result of an error may likely be provided in an area of the facility other than where it occurred. Expecting all staff to speak the same language and follow the same processes when providing care/services reduces the chance for additional errors to occur. It is the number and types of errors that occur to a patient that is important rather than how many of the errors occurred in radiology or in another part of the facility. It is the safety of patients that is being considered when there is recognition that a patient is one being, not divided into departments. Therefore, the focus of discussion on how to prevent medical errors in radiology will be on how to insure the safety of patients by working together as a hospital staff to eliminate medical errors.

IV. Types of Medical Errors Occurring in Radiology

A. Patient/Procedure Identification

Radiology is a procedure-based service and it is essential that the correct procedure be completed on the correct patient as well as on the correct anatomical site of that patient. Much has been written on wrong-patient surgeries and wrong-site surgeries which led to the development of the Universal Protocol (TJC, 2013) which is expected to be implemented prior to each surgical procedure performed. Over-time, it has become evident that the Universal Protocol should be a part of practice in Radiology since the same identification errors are occurring there.

In 2009, The Pennsylvania Patient Safety Authority received reports “of 652 events in radiology specifically related to wrong-procedure or test (50%), wrong-patient (30%), wrong-side (15%), and wrong-site (5%) (Pennsylvania, 2009, p.1). The involved procedures were radiography (45%), computed tomography scan (18%), mammography (15%), MRI (6%) and ultrasound (5%) (Pennsylvania). This report demonstrates that errors in identification of both patients and procedures occur in most areas of radiology services and needs to be addressed departmentally to achieve a reduction/elimination of these errors.

The Universal Protocol was originally approved in 2003 for use to prevent wrong-site, wrong-procedure and wrong-patient surgery. It was revised in 2010 following feedback from those using the protocol. Organizations exercised the flexibility to use the Protocol in situations where its use would improve the safety of the care being provided (Pennsylvania, 2011). As radiology was performing many interventions that required accurate identification of procedure and site, the Universal Protocol was implemented in that Department.

B. Labeling of Radiographic Images

The incorrect labeling of radiographic images has led to wrong diagnoses and wrong-site surgery. Many of the refinements in radiologic equipment attempt to build in systems that reduce the dependence of this labeling on human actions (Frank, Stewart & Rowberg, 1995). For those procedures where marking of the images is primarily done by human actions rather than technology, labeling the wrong side remains a high-risk area for medical errors to occur.

C. Patient Falls

Patient falls occur in radiology when staff does not assess patients for their ability to be unattended for even a moment and/or when patients are not secured in their chair or on a table before leaving them unattended. Patients also have fallen when they have completed their radiology procedure, are perceived to be able to stand and, when they do, they become light-headed and fall. Patients have experienced falls when they are allowed to walk to the restroom without being fully assessed for their ability to do that independently. Falls can also occur in a department that has several pieces of equipment ‘stored’ in the hallways or in places that interfere with a clear walkway.

Patients often come to the Radiology Department in a wheelchair and are left in a waiting area until the staff is ready to take the patient into the Radiology Suite for the ordered examination/intervention. Falls from the wheelchair can result in major injury to the patient who is already debilitated. Patient falls have also occurred when patients are being transferred from a transporting stretcher to a stretcher used for MRI’s, etc. (Bell, 2013).

D. Medication Management

As stated by the Pennsylvania Patient Safety Advisory, “in cardiac catheterization laboratories, radiology, and other diagnostic departments, medications such as contrast media are administered, rates are adjusted for intravenous (IV) fluids, and IV access lines are flushed. In addition to specific medications that are used in radiology, high-alert medications such as IV sedatives, vasopressors, and blood coagulation modifiers are given in this setting” (2009). Patients receive these medications along with any medications prescribed prior to what is administered in radiology.

With the increasing use of radiology services by most hospitalized patients, the chance of experiencing an adverse event related to dosing or drug-drug interactions increases. In some facilities, various staff working in the radiology department may administer medications such as contrast media, adjust rates of IV fluids, and flush IV access lines, potentially increasing the risk for errors if the staff is not fully prepared to manage the medications being given.

Patients also come to the radiology department with intravenous fluids infusing and they are most likely receiving several medications as a part of their treatment. If an error occurs with these medications while in the radiology department, the error will likely be considered a radiology error. Patients are generally taking medications that have been prescribed by physicians other than radiologists. These medications are not related to imaging procedures but are infusing when the patient arrives in the department (Thompson, 2006). These medications and rate of infusion validate the need for a defined hand-off procedure so the information can be transmitted to the provider in radiology before the current provider leaves the department. However, if any error occurs while care is being delivered in the radiology department, it will be considered a radiology error since it occurred in the radiology department while in the care of the radiologist.

The types of errors that are cited include ‘failure to note contrast agent allergies or to avoid drug-drug interactions, erroneous switching of infusion rates for intravenous medications following the completion of radiologic procedures, incorrect programming and operation of intravenous pumps and improper dosing of contrast agents of sedation medications, among others’ (Darves, 2006, p.2).

Patients may arrive in the Department without having an identifying armband in place and medication is administered without this piece of identification. The individual administering medications may not have used the required two identifiers adopted by the department to be used during medication administration.

E. Patient Information/Patient Hand-off

There are examples of patients who come to the Radiology Department for diagnostics or interventions and the needed communication between transferring staff and the receiving staff does not include all the information needed to provide care as safely as

possible. There have been instances where the patient went into cardiac arrest while in the Department. While there may be multiple causes for the cardiac arrest, information identifying risk factors that was not communicated has been identified as a root cause in some instances of cardiac arrest.

The Joint Commission has identified the handing-off of patients from one provider to another as one of the highest risk times for a medical error to occur. Patients are 'handed-off' multiple times during their stay in a hospital. Adequately addressing the hand-off process becomes an essential aspect of care for all who transfer or receive patients.

When a patient leaves their room on a patient care unit to come to the Radiology Department, pertinent information about that patient needed for safe, continuing care must be provided by the individual responsible for transferring the care of that patient to another provider. If this information is not provided, or if it is provided to persons who are not assuming the care of the patient, safe on-going care and treatment may be jeopardized or compromised.

Examples of errors that can occur when there is inadequate transfer of information include inadequate fluid intake due to not following orders for intravenous infusions, adverse reactions to medications or contrast due to drug-drug interactions, and patient falls due to lack of knowledge of the patient's state of orientation or ability to ambulate without assistance.

V. Why Are These Errors Occurring in Radiology?

A. Systems

It is an established fact that the systems and processes in place in our healthcare facilities are complex, have multiple steps that must be completed correctly, involve many departments and multiple human interactions, and are often not well defined or assessed for relevance or accuracy. Systems and processes continue to grow and expand to meet the varying needs of individual departments without full assessment of the impact this growth and expansion might have on other departments and ultimately, the patient.

Studies have demonstrated that the risk for a medical error is present each time there is a separate step in a process. Several years ago, with the inception of Patient Focused Care, a study was done to determine the simplicity or complexity of the process that needed to be followed for an inpatient to have a chest x-ray. At that time, it was determined there was an average of 150 distinct steps that needed to occur to complete the process of obtaining this x-ray. This included steps starting with the ordering of the exam by the attending physician through the receipt of the confirmed report by the Radiologist.

