RISK ALERT

ISSUE 30 JUL 2013

A Risk Management Newsletter for Hospital Authority Healthcare Professionals

IN THIS ISSUE

A Service Director's Perspective on Risk Management

Each and every time, we are delighted to see the rewarding efforts and achievements of our colleagues in enhancing Patient Safety. But we are also equally determined and committed to investigate, follow-up and learn from the lessons of medical errors that have occurred.

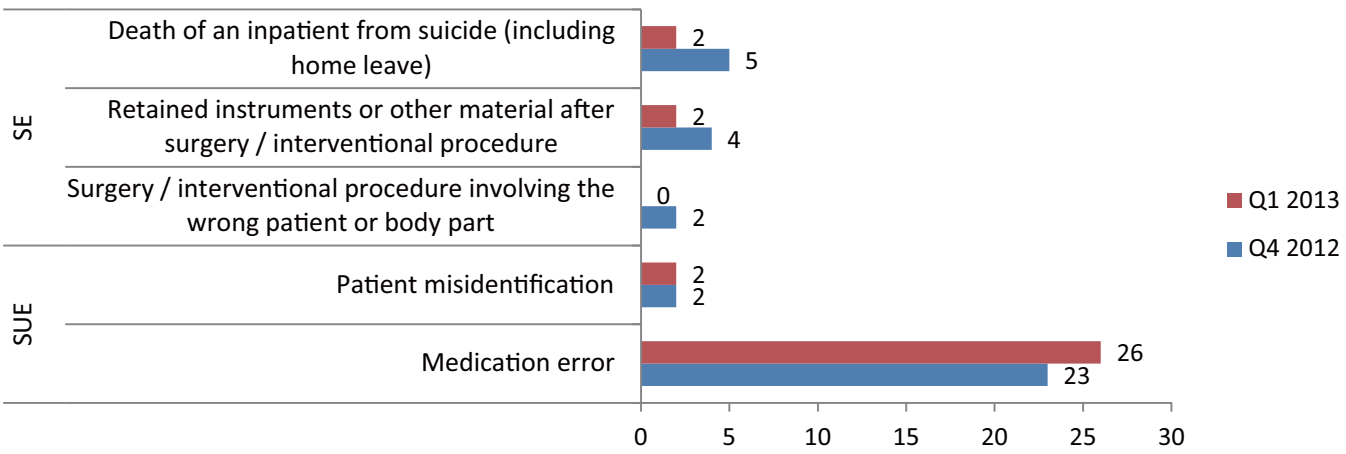
As we know, we have implemented many safety measures and quality improvement projects within HA in recent years. Yet, despite the commendable effort and dedication of our colleagues, I believe that there is still room for improvement. ***Effective Team Communication*** and ***Timely Speak-up Culture*** are some of the examples that we could substantially enhance. There are also ample evidence to show that ***Situational Awareness*** and ***Alertness***, as well as ***Assertiveness***, as advocated in ***Crew Resource Management (CRM)***, could prevent occurrence of medical errors.

Nevertheless, we all reckon that enhancing patient safety will not be easy. Make no mistakes about what we're up against. We are up against the conventional belief and myth that it is unlikely for medical error to occur because we may think that it's OK for us to rely on "***pure luck***" or "***this will not happen to me***". And what we've learnt from a number of medical incidents is that some of our colleagues are still entrenched in the misbelief that ***human errors are always forgivable***.

But we are here today to say that this is not the safety culture we believe in. It is time for us to move on. Together, we can go an extra mile. We in HA are not just a collection of well-trained professionals and experts, but a big family in the Hong Kong healthcare system serving our patients and community with compassion and dedication. With your unwavering support and commitment, I am sure we can make our public hospitals safer places by continually building better systems and promoting safety culture.

