

The series are compiled by Rosemary Burke, Chair, SHPA Committee of Specialty Practice in Medication Safety, and Director of Pharmacy, Concord Hospital, NSW, and edited by Penny Thornton, Federal Councillor, SHPA, and Pharmacy Services Manager, The Children's Hospital at Westmead, NSW. It brings you up-to-date information about medication safety issues and strategies to prevent medication errors. The section draws on Australian incidents and also US experience, including (with permission) material from ISMP Medication Safety Alert!, a bulletin published by the Institute for Safe Medication Practices, USA <www.ismp.org>.

## AUSTRALIAN INCIDENTS

### Zerit (stavudine) confusion

**Problem:** Bristol-Myers Squibb have recently changed pack appearance for their various strengths of Zerit capsules. The 30 mg capsules used to have a label with strength and bar in green. It has now changed to be identical to the blue used for the 20 mg capsules. It will be easy to unintentionally pick up the incorrect strength.

**Recommendation:** Store separately or separate strengths with a coloured divider. Take extra care when dispensing or checking.

[Australian Incident 36, 12 April 2005]



## US SAFETY BRIEFS

### Similar but different

A patient undergoing orthopaedic surgery inadvertently received phenylephrine 10 mg IV (1 mL of 10 mg/mL) instead of metoclopramide 10 mg (2 mL of 10 mg/2 mL). The overdose led to pulmonary oedema and cardiac arrest. The patient was resuscitated and the surgery was completed. He was discharged 3 days later without further problems. A root cause analysis revealed that the nurse anaesthetist had retrieved the phenylephrine vial from a bin where metoclopramide was normally stored. The two products were both in clear glass, white capped, similar sized vials, but the labels were different colours. However, when a drug is misplaced in another drug's storage bin, the vials can look similar, especially if the front label panel is facing away from the user. Before this error, some anaesthesia staff had periodically noticed that other drug vials had been placed in the wrong bins. Unfortunately, they corrected the errors as they were encountered, but did not identify this as a potentially larger problem with look-alike vials. There are only so many vial sizes and cap colours for products, so asking drug companies to relabel or repackage the product may only create a look-alike situation with another drug. Eventually, product bar coding will be applied widely and the potential for errors will be greatly reduced. In this case, the hospital standardised the organisation of anaesthesia carts and removed phenylephrine from the top drawer, storing it away from other similar packaging.

**Australian comment:** Whilst the Australian versions of these products may look different, the message is clear—clearly separate look-alike products if products of different appearance can't be sourced.

[Medication Safety Alert! January 27, 2005]

### Vials of nitroprusside

**Problem:** After being removed from its carton, a nitroprusside vial was incorrectly stocked in an automated dispensing cabinet in the bin designated for dexamethasone. The patient received the wrong drug.

**Recommendation:** Store nitroprusside vials in their original containers since the carton packaging can help distinguish it from other medications.

**Australian comment:** Insist on maintenance of products in original packaging wherever they are stored clinically. For those of us using automatic dispensing cabinets, have a checking process in place to ensure accurate stocking as nurses will tend to assume that the correct product is stored and risk overlooking their personal check.

[Medication Safety Alert! January 27, 2005]

### Order as mg not mL

Pharmacy received a copy of a verbal order transcribed by a nurse for weekly subcutaneous methotrexate. However, the dose was expressed as '0.7 mL (25 mg)'. The dose was questioned and pharmacy received clarification that it was supposed to be 0.7 mL of the 25 mg/mL strength. Ordering by volume rather than the metric weight (mg) dose is what led to the initial confusion.

[Medication Safety Alert! January 27, 2005]

### Numbering orders can lead to errors

**Problem:** An order for Toradol (ketorolac) 25 mg was misread as '1.25 mg' due to placement of the numeral one followed by a period (1.) used to number the order.

**Recommendation:** Avoid numbering orders, even on pre-printed order forms. If orders must be numbered, each number should be circled.

[Medication Safety Alert! January 27, 2005]

### Avoid mixing medications together

**Problem:** A hospitalised patient had a prescription bottle of medication from home containing a myriad of different strengths. The prescribed strength had been changed several times. The patient had mixed all the tablets together, and was later unable to distinguish them.

**Recommendation:** Warn patients about the dangers of mixing the contents of prescription bottles. If a medication dose is changed, tell patients to bring the prior prescription bottle back to the pharmacy so the physician can be contacted and a new label with correct directions can be applied.

[Medication Safety Alert! January 27, 2005]

### Unlabelled containers in the OR

**Problem:** A patient died after receiving an intravascular injection of chlorhexidine instead of contrast media. The two clear solutions were on the sterile field in unlabelled basins during a radiology procedure.

**Recommendation:** Implement safe labelling practices for all medications and solutions that are used in perioperative settings, even if only one product is in use. Purchase skin antiseptic products in prepackaged swabs or sponges if possible. Perform regular safety rounds in perioperative areas and consider expanding on-site pharmacy services in these areas.

