

# Medication Incidents Reporting Programme Bulletin



BULLETIN 21 JULY 2008

## High Risk Medications

Medication incidents have been identified as a major cause of preventable injury among patients admitted to the hospitals. Medication incidents account for around 15% of all incidents occurred in HA. Reduction of medication errors or incidents remains a key goal in our risk management agenda.

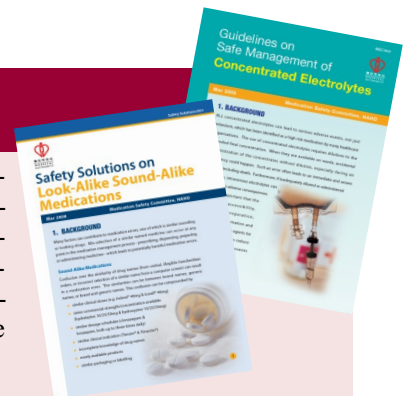
The Joint Commission on the Accreditation Healthcare Organizations (JCAHO) has made several recommendations on enhancing medication safety. One of the initiatives is to identify high risk medications used within the healthcare organization and devise risk reduction strategies. The JCAHO defines high risk medications as medications involved in a high percentage of medication errors or sentinel events and medications that carry a high risk for abuse, error, or other adverse outcomes. High risk medications carry a significant risk of causing serious injuries or death to patients if they are not used appropriately. Errors with these products are not necessarily more common, but the consequences are clearly more devastating. Examples include medications with a low therapeutic index, controlled substances, look-alike and sound-alike medications, etc.. The JCAHO also recommends that additional processes must also be developed for selecting, procuring, storing, ordering, transcribing, preparing, dispensing, administering, and monitoring these high risk medications.



In 08/09, the Medication Safety Committee (MSC) will derive a list of High Risk Medications and also devise risk reduction strategies in this area.

## Medication Safety Committee

In May 2008, the MSC issued the “Guidelines on Safe Management of Concentrated Electrolytes” and the “Safety Solutions on Look-Alike Sound-Alike Medications”, recommending error-reduction strategies in these high risk areas. For concentrated electrolytes, similar to concentrated KCl in its guidelines on safe management in 2007, safety measures have been recommended. For look-alike and sound-alike medications, hospitals are advised to adopt and devise strategies to tackle the associated problems as appropriate to the local settings.



An audit on the Management of High Risk Medications - KCl was performed by the GIA in collaboration with CPO from Dec 2007 to Mar 2008. It was found that there had been an overall decrease in the utilisation of concentrated KCl and an increase in the usage of pre-diluted KCl in various specialties across clusters. This audit has also identified and recommended certain improvement areas, e.g. the need for post-implementation review, appropriateness of ward exemptions, compliance on locking, return of and spot checking for inappropriate stocking in non-exempted wards, etc.. As recommended, the 2007 Guidelines on KCl IV Solutions has now been incorporated into the electronic version of the 2005 Drug Administration Procedures and Practices (DAR) which is accessible from the following link: [http://cpo.home/Files/DAR\\_2005\(updated%20Apr%2008\).pdf](http://cpo.home/Files/DAR_2005(updated%20Apr%2008).pdf)

The link to the audit report is: [http://ha.home/gia/reports\\_for\\_public/High%20Risk%20Medications.pdf](http://ha.home/gia/reports_for_public/High%20Risk%20Medications.pdf)

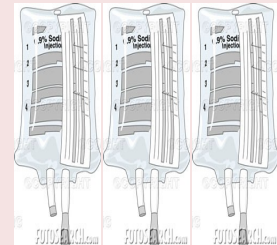
For 08/09, the MSC will develop the high risk medications list, a “Do Not Use” abbreviation list and guidelines on epidural infusion and other high risk medications. To strive for medication safety, your continuous support is always needed.

## Wrong Chemotherapy Regimen

### *Extra Carboplatin doses prescribed*

A patient diagnosed to have small cell lung carcinoma was initiated on EP-S chemotherapy (etoposide for 3 doses and cisplatin for 3 doses per cycle). Due to adverse effects, the chemotherapy regimen was changed to EJ (etoposide for 3 doses and carboplatin for 1 dose per cycle).

However, 3 doses of carboplatin, instead of 1 dose, were prescribed to the patient. Consequently, the patient received 2 extra doses of carboplatin, developed neutropenic fever and required supportive care.



#### RECOMMENDATIONS

- ☑ Enhance clinical supervision
- ☑ Incorporate protection against modification of regimen on the computerised prescription programme
- ☑ Clear documentation when switching chemotherapy regimen
- ☑ Pharmacy support by counterchecking chemotherapy prescription



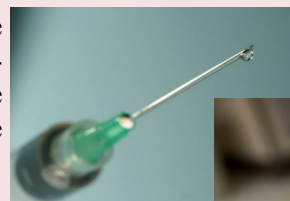
## Wrong Route

### *Medication via gastrostomy tube was mistakenly administered intravenously*

A patient with GI bleeding was prescribed with an oral medication in the form of a tablet, which was intended to be crushed and dissolved in water for administration via gastrostomy tube.