Dr. Sunny K S LIU, Service Director (Quality & Safety), HKEC

DISTRIBUTION OF SENTINEL (SEs) & SERIOUS UNTOWARD EVENTS (SUEs) (Q1 2013)



SENTINEL EVENTS Q1 2013

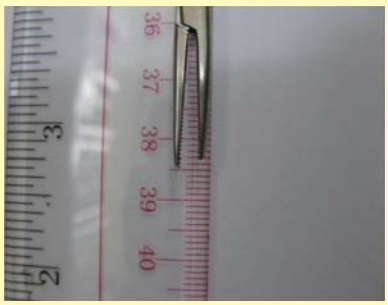
RETAINED CONSUMABLE AND INSTRUMENT

Case 1: Retained tip of artery forceps in wound

- A patient underwent an operation for excision of breast lump under local anaesthesia and was discharged on the same day.
- A tip (2mm) of straight artery forceps was found missing during checking after instrument decontamination.
- The patient was recalled for X-ray examination on the same day.
- The retained tip was located and removed without complication.
- The patient was discharged on the next day.

Contributing Factors:

1. Failure to notice the damaged forceps.
2. Lack of system to identify defective instrument.
3. Metal fatigue causing broken instrument.



Recommendations:

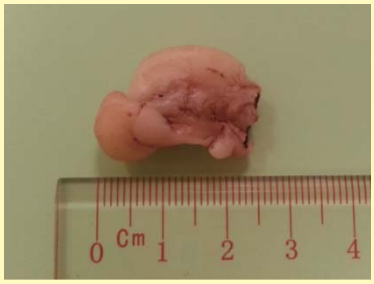
1. Establish a tracking system to detect and replace aging instruments.
2. Reinforce instrument checking before and after use.

Case 2: Bone cement retained in a hip joint

- A bipolar hemiarthroplasty was performed for a hip fracture.
- Imaging study post-operatively showed a shadow in the hip suspected to be a piece of loosen bone cement.
- With patient's consent, a 2.5 cm bone cement was removed from the acetabulum without complication.
- The patient's rehabilitation was uneventful.

Contributing Factors:

1. Once in situ, the hemiarthroplasty made checking of foreign body inside the acetabulum difficult.
2. Failure to detect the retained cement.
3. Insufficient measures to prevent slipping of cement to the joint space.



Recommendations:

1. Devise a system to prevent and detect retained cement.
2. Review the use of protective materials to cover the acetabulum during the procedure.

PATIENT SUICIDE

Two patient suicide cases were reported during this period.

One inpatient, with history of depression, was suspected to have jumped from height and found lying on the floor in an open area within the hospital compound. One patient with terminal cancer committed suicide after being found missing in the ward.

Key Contributing Factors:

1. Failure to recognize patients' suicide thought.
2. Ineffective communication among healthcare staff.
3. Inadequate environmental and security safety measures.

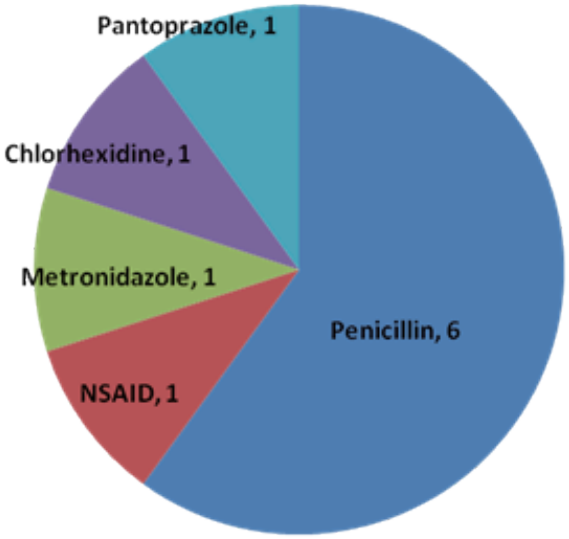
Recommendations:

1. Enhance the environmental safety measures and workforce planning.
2. Enhance staff training in recognizing suicidal risk.
3. Enhance communication among healthcare workers.

SERIOUS UNTOWARD EVENTS Q1 2013

Among the 28 SUE cases reported in this quarter, 26 were medication errors and 2 patient misidentification. The medication errors included: known drug allergy (10), usage of dangerous drugs (5), anticoagulants (3), insulin (3), concentrated electrolytes (2), and others (3).