*[Medication Safety Alert! January 27, 2005]*

### Sterile cockpit

Distractions are a major cause of error. So it makes sense to take a cue from the airline industry about the need to specifically prohibit potentially distracting activities during the implementation of critical duties. In fact, strictly enforced prohibitions can be found in the written policies related to flight crewmember duties (sec. 121.542) as follows: *(a) No certificate holder shall require, nor may any flight crewmember perform, any duties during a critical phase of flight except those duties required for the safe operation of the aircraft. Duties such as company required calls made for such non-safety related purposes as ordering galley supplies and confirming passenger connections, announcements made to passengers promoting the air carrier or pointing out sights of interest, and filling out company payroll and related records are not required for the safe operation of the aircraft. (b) No flight crewmember may engage in, nor may any pilot in command permit, any activity during a critical phase of flight which could distract any flight crewmember from the performance of his or her duties or which could interfere in any way with the proper conduct of those duties. Activities such as eating meals, engaging in nonessential conversations within the cockpit and nonessential communications between the cabin and cockpit crews, and reading publications not related to the proper conduct of the flight are not required for the safe operation of the aircraft. (c) For the purposes of this section, critical phases of flight includes all ground operations involving taxi, takeoff and landing, and all other flight operations conducted below 10 000 feet, except cruise flight.* Unfortunately, no such prohibitions are in place for health professionals during the implementation of critical duties. It's common for physicians to be interrupted with pages or questions while attempting to review and prescribe medications; for nurses to be interrupted while administering medications; for pharmacists to be distracted by phone calls or questions while dispensing medications, or preparing or checking chemotherapy or TPN; for technicians to be interrupted while returning medications to stock or assembling requisitions or imprint lists; and so on. Patients, like airline passengers, entrust professionals with their safety. Thus, during critical phases of our work, doesn't it make sense to create a 'sterile cockpit', designing procedures and systems to eliminate unnecessary distractions and interruptions, while controlling and minimising others?

**Australian comment:** Here's a challenge! We could all develop a set of simple rules to operate within our departments along the above lines. Perhaps some of us already have—could we share them?

*[Medication Safety Alert! March 24, 2005]*

### Medication orders: don't put me on hold item

**Problem:** For years, healthcare providers have been struggling with what appears to be a fairly simple issue: how do you hold single dose or several doses of a medication, be it warfarin, insulin, or any other medication? A few examples follow. An elderly woman had been hospitalised for several days when the attending physician requested a gastroenterology consult to determine if she was bleeding. He also wrote an order to 'Hold Coumadin' with no other parameters. Per protocol, the pharmacy interpreted this order as a discontinuation of Coumadin (warfarin). The gastroenterologist performed an endoscopy, showing benign results. After the procedure, he rewrote the orders for all previous treatments and active medications using the patient's current 24-hour computer generated medication administration record (MAR) as a reference. However, since warfarin was no longer an active order, it was not listed on the MAR. Thus, warfarin was not prescribed post procedure. Six days later, the patient suffered a stroke directly related to inadequate anticoagulation. Similar errors have been reported in outpatient settings. Many physicians have forgotten to restart warfarin, after placing it on hold, once the subsequent INR has fallen within a therapeutic range. The opposite type of error can happen, too. In one case, a physician wrote an order to hold enoxaparin before a patient underwent implantation of a pacemaker, and to resume the medication 48 hours after the procedure. However, the MAR did not instruct the nurse to await the specified time frame before restarting the drug. Thus, she accidentally gave the patient a dose of enoxaparin as soon as he returned to the ICU after the procedure.

**Recommendation:** If a patient is receiving daily medications such as warfarin in doses that are based on daily lab results, the medication chart should reflect this as an ongoing active order listing just the drug, route, and frequency, with clear annotation on the records to make sure that a dose is prescribed each day according to lab values. Many charts have provision for the INR to be recorded as well as the dose. If a dose must be withheld due to a high INR value, this should be stated clearly on the medication chart. If medication doses are not guided by daily lab values, hold orders are not safe unless the prescriber includes specific instructions indicating when to resume the medication, and the specific instructions are clearly visible on the medication chart. For example, an order to hold furosemide for 48 hours should not result in discontinuation of the drug, but clear annotation on the medication chart of the conditions for holding and resuming the drug. Orders to hold a medication without specific instructions on when to resume the medication should not be allowed. Instead, prescribers should simply discontinue the medication. Computerised prescribing and including the drug's indication can preclude errors like this

**Australian comment:** We are lucky, in this country, to be able to have prescribers order on the same chart from which administration takes place and not use a separate medication administration record. This combination makes it practical for prescribers to clearly score out a boxed area on an administration chart and indicate when administration is to recommence.

*[Medication Safety Alert! March 24, 2005]*

