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Keeping Patients Safe in an Imperfect System: Learning From Each Other

Working with ISMP Canada, speaking with colleagues and working as a nurse for over 15 years, I have gained knowledge and insight into the variety of medication errors and near misses that can occur. This knowledge has assisted me to develop strategies in my own work to exercise safer medication practices when mixing and administering medications to patients. I will highlight some of these so that others may learn and recognize that they need to apply in their practice.

General Principles:

- When asking another nurse to double check a high risk medication, ensure that it is truly an **independent double** check. Allow your colleague to check all the relevant information without bias. Examples of high alert drugs include insulin, opiate narcotics and anticoagulants. Readers can refer to the September, 2003 issue of Hospital News (Safe Medication Practices column) for more information on high alert drugs.
- Always check for allergies and potential cross-allergies before administering any medications.
- Never leave unlabelled medications anywhere.
- Never leave medications in your pocket- a serious medication mix-up could occur.
- Do not draw up and leave medications in a syringe- there may be issues of drug stability, potential leaching of plastic/ -rubber from the syringe, infection control, and the potential for mix up.
- Don't keep a supply of medication "on the side". Pharmacy provides an important step in the safety process. Report problems with pharmacy supply or delivery and work to change the system rather than perpetuating system problems.

Oral and Gastric Tube Medications

- If needed for proper dosage, always cut tablets along the manufacturer's score marking. If there is no score mark or a pill is not cut along the score, there is a risk of over- or under-dosing.
- Oral medications that are in slow release formulation (there are many different acronyms such as: SR, ER, XL, LA) should never be cut or crushed. Doing so could cause the patient to absorb a larger amount in a much shorter period than intended and result in an overdose. This is especially important when administering slow release narcotics. Some slow release formulation tablets may be cut along the score lines, but check with the pharmacy before doing this.

Intravenous Medications and Infusions

- Find a quiet area, away from distractions when preparing medications. Some hospitals designate a "time out" area. When a staff member is in this area, for example, for mixing medications or setting up a PCA pump, no one is allowed to disturb them.
- Develop a systematic and consistent way for mixing so that you know exactly at which step you are at anytime in the process, even if interrupted.
- When a patient has multiple IV lines/ medications, always trace the line from the infusion pump to the IV bag before resetting the pump, otherwise you could unintentionally reset the rate of another infusion. When resetting any pump, always treat the infusion lines as if you are checking them for the first time. Be vigilant when resetting any infusion on a double pump.
- When initiating a medication on the secondary line, ensure that you see it dripping before moving on to your next activity.
- When administering an IV medication bolus from the main IV line, never increase the rate without setting a limit on the pump. If your attention is diverted from the pump, the patient could receive an

over-infusion causing inadvertent harm. Use only the bolus mode feature if it is available on your pump.

- Always draw and measure IV liquid into a syringe for correct dosage administration:
 - medication vials are often overfilled (thus higher dose); or
 - it may be difficult to withdraw the appropriate dose amount from certain medication ampoules and thus an extra ampoule may need to be opened.
- Always inspect total parenteral nutrition (TPN) to ensure that there is no separation occurring in the mixture (oily film on top). If separation occurs, the TPN should be discontinued immediately to prevent fat emboli.

Epidurals

- Use only medications specifically designated for epidurals- ideally pharmacy will pre-mix these. Measures to prevent overdose due to inadvertent mix-up with other IV infusions include:
 - Keep the epidural infusion on the opposite side of the bed from all IV infusions.
 - Label the pump and IV tubing of the epidural infusion, as well as the epidural tubing.
 - Use only IV tubing with no injection port. If your hospital is using sets with injection ports- speak to managers/, -educators/, -the risk manager to change this. In the interim tape off all ports to prevent inadvertent injection of other drugs.
 - Use only single pumps with an epidural infusion. Do not use a double pump.

Physician Orders

- Never make assumptions. Always question orders and handwriting that are not clear in terms of drug name, dosage, route or frequency.
- Avoid verbal orders, except in emergency situations.
- Always repeat a telephone (and verbal) order back to the prescriber to ensure accuracy and transcribe the order expeditiously.

Lastly, the most important strategy that I have learned has been as a bedside nurse: **Always trust your instincts!** If something doesn't feel right, it probably isn't. Don't be afraid to question things- the only stupid question will be the one you stopped yourself from asking. Improving patient safety relies on all of us to communicate and share information to facilitate improvements in our systems.

For further information on medication safety, please visit the ISMP Canada website: www.ismp-canada.org. If you have any comments or suggestions please e-mail us at info@ismp-canada.org or contact us directly via telephone at 416-480-5899.