CASE HIGHLIGHTS ON KNOWN DRUG ALLERGY (KDA)



Case 1: Administration of Metronidazole to a patient with known allergy to Ticomona-200

- The patient gave a history of allergy to Ticomona-200, which was documented in the free-text entry of the allergy module in the Clinical Management System (CMS).
- A doctor prescribed Metronidazole to the patient, apparently without knowing that "Ticomona-200" is a proprietary brand name of Metronidazole.
- A dispenser tried but failed to ascertain the ingredient of Ticomona-200.
- A nurse noted that the Medication Administration Record (MAR) had already been vetted by the pharmacy. One dose of Metronidazole was obtained from the ward stock and given to the patient.
- Subsequently, another pharmacy staff found that Ticomona-200 was Metronidazole and informed the ward.
- The patient had no adverse reaction.

Case 2: Administration of NSAID to a patient with known allergy to Nidol

- The patient attended AED for neck and shoulder pain.
- The record in CMS showed "Nidol" allergy.
- A doctor searched the internet and misinterpreted Nidol as a herbal analgesic.
- A dose of Ketorolac 30mg intramuscular injection was given to the patient.
- Later, another doctor noted that Nidol was actually Nimesulide, which was a COX-2 inhibitor, a subclass of NSAID.
- The patient had no allergic reaction.

Recommendations for KDA cases 1 & 2:

1. Ascertain the exact ingredient before prescribing to a patient who is allergic to a drug which is unfamiliar to the prescriber.
2. Use "generic name" rather than "brand name" to enter the drug allergy information in CMS to facilitate automatic checking of drug allergy.
3. Set up hyperlink in the CMS workstation to facilitate prescribers' access to reliable online drug database (e.g. Department of Health).
4. Consult a pharmacist whenever in doubt.
5. Reinforce complete checking of allergy history.

Case 3: Application of Chlorhexidine to a patient with known allergy history

- A patient with history of anaphylactoid reaction was found by a skin prick test to be sensitive to Chlorhexidine Gluconate, Atracurium and Augmentin. The information was documented in CMS.
- The patient underwent an operation. The wound was swollen with pus.
- The attending doctor verbally prescribed aqueous 0.05% Chlorhexidine solution for the nurse to disinfect the wound with irrigation.
- The doctor forgot the patient's known allergy history and the nurse did not notice the history.
- Consequently, the patient developed rash on the face, abdomen and lower limbs.

Contributing Factor:

Lack of awareness of checking allergy history before a procedure.

Recommendations:

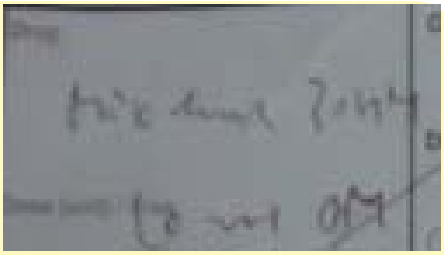
1. Promote the use of visual aids to alert staff for rare allergens in topical agents.
2. Check allergy history before a procedure requiring topical disinfectants.

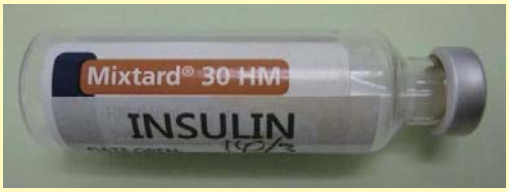
SERIOUS UNTOWARD EVENTS Q1 2013

CASE HIGHLIGHTS OF OTHER MEDICATION INCIDENTS

Administration of wrong dosage of Insulin

- A patient with Diabetic Mellitus was prescribed subcutaneous Mixtard 30HM 10 units daily.
- In the morning, a nurse prepared Mixtard 30HM 30 units and administered the drug after counter-checking with another nurse.
- In the afternoon, the patient was found unconscious, with a blood glucose level of < 1.1mmol/L.
- After receiving treatment, the patient's condition improved and blood glucose level was back to 6.5mmol/L.