While there could be some minimal errors that occur at some of the 150 steps needed for that chest x-ray that might not adversely impact the outcome, the chances that an error can occur that will impact the outcome are significant. Consider that this exam is one of the least intrusive and complex of the many exams and interventions completed in the Radiology Department and you will gain a greater understanding of how the complexity of processes in our systems can lead to the commission of medical errors.

B. Complexity of Roles and Regulations

The purpose of licensure of individuals at the state level is to protect the public by assuring that practitioners meet the minimum competencies to provide the basic care defined by their profession. In general, the state regulations define the minimum requirements in order to be licensed.

Within the acute care hospital system, there are those who are licensed and qualified to delegate certain functions to other qualified, licensed or unlicensed personnel to perform the delegated work. In the Radiology Department, the physicians are qualified to delegate functions to Radiology Technologists, Radiology Technicians, and Registered Nurses who are working under the medical direction of those physicians. All of the procedures performed in Radiology are part of medical practice and are therefore directed by physicians.

There may be policies in the hospital or from professional associations or licensing boards of other disciplines (RT, RN) that determine there are certain functions that should not be performed by an RT or an RN, even if delegated by a physician. There may be legislation or regulations that have been developed on a national or state level that alter the authority of a physician to delegate certain functions.

An example of a function that a physician may wish to delegate but for which there may be a policy against accepting this delegation includes asking the RN to administer medications for conscious sedation if the hospital policy indicates this is only to be done by a physician. Or, a physician may ask an RT to perform a part of an exam that is only to be done only by the physician, according to standards or policy.

C. Resources

With the rapid growth of the healthcare system, advances in technology and the fact that people are living longer and consuming more health care resources, almost all components of the system are experiencing a shortage of necessary resources. This includes a shortage of fully prepared people, a shortage of experienced people, a shortage of space in which to create a calm environment in which to work, a shortage of supplies, and a shortage of dollars needed for the latest upgrade, piece of equipment or for the adding of staff.

When staff is either not fully trained or experienced, more time is needed for support and/or supervision to assure safe care is provided and the defined outcomes are met. In many facilities, there is a shortage of supervisory personnel either because people do not wish to take on those roles or the fact that the span of control of management has been increased to the point where individual supervision is difficult to accomplish.

The lack of experienced staff means there are not the role models, preceptors or mentors needed to assist the newer staff as they work to become oriented to the role and/or facility. This impacts the length of time it takes to gain confidence in their ability to complete the expected work in a safe and quality manner. For most of us, the shortage of staff resources has the most impact on our ability to provide the level of care and service we want to provide and is the second highest factor determining whether or not we are satisfied with our jobs and work environment. The number one factor is the confidence and trust we have in our immediate supervisor.

Shortage of equipment, supplies and money impact our ability to provide safe care differently depending on the service, procedure and related variables. For the most part, staff learns ways to adapt and to provide the care and service with what is available. There are those times when this care and service are impacted by the shortage of equipment and supplies; and this is when the patient may need to get this service elsewhere.

D. Work Environment

In many facilities, the environment is busy, noisy, full of interruptions, has not been designed for the kind of work that is done today, is not ergonomically correct, and does not have sufficient numbers of computers, telephones and FAX machines to allow ready access by all staff needing to use this equipment. This often leads to staff having to defer some work until they can access computers and telephones. This delay can lead to errors because pertinent information is not entered on a timely basis for other practitioners to see when they are trying to make care decisions.

When the work area is not designed to meet the needs of the work in that environment, it may take more time and personnel to accomplish work that could be done with less if the environment supported the work of the department. Noise and interruptions can interfere with necessary decision-making. The lack of a place to hold confidential discussions can interfere with a full review of pertinent information since the information exchange may be limited.

Additionally, when working in a setting that is not ergonomically correct, there can be injuries or physical symptoms that develop as a result of not being able to sit at a computer correctly, of not having adequate lighting, and similar issues. While this is not considered a medical error to a patient, it can be considered a medical error resulting in harm to an employee.

E. Amount of Information

We live in a world where information on most any topic can be obtained or sent to us in many ways, at all times of the day or night. In the workplace, it becomes difficult to control the amount of information that is being sent and the amount of information we are required to integrate into our body of knowledge. When multiple people and committees send information as easily as a click of the Send button, they do not always consider how many of these 'clicks' end up going to each individual. While we were all anxious to get email at work so we could get information on a timely basis, having to read, understand and incorporate information from 50-100 emails on a daily basis makes the use of email a chore rather than a tool that is helpful.

According to Richtel (2010) scientists say juggling e-mail, phone calls and other incoming information changes how people think and behave. The ability to focus is frequently undermined by the sheer volume of information being received. These distractions can have unanticipated or unwanted consequences as sufficient time may not have been spent determining the full intent of the information received.

Addressing multiples pieces of information 'simultaneously' is considered multi-tasking and many believe being able to multitask leads to greater productivity. It has been demonstrated that those who frequently multitask "actually have more trouble focusing and shutting out irrelevant information...and they experience more stress" (Richtel).

It is important that staff be provided the time and environment in which they can truly learn the intent of the information being provided on which important care decisions will be made. The statement by Pollar (2003) remains as important to people today as it was in 2003 and should be a part of one's thinking as they are preparing to communicate with others. That statement is. "Better information processing can speed the flow of data, but is of little help in reading the printout, deciding what to do about it, or finding a higher meaning. Meaning requires time-consuming thought and the pace of modern life works against affording us the time to think" (Klapp, as found in Pollar, p.5).

There are other interesting observations on the issue of thinking as observed by comparing the Japanese business culture to the American business culture. In America, if a person is sitting at their desk or counter and they are thinking, they are chastised or presumed to be doing 'nothing'. In Japan, when someone is sitting and thinking, they are generally praised since it is noted that thinking is required to make sound decisions that will not lead to rework or reconsideration.

Staff must continue to do what is needed to provide safe, error-free care while doing what is needed to take-in all this information and related changes. This becomes more difficult when the information from various sources becomes contradictory leaving the staff in a position to make a determination regarding which information should be followed.

F. Culture

Historically, healthcare has worked under a culture of blame. This was not something imposed from any external force but came about as the system evolved and it was determined that providers needed to accept the responsibility for errors as well as for successful outcomes of care. Because it was also felt that only providers could assess other providers, the system developed into a closed culture of blame where peers would evaluate peers and impose whatever consequences they deemed to be appropriate.

This culture of blame is still present in some form in most facilities while progress is being made to move to a culture of safety. The traditional culture of blame contributes to the commission of medical errors since it keeps people from reporting errors that have not caused any harm to the patient or from reporting near misses. It is believed that if I report my error, even if no harm resulted from the error, I will still be chastised in some way such as having a count of the number of errors on my performance review.

When actual or near miss errors are not reported, the Risk Manager is not getting the data and information needed to help identify the risk points in the organization.

G. Independence vs. Work Team

It is generally recognized that each discipline providing care to a patient has a contribution to make to the total care of a patient. When these disciplines work independently of each other, the result can be conflicting goals and/or conflicting interventions. Most often when this occurs, there is confusion for the patient and for the staff. Because of this confusion, some aspects of care may not be fully addressed, as some individual disciplines believe others will be addressing those aspects. Additionally, there could be possible duplication of some aspects of care or over-lapping of care.

In general, physicians develop the medical plan of care and Registered Nurses are responsible for implementing most aspects of that medical plan of care since they are with the patient 24 hours a day and are in the position to schedule, coordinate, intervene, observe, and report on patient problems, progress and outcomes. This scheduling, coordination, intervention, etc. requires all involved in any aspect of this care to work collaboratively as a team of providers. This is the best way to assure the right care is given at the right time by the right providers to achieve the expected outcomes in a reasonable length of time. This should help avoid duplication of efforts and delays in care and treatment.

