醫院管理局 HOSPITAL AUTHORITY

RISK ALERT

ISSUE 2 JAN 2008

A Risk Management Newsletter for Hospital Authority Healthcare Professionals

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Message from Dr. PY Leung, D(Q&S)

We are extremely pleased with the very positive response and feedback to the 1st issue of HARA – there was warm welcome and acceptance of this new open channel to share risk information from local and overseas. In this 2nd issue, we begin to share learning points from the Root Cause Analysis of some reported Sentinel Events since the implementation of the HA Sentinel Event Policy in October 2007. We trust you will find the information helpful. By learning from one another, we can make the hospitals a safer place for our patients.

LOCAL SENTINEL EVENT (1)

WRONG LABELING OF SPECIMENS IN LABORATORY LEADING TO TRANSFUSION ERRORS IN TWO PATIENTS

WHAT HAS HAPPENED?

CMS / GCRS downtime

- Manual laboratory test request forms were used instead of GCRS generated laboratory test request labels.

Delivery of specimens from ward to laboratory

- In some wards, request forms and specimens from different patients were put into the same (one) bag.
- A batch of specimens and forms including that of patient A and patient B were delivered to the laboratory.

At the reception area of laboratory

- An error occurred in pairing up the request forms and specimens from patient A and patient B, as the serial numbers appeared similar.
- Pre-printed "paired labels" were stuck onto the 2 sets of specimen and request form. As the request forms and specimens were wrongly paired up, the laboratory no. affixed to patient A's specimen was wrongly paired with the laboratory no. of patient B's request form and vice-versa.

CONSEQUENCES

Delay in blood transfusion for one patient while another patient had unnecessary blood transfusion

- The Haemoglobin (Hb) results of specimens A and B were released to their wards and wrongly taken as that for patient B and A respectively.
- Patient A's Hb result was reported as 6.2 g/dl (the result of patient B). Two units of blood were given. The Hb was rechecked on the next day and found to be 16.0 g/dl. This triggered off the delta check mechanism and the error was discovered.
- Patient B had her Hb rechecked which was found to be low. Blood was then transfused.

KEY CONTRIBUTING FACTORS

System factors

- The Clinical Management System (CMS) / Generic Clinical Request System (GCRS) was down for maintenance and staff had to revert to using manual laboratory request system.
- The specimen was labeled with *a serial no*. torn from a corner of the manual request form and a handwritten *ID no.* affixed to the specimen for identification purpose during GCRS downtime. The standard practice of using two "standard" identifiers (name and ID Number) was not applied.
- Specimens and request forms from different patients were placed together in the same bag.
- Computer checking (delta check system) could not spot the discrepancy to raise an alert of a possible specimen error.

Human factors

- Specimens from different patients were handled at the same time.
- Specimens and forms were wrongly paired up and resulting in wrongly labeled specimen tubes.
- Failure to note the discrepancy between the laboratory result and the patient's clinical signs and symptoms to trigger a re-check of the test.

LEARNING POINT:

Only to handle specimen(s) from one patient at a time

KEY RECOMMENDATIONS TO REDUCE LABELING ERROR DURING CMS / GCRS DOWNTIME

For ward staff

- Adopt the policy of "one bag for one specimen and form" when manual request form is used during GCRS downtime,
- Label specimen with pre-printed label with patient's name and ID number (rather than using the serial no of manual form)

For laboratory staff

- Handle one specimen at a time (specimen from one patient at a time)
- Verify vigilantly the patient's identifiers on the label of the specimen against the request form.

IT system

- Minimize the frequency and duration of CMS / GCRS downtime by better coordination of all the IT maintenance activities.

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RISK ALERT SENTINEL EVENTS

LOCAL SENTINEL EVENT (2)

A DISINFECTION INCIDENT IN OPERATING THEATRE

Suspected contaminated instruments had been used on several patients in the Operating Theatre (OT) of a public hospital in October 2007.

BACKGROUND INFORMATION

Cidex has long been used to disinfect OT instruments. In order to enhance staff occupational safety, Cidex-OPA was introduced in September 2007 in Hospital X, as an alternative chemical disinfectant to Cidex. However, as the use of Cidex-OPA is contraindicated for bladder malignancy cases, Cidex would still be used for the disinfection of urological instruments.

WHAT HAS HAPPENED?

In general, Cidex-OPA at Hospital X would be prepared in the preparation room of individual operating theatre when required. On the other hand, Cidex would be prepared in the Central Preparation Room of the 4/F OT with a tray of sterile water placed next to it for rinsing purpose. Hospital X used the same kind of trays (marked "Cidex") with different shapes as containers for Cidex, sterile water, as well as Cidex-OPA. No other labeling was used to differentiate the solution in these trays.

The hospital had provided training on the use of Cidex-OPA for all OT staff. However, briefing on the "new practice" of using Cidex for disinfecting urological instruments with rinsing in a tray of sterile water in the Central Preparation Room at 4/F OT was conducted only for staff of 4/F OT.

On the day of the incident, nursing staff disinfected the urological instruments from 4 trans-urethral resection of the prostate cases in the Central Preparation Room by placing them firstly in the tray of Cidex, then in the tray of sterile water placed next to the Cidex.

In between, a nurse had to sterilize an ultrasound probe before and after its use for a brain abscess case. She came from the 2/F OT to assist the neurosurgical case at the 4/F OT and had no knowledge of the special disinfection arrangement in the Central Preparation Room at 4/F OT. As no Cidex-OPA had been prepared in the preparation room of her theatre on that day, she went to the Central Preparation Room and placed the probe into the tray of transparent liquid next to the tray of CIDEX which she assumed to be Cidex-OPA (which actually was sterile water).