Contributing Factors:

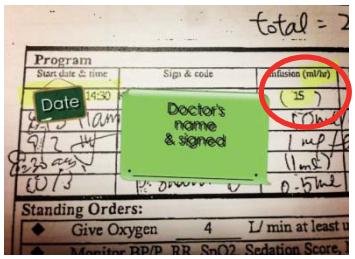
1. Knowledge deficit on the meaning of Mixtard 30HM.
2. Confirmation bias during checking procedure.

Recommendations:

1. Review the independent double checking practice of nursing staff during administration of high risk (alert) medication.
2. Enhance medication training to nurses, with emphasis on the commonly used high risk (alert) medication.

Wrong infusion rate of Opioid

- A patient was admitted for palliative care and pain control.
- An intrathecal infusion of Morphine 15mL/day was prescribed by the Pain Team doctor.
- An attending doctor (Dr. A) wrote "15", without specifying the unit, onto a *pre-printed* "epidural analgesia form" under the column of "infusion (mL/hr)" in the prescription table.
- Two nurses prepared the drug according to the prescription table and set the rate of 15 mL/hr.
- In the evening, the patient developed desaturation and hypotension. The infusion was withheld for one night. Next morning, an attending doctor (Dr. B) changed the rate to 10 mL/hour and the infusion continued.
- In the evening, a senior doctor (Dr. C) discovered that the unit of infusion (mL/hour) was incorrect.
- The patient was found to be irritable and restless. All Opioid analgesic was withheld.



Contributing Factors:

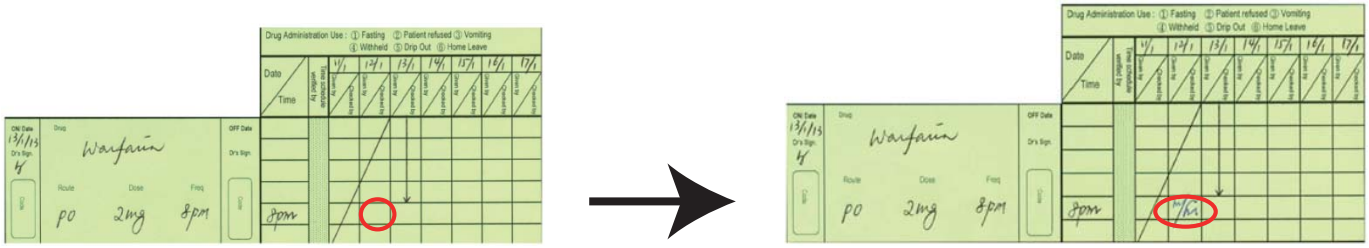
1. Lack of awareness of the usual dosage of intrathecal analgesia (which was rarely prescribed) by the two nurses and Dr. B.
2. Lack of awareness by the prescribing doctor on the pre-printed unit (which should be "mL/hour" instead of "mL/day") in the epidural analgesia pre-printed prescription form used for prescribing intrathecal analgesia.
3. Unclear documentation in the prescription form and progress sheet.
4. Ineffective communication between doctor and nurses on dosage and rate of infusion.

Recommendations:

1. Enhance the medication training and knowledge of junior doctors especially for dangerous drugs.
2. Ensure the use of appropriate pre-printed drug prescription form.
3. Pay special attention to the ***infusion rate*** and the ***unit*** of measurement.
4. Ensure verbal communication between the prescribing doctor and attending nurses for prescriptions requiring special attention.

Administration of an extra dose of Warfarin

- Warfarin 1.5mg daily was prescribed on the MAR for a patient with paroxysmal atrial fibrillation.
- A doctor changed Warfarin to 2mg daily during a morning round and specified that it should be started the next day (Warfarin 2mg at 8pm was written on the MAR).
- Nurse A drew a diagonal line and an arrow on the MAR to indicate the commencement date and time of the next dose.



- At a glance, there was an "empty box" at 8pm on the MAR form on the day the drug had been given. This had led nurse C to administer an additional dose of Warfarin 2mg to the patient after checking with nurse D.
- The error was discovered a few minutes later and the doctor was informed.
- The patient did not suffer any harm.