The communication between team members that occurs as a result of collaboration will also assure the providers are generally informed about the patient and are kept up-to-date on progress or on continuing needs.

There is no time during a hospital admission, or an outpatient diagnostic test or treatment that a patient is provided care by only one person or discipline. Healthcare in

today's highly complex and highly technical environment is not an independent function. When providers attempt to practice as though they were the only provider, risk for errors increases.

All patients are a compilation of complex, interrelated systems that work together to try and keep the body in a state of health or to adapt to a chronic illness. When one system is impacted by disease or injury, other systems of the body are also affected. These systems will either begin to malfunction or may function at a higher level to compensate for the deficiencies of other systems.

Care for patients must follow the same format. Treating one system without understanding the effect this will have on other systems can lead to unanticipated and dangerous patient outcomes.

H. Opting Out

In most healthcare facilities, many find they can opt-out of almost anything. The ability to opt-out occurs when a provider determines they can give care in ways they feel is efficient even if this means not following the procedures defined for that care at that facility. Generally, policies and procedures should include steps to follow that are unique to the systems at each individual facility. If these are not followed, there is increased risk of an error at the step that was not implemented as defined. Additionally, when trying to determine why an error occurred, people will not necessarily know that a certain step was not followed and might consider that some other action or inaction led to the error. This certainly impacts how one goes about developing a corrective action plan to avoid errors in the future. The lack of consistency in the delivery of care makes defining safety related issues more difficult since it is often difficult to determine if the error occurred due to the inconsistency or because of some other action or non-action.

There are generally no consequences for opting-out unless an adverse event occurs, creating a patient problem. However, in the meantime, staff gets into the habit of opting-out whenever they believe it is OK to do 'this or that'. In their opinion, it will not make a difference to the outcome of care.

Consider how often medications are administered in the Department where two identifiers are not used to positively identify the patient receiving the medication. What allows these providers to opt-out of this regulatory process? How many times do they opt out before an error in identification occurs? Could that one time have been avoided if they had never opted-out of the use of two identifiers?

I. Failures Related to the Technology

Technical failures are of particular concern for those working in a technology-driven service such as radiology. The equipment that is used has built-in safety features with

which staff must be familiar since these features often have warning signs when a problem is about to occur. Not reacting to these warnings can lead to medical errors.

Most major equipment comes with guidelines of what one can or cannot do while working that equipment. When working the MRI or CT scanner, for example, staff must be knowledgeable of the warning signs as well as what can be done to avoid these warnings from occurring.

Most have read about the accidents that have occurred when items that would be attracted by magnets were left in the MRI room while the MRI was activated. Errors can also occur when patients with items implanted or imbedded are undergoing an MRI (PA-PSRS, 2004, p 3). MRI's can adversely "impact the functioning of many of these implanted devices such as moving the device or demagnetizing the device" (2004). Other incidents may not be as dramatic but can also lead to patient or staff harm if the guidelines are not understood or followed.

The next place medical errors occur related to technology is with any type of equipment that the patient is using when they arrive in the Radiology Department. The most common example would be the intravenous pump, which is set by the nurse caring for the patient prior to transfer. Often, radiology staff are not familiar with this equipment and, if the nurse cannot get to the department to address issues that may be occurring, there can be too much or too little fluid and medications infused, leading to a medical error.

J. Inadequate Policies/Procedures

Policies reflect the internal regulatory practices of the organization. These practices have been put into writing and have been adopted as working documents. They define the way the organization works to comply with licensing, professional and accreditation standards and regulations. It is necessary to have written policies for those things that are performed in a specific way each time it is performed.

When a policy exists, it should be followed as written unless there is a compelling reason to proceed in a different way. The authority to function outside of policy should only be granted to those individuals who are able to determine the necessity for working outside the policy and who will be able to define what action should be taken instead of what is in the policy. This individual will also understand the need to document this variance and the rationale for the variance.

This makes the concept of 'policy' very different from the way it is generally perceived in our health care system today. When asked, many individuals will tell you that policies are guidelines and are used for providing orientation to new employees. Very few people recognize the full impact of a policy unless or until there is an adverse event that may have been prevented had the written policy been followed. Most staff do not follow the

policies in the facility as written and many staff believe they have the authority to opt-out of aspects of the policy that do not appear to be necessary for their current situation.

From a legal perspective, every attorney who is litigating a malpractice case will request every policy related to the case that was in effect at the time the event leading to the malpractice charge occurred. Whether or not your organization considered the policies to be actions that were required, the attorneys will consider that, if written, the staff is expected to abide by the policy unless there is authorization to do otherwise.

Procedures are generally written as guidelines for how to perform a specific task or function. They are available for use whenever one has a question regarding the way they should or could perform a specific task. Many facilities have started using generic procedure manuals since these are generally well written and provide the information necessary to safely perform the indicated procedure. If there are any unique factors for your institution, those would need to be included as an addendum to the generic procedure.

VI. Prevention of Errors

A. Presence of a Safe Environment

All hospitals receiving federal funds (Medicare/Medicaid) are required to have a defined patient safety program with evidence that this is an active program familiar to all employees (CMS, 2013). The plan is the CMS final rule to improve quality of care during hospital inpatient stays and addresses payment related to the provision of safe care. If you are employed in an accredited facility, ask the appropriate person(s) in your organization for a copy of the document that describes the Patient Safety Program in your facility. Identify the activities in which you are required to participate and learn what impact this Program has on your practice.

The environment in which you are expected to work needs to be one that supports the provision of safe care. This includes having the time and noise-control needed for thinking and decision-making. This environment includes:

- Adequate, uncluttered, uninterrupted workspace.
- Appropriate tools, equipment, resources needed for the work to be done.
- Adequate communication to receive information and to get assistance when needed.
- Support for asking questions without intimidation from others in the department

- On-going education and training for new or complex processes and for any new expectations in regard to regulations, policies, etc.
- Access to those in the facility, in addition to the appointed supervisory staff, who can be called upon to assist with specific issues including the Privacy Officer, the Safety Officer, the Infection Control staff, the Compliance Officer, and the Risk Manager.

Learn how to access those responsible for managing the Facility Safety Program and how you can volunteer to serve on sub-committees or on the major committee addressing patient safety. Find out how to provide input to the Safety Committee since it is well known that those doing the work have many excellent suggestions and recommendations for improving the safety of care and services provided.

Request that regular reports from the Safety Committee be provided to staff at regular staff meetings. Ask how you can be invited to attend one of the meetings of the Safety Committee so you can experience the way in which the committee works to identify aspects of care/service that are unsafe and how the committee works to correct those unsafe processes, etc.

B. Adequate Resources/Performance Expectations

As with any work we are doing, having the right people and the right number of people, will generally increase the potential to achieve positive outcomes and reduce the potential for medical errors. This result is also achieved most often when you have the needed supplies and equipment to complete the assigned work.

There continues to be critical shortages of personnel appropriately prepared to assume positions in many healthcare departments. The cost containment efforts put in place in these facilities include some limits on hiring staff for those times when there may be a rapid increase in the number of patients or an unexpected decrease in the number of staff available to do the assigned work. It is during these times that staff will need to work with supervision to establish priorities for what can and must be accomplished.