The tray of sterile water was potentially contaminated by the probe. Hence other urological instruments subsequently placed into this tray of "sterile water" might have been contaminated.

KEY CONTRIBUTING FACTORS

System factors

- Inadequate briefing / communication to ensure all staff were aware of the change in practice.
- No established system or procedure for proper consultation and endorsement before a new practice was introduced. Hence the potential risk of the new disinfection practice was not identified before implementation.

Task Design

- The use of the same type of trays to hold both CIDEX and sterilized water, without labeling, or written standard procedural guideline.

Human factors

- The introduction of Cidex-OPA led the nurse into the presumption that the tray sitting next to the one holding CIDEX solution was Cidex-OPA.
- Lack of awareness of the new disinfection practice.

Panel recommendations for improvements in the Operating Theatre

- Strengthen governance in the OT
- Review the sterilization / disinfection procedures
- Source alternative instruments for urological procedures and better containers for chemical disinfectant
- Enhance staff communication
- Strengthen staff training and assessment of competency
- Improve task design for staff

LEARNING POINTS

1. Containers for disinfectants & sterile water must be clearly labeled (of the content).
2. All staff should be well informed of changes in practice before implementation

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MRI – ASSOCIATED INCIDENTS AND NEAR MISSES

Incidents and near misses related to Magnetic Resonance Imaging (MRI) have been reported in HA hospitals. Staff need to be aware of the contra-indications when requesting MRI examinations as well as the risks associated with the MRI process. Otherwise, there may be hazards to both our patients and staff.

PATIENT WITH CARDIAC PACEMAKER WAS ERRONEOUSLY BOOKED FOR MRI

A patient attended an appointment for a brain MRI examination. During the routine pre-scan safety check, the history of cardiac pacemaker implantation was noted. The MRI examination had to be cancelled because patients with such implants should not undergo MRI for pacemakers may be damaged by the powerful magnet and the pacing leads may overheat causing serious burns.

Key recommendations:

- Ensure policy & procedures are in place to check for contraindications to MRI and to conduct proper preparation for undergoing MRI examination.
- Provide patient education on implanted medical devices and other contraindications to MRI scanning through patient information leaflets in outpatient clinics and wards.

"FLYING" SCISSORS AND MOBILE PHONE IN MRI EXAMINATION ROOM

A nurse forgot to remove her scissors before entering into the MRI examination room. When the nurse went close to the MR gantry, the scissors slipped out from her pocket and flew towards the MRI machine, causing a superficial cut on the patient's eyebrow.
There was also a reported case of a "flying" mobile phone in the MRI examination room.

Key recommendations:

- **Be aware that magnet is on all the time, irrespective whether the machine is in use or not.**

Be aware of and strictly follow the safety guidelines for MRI examination room. Metal objects such as scissors or mobile phones must not be brought into the MRI examination room.

BURNED ECG ELECTRODES DURING MRI EXAMINATION

While an unconscious patient was undergoing a MRI examination, a burning smell was noted. On investigation, it was found that part of the ECG clips attached to the patient had melted.

Several possible causative factors were identified:
a) ECG electrodes of low resistance type,
b) poor contact between ECG electrodes and skin, and
c) moisture over skin.

Key recommendations:

- Use MRI compatible ECG electrodes.
- Ensure that the patient's skin is dry before applying ECG electrodes.
- Check routinely by trained nurse from the MRI unit to ensure good contact between ECG electrodes and the patient's skin.
- Advise patients to report any discomfort immediately during scanning and closely monitor unconscious patients for early detection of any problem.

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MIXING UP HEPARIN OF DIFFERENT STRENGTHS

Serious adverse incidents have been reported both in the US and UK involving inadvertent administration of wrong concentration of heparin. Near misses of using the wrong strength of Heparin have also been reported locally. Many of these incidents involved mis-selection of products / strengths from ward stock cabinets leading to overdose of heparin.

- Do not draw up heparin in batches
- Do not store high concentration heparin in patient treatment areas, except operating theatres
- Beware of the different strengths and pack sizes of heparin preparation
- Review and minimize the number of different preparation of heparin

Heparin **Sodium**		Heparin **Sodium Preservative Free**	Heparin **Saline**
1000u/ml 5ml	**5000**u/ml 5ml	1000u/ml **1ml**	**10**u/ml 5ml
			

PREVENTING DEATHS OF PATIENTS UNDER PHYSICAL RESTRAINT

The Joint Commission has reviewed 20 cases related to the death of patients who were put under physical restraint.

Most of the events occurred in psychiatric hospitals (12), followed by general hospitals (6) and long-term care facilities (2).
In 40 percent of the cases, the cause of death was asphyxiation. The remainders were caused by strangulation, cardiac arrest or fire.

- Asphyxiation arose when a towel was placed over the patient's head to protect against spitting or biting, or when excessive weight was put on the back of a patient who was in prone position
- All strangulation deaths involved geriatric patients who were placed in vest restraints and half of them died when they slipped.
- All deaths caused by fire involved male patients who attempted to smoke or tried to burn off the restraints.

Root causes identified:

- Incomplete medical assessment or examination of a patient, e.g. failure to identify possession of matches.
- Inadequate care planning where alternatives were not fully considered, restraints were used as punishment, and patients were not put under continuous observation.
- Inadequate patient observation procedures or practices.
- Staff-related factors, such as insufficient orientation or training.
- Equipment-related factors, such as incorrect application of a restraining device.

KEY RECOMMENDATIONS FROM JC:

- Reduce the use of physical restraint through risk assessment and early intervention with less restrictive measures.
- Enhance staff orientation / education regarding alternatives to physical restraint and proper application.

(Other recommendations are available in the link below http://www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_8.htm)

Suggestions or feedback on this newsletter will be most welcome, please email us through HA intranet at:
HA Risk Alert