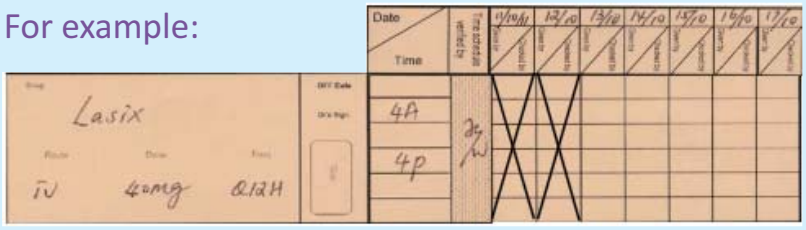
Contributing Factors:

1. Non-compliance with the standard drug administration procedure.
2. Mis-communication on the administration column in MAR.

Recommendations:

1. Ensure staff compliance with standard drug administration procedure.
2. Revise the way of crossing off preceding space to clearly indicate the commencement date and time of drug administration.

For example:



3. Review the training system for all nursing staff on medication safety.

Administration of Vancomycin by intravenous bolus injection instead of slow infusion

- Intravenous infusion of Vancomycin 1gm every 24 hours was prescribed for a patient with persistent fever.
- A vial of Vancomycin (500mg) should have been diluted in 200mL 0.9% NaCl and administered by slow infusion.
- A nurse, however, dissolved the vial of Vancomycin (500mg) in 10mL 0.9% NaCl and administered to the patient in a bolus.
- The patient developed rash over the chest, abdomen and limbs, requiring treatment by Chlorpheniramine.

Contributing Factor:

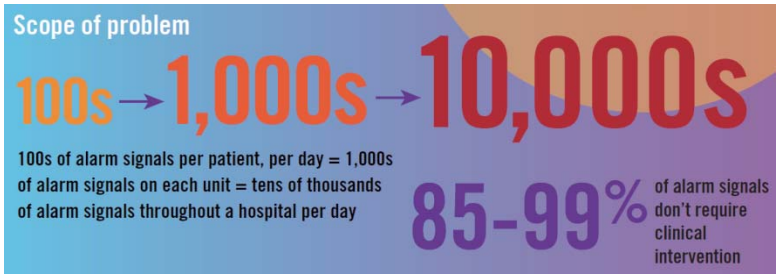
Inadequate knowledge on drug administration.

Recommendations:

1. Post a quick reference to remind prescribers on commonly used Antibiotics requiring further dilution and infusion at the point of use (e.g. injection trolley).
2. Design an alert poster on drugs requiring further dilution.

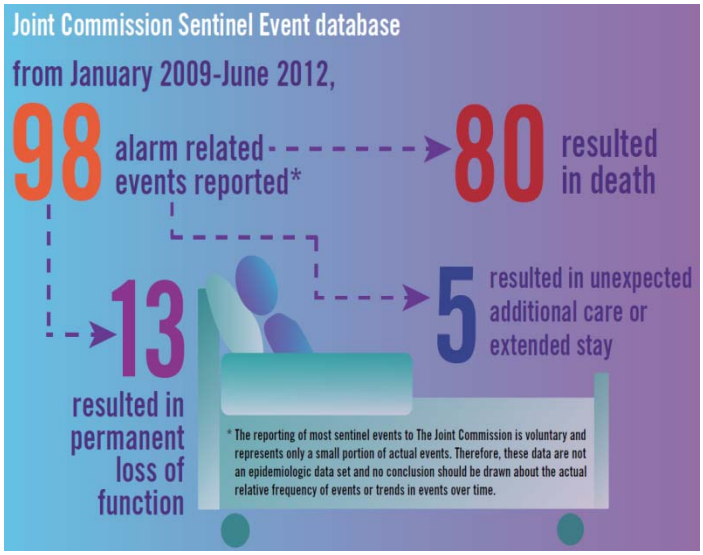
"The WOLF is COMING"

Many medical devices have alarm systems. Among them are bedside physiologic monitors that include ECG (electrocardiogram) machines, pulse oximetry devices, blood pressure and other parameters monitoring devices; bedside telemetry; central station monitors; infusion pumps and ventilators. These alarm-equipped medical devices are essential to providing safe care to patients in many health care settings.



As a result, clinicians become desensitized or immune to the sounds of medical device alarms, and are overwhelmed by the alarm systems' information. In short, they suffer from "alarm fatigue."