Almost every healthcare organization includes in their mission or vision statement some information indicating the care provided is of the highest quality and is care that exceeds the expectations of those who come to the organization for services. With the increasing incidence of personnel shortages, the ability to provide care at these levels may not always be possible. There are times when the highest level of care that can be provided is safe care, not necessarily the quality of care that is advertised.

If these periods of time are short (one shift or less), the overall quality of care should not be jeopardized. It is important for leadership to know how often care is provided in the safe mode and the length of time that condition existed. This information will help

leadership make the needed decisions to be in a position of providing the quality of care advertised and to respond to complaints received by patients who feel they did not receive the expected quality of care.

When there are personnel shortages, staff should have the following:

- A definition of what is considered safe care as opposed to what is considered quality care as defined in most mission or vision statements.
- A set length of time when one can be expected to function in safe-mode vs. quality of care mode.
- A clear understanding of the chain of command for reporting the status of the department in terms of resources and the request for supervisory guidance.

The following actions should be taken:

- The shortage of staff resources and the move to safe-mode should be reported to the immediate supervisor/designee.
- The staff should receive acknowledgement of receipt of the report and should receive direction for further actions or approval for functioning in the safe-mode.
- These actions should be documented in whatever form or format defined by the organization. This will help determine the frequency of moving to the safe-mode and help to determine actions that need to be taken to reduce this number.

C. Control of Timing of Process Changes/In-Services/Announcements

Staff in a healthcare facility is regularly inundated with information from many sources, with minimal emphasis on what information may be a priority or may be information needed to help avoid medical errors. It is not possible for most staff to control this flow of information or to develop a system for establishing what is the most important memo, in-service, new policy, or directive they receive that day or during the normal workweek.

Staff can and should encourage supervisors to help them with this information flow by doing the following:

- Request to have the introduction of new policies or processes scheduled on specific days each month. For example, your supervisor can designate the first and third Wednesdays as the days on which new policies will be presented. Staff will then be able to either make certain they are available

to come in for the announcements or discussions or will know they have the obligation to obtain the new information on their next day at work.

- Request to have in-services scheduled in much the same way so staff can schedule this activity in relation to the other important activities in their lives. Perhaps the fourth Wednesday of the month is in-service day and staff can plan to attend and will know that, unless there is an emergent issue, they will not be asked to come in for multiple in-services during the month.
- Request that memos that are posted on the bulletin boards be coded much as we do for terrorist threats. Some of these memos will be critical, or red, and others will be informational, or yellow, for example.
- Suggest these same or similar issues to the Safety Committee or Risk Manager. If there is a suggestion program in your facility, submit these suggestions both from a risk-reduction perspective and a money saving perspective since the reduction of risk and the management of time can both lead to monetary savings for the organization.

From the staff perspective, be certain you clearly understand all new policies/memos/minutes you are asked to read and initial or which may be provided to you by e-mail where there is a tracking of when you opened the mail. Your initialing or opening of the mail will indicate you understand and accept and you will be held accountable for understanding the information provided.

- If you need further clarification or have questions, do not initial the paper document. For the e-mail document, make a note in the form of a reply that you have questions or need clarification.

D. Culture

Partners Healthcare is a leader in promoting quality and safety in health care. By creating awareness of the occurrence of adverse events, educating staff to reduce the likelihood of occurrence, and creating a blame free learning environment, quality and safety can be improved along with staff satisfaction. The Patient Safety team has worked on several projects to promote safety across the member hospitals.

Partners Radiology Patient Safety Team was developed in 2004 as a demonstration of the team work and cultural changes needed to achieve a reduction in medical errors by working collaboratively to create a safe culture in the radiology department (Partners, 2004). It was the belief of this group that creating a blame-free reporting environment would lead to full reporting of incidents and near misses. This would also provide the data needed to identify risk points in the processes carried out in the department.

In 2006, this Patient Safety Team presented data on the success experienced in preventing patient falls. Descriptions of actual falls in the radiology department were analyzed and used to develop a Falls Prevention Protocol addressing and managing the identified risks. A report in 2009 indicates the Team is continuing to work on additional aspects of care that can lead to the commission of medical errors.

A culture of safety exists when staff knows they can report any incident or near miss and this will not result in punitive actions against that employee. There is no punitive action resulting from the act of the reporting. Staff also knows that appropriate disciplinary actions will need to be imposed in instances when the error occurred because of malpractice, when not following policies or processes, or for performing work, which they are not competent to provide.

To function effectively in a culture of safety, the following needs to occur:

- All incidents and near misses need to be reported using the defined reporting process in your facility.
- All staff should have the opportunity to serve on a root cause analysis team or a failure mode effect analysis team to gain knowledge and experience regarding causes of error and ways to identify areas of risk.
- All staff should receive feedback on the types of incidents and near misses that are being reported in their department and in the organization. This should include a discussion of what actions have been defined to address these incidents and near misses.
- Administrative leadership should conduct regular patient safety rounds in each department, providing the staff with the opportunity to provide input into organizational issues and to ask questions of this leadership group. Feedback should be provided to the staff within a short time after each visit to the department.
- All staff should be familiar with the corporate compliance policies and with the corporate compliance 'hot-line' or other identified means for reporting concerns, either anonymously or with identification.
- There should be no reference to numbers of incident reports submitted by an individual in his/her performance evaluation or in any policy in the organization.

- Staff should understand and accept the difference between feedback and the need to protect the confidentiality of those involved in adverse events that lead to disciplinary actions.

E. Full Support for Patient-Centered Care

Understanding the need to treat the patient as a whole entity is the underlying rationale for patient-centered care. As addressed in the discussion under why errors occur, treatments given to address needs in one body system, directly and indirectly impact the remaining systems of the body. This fact alone requires that care be provided using a collaborative team approach to be certain the total functioning of the patient is monitored and addressed.

- Support for this approach to practice must be a part of the culture of the organization. This means it must be an expectation from the Board, the CEO and administrative staff and the Medical Staff Executive Officers.
- The model of care delivery should be a part of the mission and goals of the organization.
- The expectations of each employee in relation to the model of care delivery need to be included in job descriptions and performance evaluations.
- Policies and procedures related to patient care should be developed by multi-disciplinary groups whenever possible.

Patients, who can take an active role in their care, reduce the likelihood that a medical error will occur. Patients who can participate can often 'catch' a near miss before it becomes an error. It is important for staff to listen to what the patient is saying and to take the time to double-check treatments ordered, medications being delivered and other related interventions when the patient has a 'feeling' or an understanding that these actions might not be correct.

- Listening to patients/families when they question a treatment, medication, or intervention is critical. Do not assume that the patient knows less than you about the care to be received and about his/her own body and expected treatment.
- Take the time to double-check information sources such as patient orders, the pharmacist, the nurse assigned to the patient, etc. if the patient is questioning issues related to their care.

It is the responsibility of care providers to give information and provide education to patients and families related to the care being delivered, the outcomes of the interventions and the role the patient and family must take in order to achieve the mutually defined patient outcomes.

- Patients and/or families need to take an active role in the determination of the goals and expectations of their care and treatment and of the activities they must provide to achieve these goals. An example would be that if the patient needs to be able to ambulate 400 feet three times a day before discharge is possible, he/she needs to have this information and also have a continuous report on how well they are doing in regard to reaching this goal.
- Patients and families also need to receive instruction and information on their need to question when they are unsure of their treatments and medications. An example would be the patient knowing they are supposed to receive a specific medication, such as insulin, at a certain time and it is not being provided while they are in the Radiology Department.
- Patients/families need to know they have the right to refuse procedures or treatments if they do not feel they are needed or if they have unanswered questions.
- Patients/families need to know how to report issues concerning their care that they perceive to be problematic.

