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TO: Each Supervisor

FROM: Thomas L. Garthwaite, MD
Director and Chief Medical Officer

SUBJECT: FOLLOW-UP ON CLINICAL INCIDENT AT KING/DREW MEDICAL CENTER

At the July 13, 2004, meeting of the Board of Supervisors, the Department of Health Services (DHS) was asked to report back on the completed Root Cause Analysis conducted into the clinical error in which a surgical clamp was retained in the patient following completion of surgery. Attached is a summary of this event, prepared by the Department's Quality Improvement Program (QIP), that contains the results of the Root Cause Analysis and recommendations for further corrective actions.

The Department also has conducted a review of medical errors that have occurred in DHS facilities over the past six months. As you know, medical errors have been the subject of much attention in the health care industry over the last several years. In 1999, the Institute of Medicine (IOM) published a sentinel document highlighting some astonishing statistics. In its report, titled "To Err is Human", the IOM estimated that 44,000 – 98,000 Americans die each year as a result of medical errors. Efforts to make health care safer have been underway for several years, however, the complexity of the health care industry has proved to make this a daunting task.

One of the efforts underway nationally to address health care errors is the Joint Commission on Accreditation of Healthcare Organizations' (JCAHO) policy on sentinel events. Implemented in 1995, this policy requires health care organizations to report sentinel events to JCAHO and to conduct a root cause analysis on these

events to determine the causes of the medical error and to implement systems to prevent future errors.

To date, the JCAHO has received 2,552 reports of sentinel events nationwide. A review of the various types of events reported is attached. As a result of reviewing these events in aggregate, JCAHO has launched a patient safety goals initiative that requires organizations to address key components to improve the safety of patients. Examples of these goals include using multiple identifiers to ensure appropriate identification of patients, implementing policies and practices to identify the surgical site prior to beginning the procedures (known as a time out), eliminating abbreviations that can be misinterpreted from handwritten notes, eliminating high risk medications from nursing wards, and others.

Other organizations, such as the National Patient Safety Foundation and the National Quality Forum also have been focusing on ways to address the problem of medical errors. Implementation of computerized systems, vigilance in identifying these events and addressing them systemically will help to reduce the incidence of medical errors much like the airline industry has reduced the frequency of catastrophic airplane accidents. Addressing medical errors systemically is critical.

In response to the recent events at King/Drew Medical Center and at your request, I've reviewed a synopsis of the serious medical errors that have occurred over the last six months at our acute care facilities. The numbers across the system are not unexpected, with a range of three to seven (Rancho Los Amigos National Rehabilitation Center excluded) occurring over the past six months. One facility reported three events, one facility reported four events, and two facilities reported seven events. No facility was an outlier. The types of events reported were similar to those identified by the JCAHO as sentinel events, such as medication errors, post-operative complications, and transfusion errors.

The Department is focusing on several areas to respond to medical errors. There is a working patient safety committee which has established organization-wide policy related to JCAHO's patient safety goals. As part of the Department's performance monitoring activities, staff from the Quality Improvement Program (QIP) are collecting data in several areas and reporting these to the Department's Health Leadership Board. QIP have also published, and distributed to all DHS employees, a patient safety handbook that focuses on identifying and reporting errors.

to solve it systemically. In order to better understand the culture related to event reporting across DHS, QIP is completing a system-wide safety climate survey. The results of this survey should be available this fall. The challenge facing DHS will be to become an organization that embraces error reporting and uses the information from error analysis to improve the system and make it less likely for medical errors to occur.

Please let me know if you have any additional questions.

TLG:ls

Attachments

c: Chief Administrative Officer
County Counsel
Executive Officer, Board of Supervisors

SURGICAL CLAMP RETENTION CASE
CHRONOLOGY AND QUALITY IMPROVEMENT PROGRAM ANALYSIS

Information obtained from King/Drew Medical Center (KDMC) patient medical record, interview with facility staff, compiled by Department of Health Services-Quality Improvement Program.

History

Patient arrived at the KDMC Trauma Center after sustaining multiple gun shot wounds to his chest, abdomen and left leg. The patient was taken to surgery for exploratory surgery to determine the extent of abdominal injuries caused by the gun shot wound. The patient was taken to recovery room and remained intubated (tube inserted through the mouth into the trachea used to support breathing) and was placed on a ventilator (breathing machine).

Multiple x-rays were taken over the next several days to ensure proper placement of the chest tube and breathing tube. (Note: It is common to repeat x-rays to evaluate the status of the chest tube and chest injuries after sustaining an injury such as that experienced by this patient.) The results of the x-rays noted proper placement of the chest tube and breathing tube.

On the tenth day of admission, the patient underwent a routine chest x-ray in preparation for the planned surgery that morning on an injured leg. The orientation of the x-ray was lower on the x-ray field than in previous films and it revealed more of the abdominal area. Approximately three inches of a surgical instrument were visible on the x-ray. The patient was informed that there was a retained surgical instrument in his abdomen from the first surgery and agreed to a second exploration of the abdomen to remove the instrument.