A frequent and persistent problem



Contributing Factors:

- Alarm fatigue is the most common contributing factor.
- Alarm settings are not customized to the individual patient or patient population.
- Inadequate staff training on the proper use and functioning of the equipment.
- Inadequate staffing to support or respond to alarm signals.
- Alarm conditions and settings are not integrated with other medical devices.
- Equipment malfunctions and failures.

Recommendations / Solutions:

- Put in place a process for proper alarm management and response.
- Enter all alarm-equipped medical devices into an inventory.
- Develop guidelines for alarm settings.
- Develop guidelines for tailoring alarm settings and limits for individual patients.
- Inspect, check, and maintain alarm-equipped devices.

For additional solutions, view at: www.jointcommission.org/sea_issue_50/

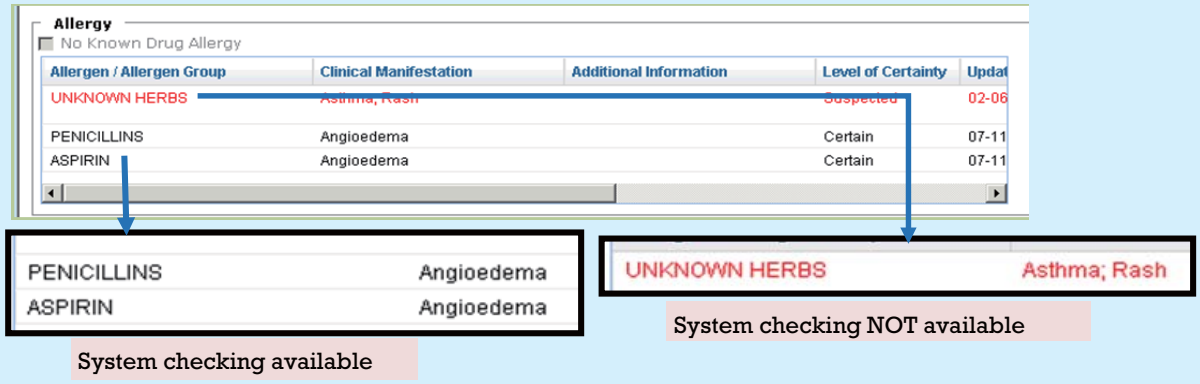
LOCAL SHARING

Tips for Minimizing Incidents due to Known Drug Allergy

Medication incident involving Known Drug Allergy (KDA) is one of the most common categories among medication-related Serious Untoward Events (SUEs), which could lead to death or permanent harm. Making reference to drug allergy information is essential to the appropriate use of drug for the right patient, and to minimize medication errors due to known drug allergy. Healthcare professionals, patients and carers should ALL contribute to keep the most updated and correct drug allergy information.

Practical Tips

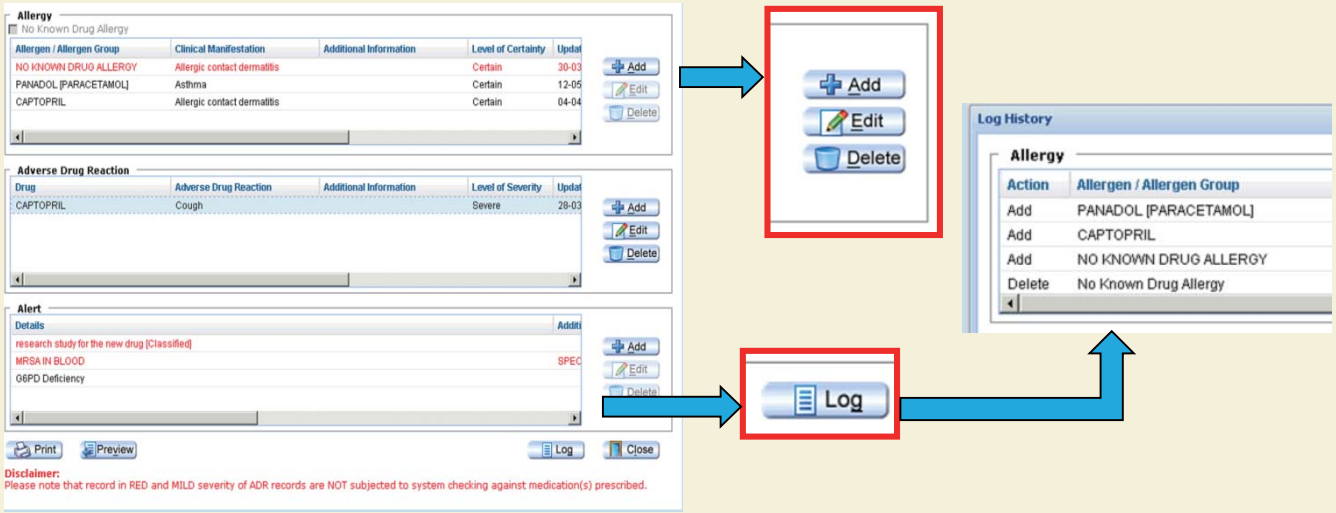
In the Clinical Management System (CMS), checking against medications prescribed will only be applied to structural allergy records highlighted in BLACK.
However, for free-text entries highlighted in RED, system checking would NOT be applied.
Therefore, free-text entries of drug allergy information should be avoided whenever possible.