F. Ability to Stop a Procedure When Indicated

When teams are working in a collaborative manner, a level of respect for the knowledge and ability of the members of the team is gained. Each member, no matter the discipline or position in the organization, must have the authority to stop a procedure when they believe there is an unaddressed risk to the patient if the procedure is initiated or continued.

The best model of this accepted behavior is seen in the airline industry and is part of the Crew Management model implemented by that industry and which has led to the significant decrease in errors. One of the essential components of crew resource management is team-work and the right and obligation of any team member to question actions/plans/etc. that do not appear to be correct or appropriate (Gordon, Mendenhall, O' Connor, 2013). The basics of the Crew Management model in relation to the ability to delay a flight (stop a procedure) are:

- Clarity of the message

- Participation by all involved parties
- Ability to ask questions no matter who is leading the group
- Acknowledging all input and questions
- Provision of feedback to all involved parties
- Ability to ask for a time-out at any time it is felt this would be critical to address what a provider feels is an unaddressed risk or when they observe that something is just not 'right'.

*During your next staff meeting, ask your supervisor to describe the process you should follow when you identify an unaddressed risk or when you observe something that is just not 'right' and you are about to start a procedure or are in the middle of a procedure.

G. Elimination of Ability to Opt-out

Some people in healthcare confuse autonomy of practice and independent decision making with the ability to choose to opt-out of following a policy, protocol or similar document. The policies and protocols provide the basis for some services and care. Decisions can be made to divert from the policy, etc. when the situation dictates and the practitioner has the authority and autonomy to do this and can provide rationale for the need to divert.

Two major industries, which also deal with people and service, are the airline industry and the nuclear regulatory industry. Both of these industries have eliminated the ability to opt out except in defined circumstances. This is considered to be a major reason why the number of errors in these industries is so low.

The issue of opting-out in health care is a major problem and one that needs to be addressed by both the administrative and the medical leadership in the organization. These leaders need to do what is needed to assure there is a no opting-out position in the facility.

To be successful in this endeavor, the facility leadership must:

- Clearly identifying those policies, processes, standards and protocols that must be followed as directed, taught or written.
- Identify what needs to be done when a variation from the standard needs to be implemented.

- Identify all the systems we have set up with over-rides. A good way to judge the level of tolerance of opting-out is to determine the number of over-rides built into systems in your facility.
- Determine what in the system creates the need for over-rides or opting out. In the busy healthcare environment, it is often easier to opt-out or look for the over-ride rather than trying to find out why the required processes do not work.
- Determine ways to address opting-out such as requiring an incident report be completed each time one opts out or over-rides a process to help identify these points in the system.

As members of the staff, you can take the following steps:

- Request resolution to the problem creating your need to opt-out or over-ride. Then include this in your PI program since this would be considered an improvement in how care is delivered and will have an impact on the reduction of medical errors.
- Suggest that a Root Cause Analysis be conducted when opting-out leads to an error or unanticipated outcome.
- Suggest that a Failure Mode Effects Analysis be conducted on processes that appear to have risk points leading to opting-out.
- Remember that the role of all staff is to provide safe care. This obligates one to intervene when observing another staff person opting out of the required policy or process.
- Suggest to the Safety Committee and Risk Manager that a safe environment will not happen without the elimination of opting out.

H. Patient Falls

While the majority of patient falls do not occur in the radiology department, it has been noted that the falls that do occur often result in higher morbidity/mortality (Abujudeh, Rathachai, Shah & Thrall, 2011). Patients fall for multiple reasons such as a change in mental and physical condition, medications they are taking, the new environment, lack of sleep, etc. Since we do not always know what will precipitate a fall, we need to take a 'Universal Protection' approach to avoid as many falls as possible.

- For all in-patients who are coming to the Radiology Department for testing or treatment, information regarding their physical and mental status must be provided as part of the patient hand-off.
- Receiving staff should inquire about the patient's fall risk status. Staff in the Department should be fully aware of the meaning of each level.
- Receiving staff need to be advised of fall risk and the interventions to be taken to reduce falls from occurring.
- When patients arrive in the Department, they should be briefly assessed to determine if they are safely secured in the wheelchair or stretcher used for transport.
- All staff should be competent in the use of wheelchairs to prevent falls that occur from misuse of the chairs, footrests, locks, etc.
- All staff should be competent in patient transfer techniques to avoid harm to the patient and to the staff.
- Patients who are not physically or mentally competent should not be left unattended.
- When patients are placed on an exam table of any sort, they should be safely secured. Patients should not be left alone in the exam room unless the exam requires the staff to go to another area during the testing phase.
- Hallways and rooms should be free of clutter that can make passage and movement dangerous.

I. Labeling

Since the time of the report by Frank, Stewart & Rowberg in 1995, much work has been done to develop consistency in the labeling of film. One example of a system developed and tested in 2006 is described in Journal of the American College of Radiology. Initial measures at a pre-determined clinical site were collected for a two week period. A new process, designed after conducting a failure mode analysis, was put into place for several of the more common labeling errors.

The new process involved using "larger and colored left and right lateral indicator markers, an automated process to label patient demographics and direct patient verification of identification" (Aakre, K and Johnson, C., 2006). This process was in place for two weeks involving approximately the same number of tests/procedures as in the first two weeks. When comparing the same procedures, there were 62 labeling

errors prior to the new procedures and 17 labeling errors following the introduction of the new procedures. A footnote to these study results indicated that patient verification of demographics was “key” to the improved outcomes (Aakre and Johnson).

Patient verification is also a significant aspect of the Universal Protocol which is required to be implemented before surgeries are initiated. Some interventional radiological procedures require the use of the Universal Protocol and would likely lead to the further reduction of identification errors if used consistently for all radiologic exams/treatments.

J. Medication Administration

Medication errors that occur in the Radiology Department are generally the result of the “...inappropriate use of a radiographic product” (USP, 2004, p 1). Many of the other medication errors are the result of “...inappropriate preparation of the patient prior to the procedure, incorrect interruption and/or resumption of an existing IV infusion, and administering the diagnostic medications to the wrong patient” (p. 1).

This information needs to be used as a basis for how to avoid medication errors in Radiology. Some of the steps are the same as those for reducing medication errors in any setting. Some will necessitate a change in the way the organization looks at Radiology and the ordering and administering of medications to patients while in the department.

- Inclusion of Radiology into the organization’s overall medication management plan is important to provide consistency of management of this process throughout the organization. The same policies and practices that apply elsewhere need to be implemented in the Radiology Department.
- Staff who administers medications to patients in Radiology should meet the minimum criteria for medication administration that exist elsewhere in the facility. This includes orientation, testing, inclusion of specific positions qualified to administer medications in policies and medical staff by-laws, and demonstration of competence of this procedure.
- Staff must be knowledgeable of the five ‘rights’ of medication administration - right medication, right patient, right dose, right time and frequency of administration, right route of administration.
- All medication orders should be reviewed by the Radiologist to determine if there are known contradictions to the administration of this medication based upon the rest of the medications being given to this patient as well as any other clinical contraindication that might exist. Pharmacists can be

used for this review also since they conduct this review for the rest of the facility.