However, the solution was drawn up in a syringe used for injection and was given to the patient via the intravenous route instead.

The infusion was stopped immediately when the incident was noticed by another ward staff during administration. The patient required close monitoring and was transferred to the intensive care unit afterwards.



#### RECOMMENDATIONS

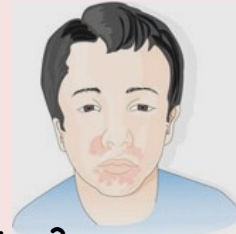
- ☑ Use oral syringe when dealing with liquid medication intended for oral or enteral route.
- ☑ Adhere to '3 Checks 5 Rights' before drug administration

## Allergic Reaction

*Patient without previous history of drug allergy developed allergic reaction*

A patient with no history of drug allergy was prescribed with intravenous piperacillin with tazobactam infusion

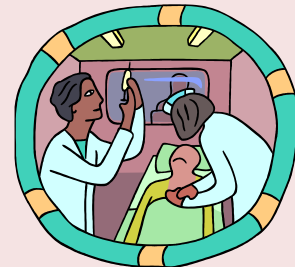
Ten minutes after commencing the intravenous infusion, the patient was reported to develop face flushing and chest discomfort. Vital signs were repeatedly checked and significant changes were recorded. Following intensive monitoring and management for over an hour, the allergic reactions subsided and the patient was transferred to the intensive care unit.



**NKDA! Allergic Reactions?**

### RECOMMENDATIONS

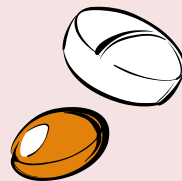
- ☑ Beware of NKDA (No Known Drug Allergy), anticipate allergic reactions & monitor patient's vital signs when new antibiotics are initiated
- ☑ Document and inform patient about the allergic reaction to prevent further undesirable reaction from happening again



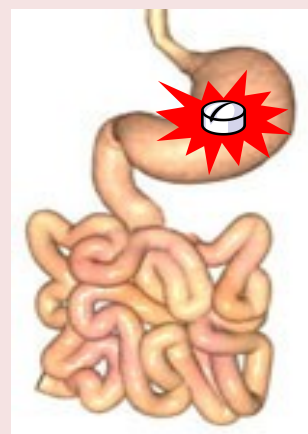
## Same Drug, Different Formulations

*Enteric Coated Aspirin tablets vs. Standard Aspirin tablets*

A patient with a past history of duodenal ulcer had been taking **Enteric Coated** aspirin 100mg tablets for his recent stroke. The patient was referred to a GOPC for follow up. Since the GOPC formulary did not carry the enteric coated aspirin tablets, standard aspirin tablets (without enteric coating) was prescribed instead.



Subsequently, the patient developed gastrointestinal bleeding and was admitted to a surgical ward 2 weeks later.



### RECOMMENDATIONS

- ☑ Beware of the differences between different formulations of the same drug and the risk of switching from one formulation to another
- ☑ Clarify any doubt and avoid making assumptions in patient management

The Number of Incidents by Severity (Jul – Dec 2007)	
Severity Index	Jul - Dec 2007
0	428
1	410
2	74
3	18
4	4
5	0
6	0

Top 3 Most Common <u>PRESCRIBING ERROR</u> (Jul – Dec 2007)		
Position	In-patient	Out-patient
No. 1	Wrong Strength/ Dosage (36%)	Wrong Patient (34%)
No. 2	Wrong Drug (11%)	Wrong Strength/ Dosage (22%)
No. 3	Wrong Frequency (10%)	Wrong Drug (17%)

Top 3 Most Common <u>DISPENSING ERROR</u> (Jul – Dec 2007)		
Position	In-patient	Out-patient
No. 1	Wrong Drug (41%)	Wrong Drug (38%)
No. 2	Wrong Strength/ Dosage (20%)	Wrong Strength/ Dosage (20%)
No. 3	Wrong Dosage Form (7%)	Wrong Patient (14%)

Top 3 Most Common <u>ADMINISTRATION ERROR</u> (Jul – Dec 2007)		
Position	In-patient	Out-patient
No. 1	Dose Omission (24%)	Wrong Drug (20%) Wrong Patient (20%)
No. 2	Extra Dose (15%)	Extra Dose (17%)
No. 3	Wrong Drug (12%)	Dose Omission (10%)

**Summary of Incidents by Most Common Underlying Causes  
(Top 5) in Jul – Dec 2007**

Underlying Causes			
In-patient	Total 506	Out-patient	Total 230
1. Failure to comply with policies or procedures	44%	1. Failure to comply with policies or procedures	36%
2. Failure in communication/misinterpretation of order	13%	2. Incorrect computer entry	32%
3. Distraction	12%	3. Distraction	13%
4. Inadequate knowledge/skills	10%	4. Similar drug name/appearance	12%
5. Similar drug name/appearance	7%	5. Inadequate knowledge/skills	10%