In addition to known drug allergy, staff must be aware of cross sensitivity among different drug groups (including ward stock items).
For certain drug groups which may be prone to cause cross sensitivity (e.g. Penicillins, Cephalosporins, NSAIDs, Sulphonamides), a cross-allergy reference table should be developed in individual hospital. Staff could seek advice from senior or consult pharmacist if necessary.

Examples of cross-allergy reference table

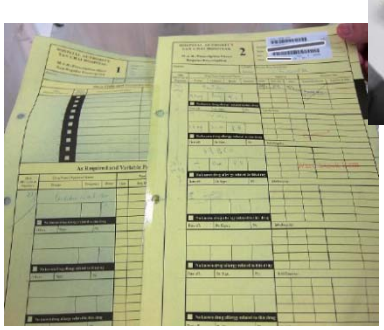
The information of known drug allergy / Adverse Drug Reaction (ADR) / general alert information could be edited if necessary. The log history could also be reviewed as an audit trail.



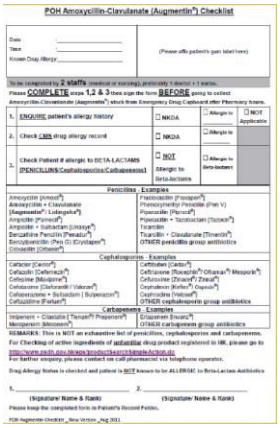
LOCAL SHARING

Good Practices for Minimizing Incidents due to Known Drug Allergy

Black folder and yellow MARs designated for patients with known drug allergy



Checklist (signed by 2 staff, preferably one Dr & one nurse) for the use of Augmentin from ward stock after pharmacy hours (Applicable to hospitals without 24-hr pharmacy service)



Safety Alert (alert label) on Ward Stock Antibiotics as reminder for necessary checking of known drug allergy history

Medication Incident Statistics (Jul – Dec 2012)

No. of Incidents by Severity	
Severity Index	**Frequency**
0	174
1	593
2	92
3	17
4	7
5	0
6	0

	Top 3 Most Common Error Types					
	PRESCRIBING		***DISPENSING***		***ADMINISTRATION***	
Position	**In-patient**	**Out-patient**	**In-patient**	**Out-patient**	**In-patient**	**Out-patient**
No. 1	Wrong Strength /dosage (38%)	Wrong Patient (66%)	Wrong Drug (52%)	Wrong Strength/ dosage (34%)	Dose Omission (24%)	Wrong dose (25%)
No. 2	Others (12%)	Wrong Strength/ dosage (8%)	Wrong Strength/ dosage (20%)	Wrong Drug (23%)	Wrong Time (19%)	Dose Omission (18%)
No. 3	Wrong Frequency (11%)	Others (6%)	Wrong Label information/ Wrong dosage form (11%)	Wrong Patient (16%)	Others (14%)	Wrong Time (14%)