- There should be appropriate equipment and medications available to administer in case of an adverse reaction or an error that requires immediate intervention.
- Staff should have knowledge of the functioning of an intravenous pump since many in-patients do come to the department with this piece of equipment. If it is decided not to teach all staff, there needs to be staff identified who can quickly address issues related to the proper functioning of the pump.

K. Patient Hand-Off

The handing-off of a patient from one provider to another occurs many times during a day in a hospital. Consider that this occurs not only when a patient moves from one patient care unit to another but each time the patient leaves the patient care unit for care elsewhere or each time there is a change in provider. If sufficient information is not provided to the new provider, there will be increased potential for a medical error to occur.

Each time you are involved in the receipt or transfer of a patient, the following should occur to reduce the potential for medical error:

- Have a clear understanding of the process developed at your facility for efficient transfer of information when patients move from one provider to another.
 - Most facilities are using a form of SBAR for consistency in communication of pertinent information.
 - SBAR stands for-Situation-Background-Assessment-Recommendation. An example of communicating a critical situation to a physician can be obtained from the Institute for Healthcare Improvement website www.ihl.org.
- Except in cases of an emergency, avoid accepting a patient if you have not been provided the information needed to provide safe care to the patient while in your department.
- Avoid accepting information from a transport orderly or assistant that might bring the patient to your department. This interaction will not allow for the requisite ability to ask questions and to receive answers from the previous provider. The interaction with the previous provider can be

conducted by telephone and any written information, validating the telephone conversation, can be brought with the patient.

- Access to the medical record should be available to the new provider. If this is not electronic, the hard copy medical record must be sent with the patient.
- Before sending the patient back to the previous provider or to a new provider, prepare the information needed regarding what was done to and for the patient, the patient response to the intervention, follow-up care needed, and any other pertinent information needed to support safe care.
- Contact the new provider/designee, to provide that individual the opportunity to ask and receive answers to questions regarding the status of the patient at the time the patient is accepted. The designee should only be a person qualified to provide care to the patient.

L. Clarity in Intent and Number of Policies and Procedures

This is another risk issue and cause of medical errors that staff cannot directly control. Like the steps described under information management, much of what can be done in the area of policy control will be in the form of requests, recommendations and suggestions. To gain understanding and control of policies and procedures, the following is suggested:

- Gain a clear definition of a policy and a procedure from your supervisor. Request that the word 'policy' only be used for those things that must be followed 100% of the time. Of course, you can only do this for your departmental policies but this may form the basis for a total organizational program.
- Volunteer to serve on a policy review committee in your department.
- Review each policy and place them in distinct categories. The first category includes those policies that need to be followed as written 100% of the time, unless authorized to do otherwise. The second category would include those that have some required steps and some steps that can be adapted. The third category would include those policies that have nothing in them that must be followed 100% of the time.
 - Retain all the documents that meet the definition of policy as policies. There should be about ten of these.

- Rework the second group to either incorporate the policy information into the group now called 'Policies' or to determine how much of this could be eliminated as policy information.
 - Rework and label everything that remains as guidelines.
 - Gain approval for your system; share with staff; share with the Performance Improvement staff as a part of your PI program.
- Recommend a good Radiology Procedure Manual that is commercially developed that can be used as the procedural resource for the department.
- Review all departmental procedures. Eliminate those that are appropriately covered in the purchased manual. Retain those that are unique to your facility.
 - Gain approval for your system; share with staff; share with the Performance Improvement staff as a part of your PI program.
- Work with supervision to define a standard method for introducing new or revised departmental policies. If you follow the recommendations under Timing of Process Changes, these will only be announced on the first or third Wednesday (for example) and the in-service on these new documents will be scheduled for the fourth Wednesday (for example).

M. Protocols

- Evidence-based protocols are quickly becoming an integral part of patient care as they provide standard interventions to be taken based upon the data received from patient examination, observation and the medical plan of care. The processes used in developing a protocol include developing a process map, creating a standard check-list, implementation following education of users, and on-going monitoring to ensure protocol is in place and any barriers to implementation are identified.

N. Using FMEA Before New Processes Are Implemented

In healthcare today, we often move very quickly when there are new procedures or new pieces of equipment for our use. There is generally some limited in-service education provided. We do not always fully test the processes we have defined to use the new equipment or to implement new procedures such as is done in other industries. This often results in rework becoming necessary a while after the procedure or equipment has been introduced. Conducting an FMEA on all new procedures and equipment will help address weaknesses in the implementation plan before they lead to errors or other work related issues.

This process has been used frequently as an important tool in healthcare since 2001 when The Joint Commission started to require a FMEA be conducted annually on a proposed or existing critical process. The FMEA is a tool that helps identify weaknesses or risk points in the process that can and should be addressed to avoid any errors that could result from these risk points.

“Failure Modes and Effects Analysis (FMEA) is a systematic, proactive method for evaluating a process to identify where and how it might fail and to assess the relative impact of different failures, in order to identify the parts of the process that are most in need of change.” (IHI, 2011). The process also includes the initial implementation of the new or revised process called the testing phase followed by an evaluation of the effectiveness of the planned actions, revision as needed and finally, approval for full implementation. The entire process generally takes a year when considering all the phases, testing, evaluation, retesting and approval. However, with practice and experience, a group can complete the process in less time, particularly if the topic being addressed affects only a portion of the organization or staff.

As staff concerned with the reduction of medical errors, you should consider the following:

Request to have the current FMEA being conducted in your facility discussed at staff meetings on a regular basis. Even if it does not directly impact your department or practice, knowing what is going on in your organization is important and you can gain from knowing the process and information.

- Volunteer to serve on an FMEA team.
- Recommend processes that you feel have many risk points to be reviewed as part of the FMEA process.

O. Full Reporting of Errors/Near Misses

All facilities have a defined method for the reporting of errors and many are also requesting reporting of near misses. Identifying risk points by reporting near misses is an effective way of working to create a safe work environment. It is important to understand the reporting system in your facility and use it as intended.

Most facilities use what are called Incident Reports as the method for reporting errors or near-misses. Learn how to clearly document an incident or near miss by writing factually and accurately providing data needed to investigate the incident or near miss. Avoid using an Incident Report to report staff behaviors unless these behaviors have created a risk to patients. Also, when appropriate, provide input to either the Risk Manager or the Safety Committee on ways in which the reporting process can be improved.

The most effective tool the Risk Manager has in identifying areas of risk in an organization is the use of the incident report for all incidents and all near misses. By receiving information from all areas of the facility, the Risk Manager can aggregate the results and determine if there are trends or specific areas in the delivery of care that continue to lead to errors or near misses.

Often staff decline to fill out a report, particularly if there was no apparent harm to the patient from the error that was committed. Hopefully, there are no longer any organizations which penalize the staff based upon the number of incident reports completed.

To support the completion of the incident reports, the organization should:

- Build a culture of safety in the total organization.
- Develop a quick method of reporting incidents and near misses, which continue to encourage this reporting.
- Define the purpose of the incident report for describing patient care incidents or near misses and discourage their use for personnel conflicts.
- Provide education for the staff on the definitions of incident, near miss and adverse events.
- Develop a system, which provides feedback to the staff in each department on the incident reports submitted, trends over time, and actions taken based on the reports.