All chest x-rays were reviewed following this event. The surgical instrument was visible in two of the 13 films, which had been taken on the first and third days of admission. In these two x-rays, approximately one-eighth to one-quarter inch of the tip of the instrument was visible at the base of each film, respectively. The reviewers identified the instrument only because they were aware that it had been in the location and assessed the films specifically for this purpose.

The Department subsequently had these films reviewed by a senior attending radiologist at LAC+USC Medical Center who did not identify the instrument upon initial review and stated that it would have been extremely unlikely for a physician to identify the instrument, were it not pointed out.

Root Cause Analysis

On July 12, 2004, a Root Cause Analysis was conducted. Discussion involved the policy of counting instruments before and after surgical cases to account for all surgical instruments and the procedure which should be followed if instruments cannot be counted in trauma cases. Trauma cases are usually done emergently and there is no time to count instruments before the procedure begins. As a result, staff cannot verify that all

instruments are accounted for post-operatively. It was concluded that in the event a count cannot be completed prior to surgery, a post-operative x-ray will be taken to evaluate for the possibility of a retained foreign body.

An additional audit was completed by the Nursing Director present at the Root Cause Analysis, which revealed that instrument counts are also not being done consistently on routine surgeries. The question was raised as to why staff is not complying with established policies. The Operating Room Nurse Manager agreed to meet with all staff members individually to determine why they are not complying with policy and to reinforce the policy. Additional discussion by the group may be necessary when the Nurse Manager determines the reason(s) why staff is not complying with policies. Once the policies have been reinforced with staff, a three-month tracking of instrument counts will be conducted by the Operating Room Nurse Manager. The Nurse Manager will include 100 percent of trauma cases in her audit, as well as non-trauma cases.

Additionally, the facility Chief Nursing Officer is assessing the general management and nursing practice of the Operating Room. Specifically, they will be reviewing all policies and procedures, orientation and credentials of nursing staff, competency of nursing staff, and performance improvement monitoring. A formal plan of implementation will be developed and provided to the Operating Room Nurse Manager for follow-up. Finally, the Chief Nursing Officer is reviewing the Root Cause Analysis to ensure the corrective actions identified for nursing are appropriate and sufficient.

Additional Corrective Actions:

1. KDMC will conduct part two of the Root Cause Analysis within 30 days to address the following issues:

    - Reason(s) why staff are non-compliant with established operating room policies
    - Review initial data collected for instrument count audits by Nurse Manager
    - Determine other corrective actions that may be necessary

2. KDMC Surgery Department will conduct a peer review and address the retained foreign body.

Sentinel Event Statistics: As of June 29, 2004

Total Number of Sentinel Events	
Reviewed by the Joint Commission	2552
Since January 1995	

Type of Sentinel Event	#	%
Patient suicide	382	15.0%
Op/post-op complication	330	12.9%
Wrong-site surgery	310	12.1%
Medication error	291	11.4%
Delay in treatment	172	6.7%
Patient death/injury in restraints	113	4.4%
Patient fall	114	4.5%
Assault/rape/homicide	89	3.5%
Transfusion error	73	2.9%
Perinatal death/loss of function	71	2.8%
Patient elopement	49	1.9%
Fire	45	1.8%
Ventilator death/injury	39	1.5%
Anesthesia-related event	38	1.5%
Infection-related event	38	1.5%
Medical equipment-related	33	1.3%
Maternal death	31	1.2%
Infant abduction/wrong family	19	0.7%
Transfer-related event	18	0.7%
Other less frequent types	297	11.6%

Self-reported Sentinel Events by Year	# Non-self-reported	# Self reported	% Self reported
1995	22	1	4%
1996	31	3	9%
1997	123	16	12%
1998	50	130	72%
1999	55	278	83%
2000	87	270	76%
2001	101	336	77%
2002	146	269	65%
2003	174	313	64%
2004	75	72	49%

Method for Review of HCO Response to Sentinel Event	#	%
Per SE Policy RCA submitted to JCAHO	1976	77%
Alternative 1 RCA brought to JCAHO offices	365	14%
Alternative 2 RCA documents reviewed on-site	43	2%
Alternative 3 RCA reviewed by interviews on-site	88	3%
Alternative 4 Responses inferred from process; P&P	79	3%

Settings of Sentinel Events	#	%
General hospital	1649	64.6%
Psychiatric hospital	329	12.9%
Behavioral health facility	135	5.3%
Psych unit in general hospi	129	5.1%
Emergency department	109	4.3%
Long term care facility	87	3.4%
Home care	52	2.0%
Ambulatory care	53	2.1%
Clinical laboratory	6	0.2%
Health care network	2	0.1%
Office-based surgery	1	0.0%

Sources for SE Identification	#	%
Self-report	1688	66.1%
Media	257	10.1%
Complaints	270	10.6%
Identified during survey	190	7.4%
CMS or State reports	147	5.8%

Sentinel Event Outcomes	#	%
Patient death	2000	75%
Loss of Function	268	10%
Other	399	15%
Total patients impacted	2667	100%