Staff is obligated to:

- Complete incident reports on all incidents or near misses.
- Complete the reports as factually as possible.
- Notify supervision of the incident or near miss.
- Submit the report on a timely basis.
- Understand the definition of a sentinel event and the steps that are to be taken when one occurs.

Volunteer to serve on a Root Cause Analysis task force or a group performing a Failure Mode Effects Analysis. Do this even if the group is not addressing issues related to your department. There is much you can learn about how the rest of the hospital functions

when sitting in a multi-disciplinary group discussing how to find the cause of an adverse event or how to find those points in a process that could lead to an adverse event.

P. Full Disclosure

Most accrediting or licensing bodies require that patients and/or families be advised when a medical error has occurred during the provision of care. In the past, it was more common not to discuss these errors believing the patient/family would not understand and also as a form of protection of the providers against litigation.

In reality, patients and families want to know not only when an error occurs but also what it was, the actual or potential impact of that error, what has been done to address the error and what has been done to assure this error does not happen again. It is also known that patients/families are less likely to proceed with litigation if there is full disclosure of this information and if the treating physician provides that disclosure.

As a member of the staff, you should:

- Become familiar with the organization's process for providing full disclosure to patients and families.
- Make certain all errors are reported to the supervisor and treating physician.
- Implement any follow up interventions that may be ordered.
- Provide the patient/family with support.

Q. Patient/Family Reporting of Errors

There is a belief by some that patients/families should have the ability to report what they perceive to be errors in the care received/not received as they would have direct observation with what they believe to be inappropriate care. Dr. Carolyn M. Clancy, Director of the Federal Agency for Healthcare Research and Quality said "Currently there is no mechanism for consumers to report information about patient safety events. Patient reports could complement and enhance reports from providers and thus produce a more complete and accurate understanding of the prevalence and characteristics" (Clancy, 2012).

The Obama administration wants consumers to report medical mistakes and unsafe practices by doctors, hospitals, pharmacists and others who provide treatment. A draft plan is being developed outlining what should be reported and defining the process to be used. Hospitals say they are receptive to the idea, despite concerns about malpractice liability and possible financial penalties for poor performance.

Some of the proposed questions that patients/families will be asked to answer when calling to report what they believe to be an error are: "Have you recently experienced a medical mistake? Do you have concerns about the safety of your health care?" And it urges patients to contact a new "consumer reporting system for patient safety." The intent of the system is to use the information submitted by patients to make health care safer (Pear, 2012).

VII. What is Our Obligation as Providers of Care/Services?

A. Our Obligation

- To keep patients safe
- To provide care that is error free
- When an error occurs, the patient/family is advised of that error, the impact of that error, what will be done to correct that error for this patient and for future patients. Patients expect errors will not occur.

B. What Do Patients Expect?

- To have competent care providers
- Accurate care and treatment
- Honesty
- Safe care without errors
- To be advised of an error if one occurred

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1. Thirteen years after the publication of *To Err is Human* in which it was stated that 98,000 people die each year as a result of medical error, the Journal of Safety reported all of the following EXCEPT:
 - A. serious adverse events occurred in 21% of 4,200 cases reviewed
 - B. cost-savings based on shorter lengths of stay
 - C. number of deaths related to hospital error is between 21,000 and 440,000
 - D. lethal adverse events are as high as 1.4% of the 4,200 cases reviewed

2. The higher number of adverse events is partly due to:
 - A. increased use of electronic medical records
 - B. relying on clinical staff to count vs having clerical staff complete the count
 - C. more families reporting events
 - D. counting missed treatments that were not being recorded in the medical record

3. A medical error is defined by the Institute of Medicine as the failure of a /an _____ action to be completed as intended, or the use of a wrong _____ to achieve an aim.
 - A. standardized: plan
 - B. plan, procedure
 - C. planned; procedure
 - D. planned; plan

4. There are several types of medical errors that occur in Radiology departments. These include all EXCEPT:
 - A. the erroneous switching of intravenous rates
 - B. the improper dosing of medication for sedation
 - C. the receipt of the wrong medicine from pharmacy
 - D. the failure to note contrast-agent allergies

5. The Joint Commission has identified the handing off of patients from one provider to another as:

- A. one of the times of highest risk for a medical error to occur
 - B. one of the safest aspects of patient care since there are two providers present
 - C. one of the most expensive periods in a patient's hospitalization
 - D. an indication of discharge readiness
6. A major contributor to medication errors in Radiology is:
- A. the lack of RN's or LPN's to administer the medications
 - B. patients having received medications as ordered by a physician other than the Radiologist
 - C. the lack of information related to the patient's condition
 - D. the lack of staff preparation for administration of medication
7. Changes in the following demographics/systems in this country are contributing to the shortage of healthcare resources, EXCEPT:
- A. a declining birthrate
 - B. people living longer
 - C. advances in technology
 - D. growth in the healthcare system
8. The lack of sufficient numbers of computers, FAX machines and telephones to provide access by staff can lead to the commission of medical errors because:
- A. information that is deferred can be easily forgotten
 - B. information that is written in a paper record is often illegible
 - C. appointments may not be made at the time desired
 - D. patient information is not entered on a timely basis for use by all providers who need to refer to this information
9. The culture of blame exists, or has existed, in the health care system for many years. This contributes to the commission of medical errors by all of the following EXCEPT:
- A. it keeps people from reporting errors or near misses
 - B. it results in individual consequences for the staff reporting
 - C. it requires the assessment of system factors linked to the error
 - D. it supports a closed culture
10. Patient falls are one type of medical error that occurs in radiology. Patients are at risk for falls, or actually fall when:
- 1. they are not assessed for their ability to be unattended
 - 2. there are several pieces of equipment stored in the hallways
 - 3. they are transferred from cart to cart

4. they are secured in their chair

- A. 1, 3, 4
- B. 1, 2, 3
- C. 2, 3, 4
- D. 1, 2, 4

11. All hospitals receiving federal funds are required to have a patient safety program. Actions that you can take to participate in this program are:

- 1. Know how to access the leaders of the organization's Patient Safety Committee.
- 2. Request to have regular reports from the Safety Committee presented to staff during staff meetings.
- 3. Ask to attend a meeting of the Safety Committee.
- 4. Assume the members of the Committee will contact you to discuss participation in the program

- A. 1, 3, 4
- B. 1, 2, 3
- C. 2, 3, 4
- D. 1, 2, 4

12. During a shortage of personnel needed to provide quality care, staff should be able to define:

- 1. safe care
- 2. how to contact staffing agencies
- 3. the length of time they can be expected to provide only safe care
- 4. the chain of command for reporting and receiving guidance

- A. 1, 3, 4
- B. 1, 2, 3
- C. 2, 3, 4
- D. 1, 2, 4

13. One way of gaining control over the timing of process changes/in-services and announcements is to avoid signing that you have read and understood new policies or memos that have been distributed.

- a. true
- b. false

14. It has been demonstrated through research that industries demonstrating a culture of safety, also have a _____:
_____:
- A. democratic leadership
 - B. regular meetings
 - C. competitive compensation
 - D. non-punitive culture
15. Patient-Centered care is an important way to function in a healthcare system as this emulates:
- A. the hierarchy of status in the organization
 - B. the order of job descriptions in the organization
 - C. the fact that the body functions as a whole rather than as individual parts
 - D. the differences in seniority levels in the organization
16. Whenever possible, patients should be active participants in their care. When this occurs, the potential for the commission of a medical error is reduced if the staff:
- A. follows the suggestions/recommendations of the patient
 - B. listens to what the patient is saying
 - C. sets the time for interventions to conform to the patient's schedule
 - D. keeps all medications at the bedside of each patient
17. Employees in the airline industry have the authority to stop a flight from taking off if they have any concern that there may be a problem with the preparation, equipment or the aspects of the flight. This same authority needs to be given to healthcare employees in order to reduce medical errors. Actions that demonstrate this authority include all EXCEPT:
- A. following the chain of command
 - B. participation by all involved parties
 - C. ability to ask questions no matter who is leading the group
 - D. ability to ask for a time-out at any time it is felt to be important to do so
18. The authority to opt-out of implementing policies and processes is often confused with:
- A. the level of management
 - B. whether or not one is licensed by the State
 - C. autonomy of practice
 - D. employment rights
19. Patient falls make up a significant number of the medical errors that occur in the Radiology Department. Steps to take to reduce the potential for patient falls are:

1. receiving information regarding the patient's physical and mental status
2. receiving information on the patient's fall risk status
3. determining that a patient is safely secured in a wheelchair or on the exam table
4. requiring a person from the patient care unit remain with the patient while in Radiology

- A. 1, 2, 3
- B. 1, 3, 4
- C. 2, 3, 4
- D. 1, 2, 4

20. Reduction of medication errors starts with an understanding of why most of these occur. The major reasons for medication errors are:

1. the inappropriate use of a radiographic product
2. the lack of RN's or LPN's available to prepare and administer the meds
3. the lack of appropriate preparation of the patient prior to the procedure
4. incorrect implementation of the intravenous pump

- A. 1, 3, 4
- B. 1, 2, 3
- C. 2, 3, 4
- D. 1, 2, 4

21. The five rights of medication administration are the right medication, the right patient, the right dose, the right time and the right _____.

- A. physician
- B. Care Plan
- C. policy
- D. route

22. The policies and practices that define medication administration in the organization need to be different in the Radiology Department since there are always physicians available in the Department.

- A. true
- B. false

23. SBAR is a process used in some organizations as a consistent format for providing information during a patient hand-off. SBAR stands for situation, background, _____ and recommendations.

- A. activities
- B. authority
- C. appointments
- D. assessment

24. The first step one can take to gain some control over the number of policies in your department is to:

- A. volunteer to serve on a policy review committee
- B. get a clear definition of a policy and procedure
- C. get a good Radiology Procedure Manual
- D. define a standard for introducing new policies

25. A failure mode effects analysis is a[n] _____ tool that is used to identify weak points in a process or with equipment.

- A. systematic proactive
- B. computer based
- C. engineering developed
- D. CAD designed

26. Actions to take as a staff person who understands the impact FMEA can have on error reduction are:

- 1. volunteer to serve on a FMEA team
- 2. request to have the current FMEA being conducted in your organization discussed at staff meetings
- 3. report staff that does not understand the FMEA process
- 4. recommend processes you feel should be analyzed using the FMEA process

- A. 1, 2, 4
- B. 1, 2, 3
- C. 2, 3, 4
- D. 1, 3, 4

27. The most effective tool the Risk Manager has when attempting to identify risk points and trends of errors in a facility is/are the:

- A. staff meeting
- B. immediate supervisors
- C. performance Reviews
- D. incident Reports

28. Staff is obligated to complete an incident report when they either commit an error or observe an error being committed.

- A. true
- B. false

29. Staff actions that should be implemented in regard to the process of full disclosure of errors to patients/families are becoming familiar with the process, assuring all know errors are reported, implement follow-up _____ and provide the patient/family with support.

- A. sessions
- B. interventions
- C. meetings
- D. discipline

30. Some of what the patients expect are the same as our obligations to patients who come to us for care. The additional expectations of the patient are:

- 1. to have competent care providers
- 2. to receive care at a reduced cost if an error occurs
- 3. to have honesty in all interactions
- 4. to have accurate care and treatment

- A. 1, 2, 4
- B. 1, 2, 3
- C. 2, 3, 4
- D. 1, 3, 4

31. Errors can occur when a patient is taken to another department in the hospital for care/treatment due to inadequate transfer of information between providers (the transferring individual to the receiving individual). Example of these errors include all EXCEPT:

- A. overdose of fluid intake when the patient is receiving intravenous infusions
- B. fall from the chair or cart due to patient confusion/state of orientation
- C. radiological exam completed on the wrong part of the body
- D. administration of a medication to which the patient is allergic

32. Policy and procedures are approved documents defining aspects of care and responsibilities of providers. Over-time, clinical staff is moving toward the use of evidence based protocols to address aspects of care. The use of evidence-based protocols include all the following EXCEPT:

- A. development of new policy manual for inclusion of protocols
 - B. A process map
 - C. education for the users of the protocols
 - D. development of a standardized check list related to the protocol
33. The introduction of new procedures or new equipment should be done after the staff has had the opportunity to conduct a failure mode effect and analysis (FMEA) on the procedure/equipment. The FMEA:
- 1. evaluates a process to determine where it might fail
 - 2. may identify parts/processes that need to be altered
 - 3. can generally be completed in a two-week period of time
 - 4. also serves as a testing phase of a new process or piece of equipment
- A. 1, 3, 4
 - B. 1, 2, 3
 - C. 2, 3, 4
 - D. 1, 2, 4
34. There are times that a provider may determine that continuing with a specific procedure/medication/process will likely lead to an error. The provider may choose not to proceed with the procedure/medication/process. This is identified as a:
- A. problem
 - B. near miss
 - C. wrong order
 - D. inappropriate action
35. Near misses should be reported in the same time frame and process as actual errors. These reports of near-misses are useful in identifying:
- A. staff behaviors
 - B. validity of policies
 - C. care provided
 - D. risk-points
36. Since Incident Reports provide valuable information regarding the care of a patient, the organization leadership should do all of the following EXCEPT:
- A. invoke discipline on staff who complete more than five incident reports a year

- B. define the purpose of the incident report for describing patient care incidents or near misses
 - C. develop a system to provide feedback to the staff on trends of incidences in the department
 - D. provide staff education on the purpose of an incident report
37. It has been identified by some that patients/families should be able to fill out an incident report as a consistent way to report their perception of inappropriate care since they most likely witnessed what was/was not provided. The Director of the Federal Agency for Healthcare Research and Quality said:
- A. Patients and family would not have the understanding of what was an error and what was appropriate care.
 - B. There is a draft plan being developed to provide the opportunity for patients/family to report inappropriate care provided.
 - C. Some patients and family would tend to make false complaints.
 - D. Patient reports could complement and enhance reports from providers.
38. There must be clarity regarding what constitutes policy and what does not. Policy should only be used:
- 1. for actions one should consider taking
 - 2. when the information is in writing
 - 3. for department-specific policies
 - 4. for actions that must be followed 100% of the time
- A. 1, 3, 4
 - B. 1, 2, 3
 - C. 2, 3, 4
 - D. 1, 2, 4
39. In the American culture, taking time to sit in one's office is often considered that the individual is sitting and doing _____. In the Japanese culture, sitting in one's office is considered that the individual is _____ since _____ is required to make sound decisions.
- A. work; think; sitting
 - B. nothing; thinking; thinking
 - C. work; sleeping; thinking
 - D. nothing; thinking; resting

40. The decision to deviate from an organizational policy can be made when the practitioner states he/she has recently learned a better way to accomplish what needs to be done.

- A. true
- B. false