



Two forms of methylprednisolone: one not for IV use

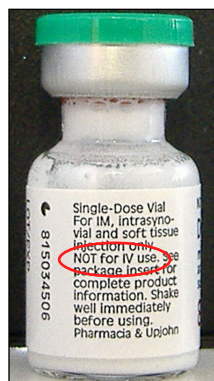
In the past 5 years, more than 50 mix-ups between methylprednisolone *acetate* (DEPO-MEDROL) and methylprednisolone *sodium succinate* (SOLU-MEDROL) have been reported to ISMP and others. While both forms of the product are used to treat inflammation, the doses may differ, and the *acetate* form should never be administered IV.

In one case, methylprednisolone *sodium succinate* 40 mg IV was prescribed generically for a 3-year-old child, but he was almost given methylprednisolone *acetate* IV instead. The nurse had accidentally selected the wrong drug from an automated dispensing cabinet (ADC). Methylprednisolone *acetate* 40 mg was the first form and strength of the drug that appeared on the ADC screen. The nurse selected this first entry instead of the correct drug, methylprednisolone *sodium succinate*. While entering the order into the pharmacy computer, a pharmacist noticed that the wrong drug had been taken from the cabinet and alerted the nurse before it was given.

Another 3-year-old child with a recent organ transplant *did* receive the wrong drug. In this case, a daily outpatient infusion of Solu-Medrol 140 mg had been prescribed for the child. The first dose was to be administered in the ED on a Saturday when the pharmacy was closed. A nursing supervisor accidentally brought a box to the ED containing four vials of Depo-Medrol, each 40 mg. The ED nurse checked a drug reference text and found that Solu-Medrol and Depo-Medrol both contained methylprednisolone. She wrongly assumed that

both medications were equivalent brand name products for "methylprednisolone" and administered Depo-Medrol 140 mg in 50 mL of saline IV to the child over an hour. The child's mother uncovered the error the next day by noticing that the medication given the day before looked cloudy in comparison to the (correct) dose that day. Fortunately, the patient did not experience adverse effects. However, the drug's manufacturer, Pfizer,* has received reports of adverse reactions, some severe, due to IV administration of Depo-Medrol.

In these cases and others, the nurses never noticed the warning on the vial, "Not for IV use," as the print is very small and poorly visible (see photo). We had previously contacted Pfizer and FDA about this labeling problem.



Depo-Medrol pulled from a pharmacy shelf last week still has poorly visible warning, "Not for IV use."

Another factor has been that nurses did not know that different chemical compounds of a drug can have vastly different pharmaceutical properties. Usually, there is no problem with ignoring the full chemical name of a drug because there is often just a single formulation. The medication administration record (MAR) or label might not even include the extender (e.g., *hydrochloride* not listed after tetracycline). But for some drugs, such as methylprednisolone *acetate* and *sodium succinate*, the difference can be clinically significant. Some mix-ups have also been caused by inadequate space in the drug name field on computer-generated MARs, which led to partial listings of methylprednisolone without all or part of *acetate* or *sodium succinate*. See **check it out!** to the right to help prevent these types of mix-ups.

*Pfizer has acquired Pharmacia & Upjohn.

check it out! ✓✓✓✓

To reduce confusion between methylprednisolone *acetate* and methylprednisolone *sodium succinate*:

✓ **Increase awareness.** Become better acquainted with the differences between methylprednisolone *acetate* and methylprednisolone *sodium succinate*. While not helpful if generic products are used, the brand name, Depo-Medrol can serve as a reminder of the correct route of administration since "depo" or "depot" in association with a drug indicates slow release and longer duration of action. Thus, these products are not intended for IV use.

✓ **Dispense from pharmacy.** Ask pharmacy to dispense all methylprednisolone products. If this is not possible, consider stocking only methylprednisolone *sodium succinate* (for IV use) and ensure that a pharmacist has reviewed all orders before administering either drug.

✓ **Use alerts and reminders.** Work with an interdisciplinary team to design a clinical alert for methylprednisolone *acetate* to appear on ADC screens and a warning notice to place in the drawer pockets. This will remind practitioners that the drug cannot be given IV. Ask pharmacy to affix a prominent warning label, "IM use only" before dispensing this drug.

✓ **Differentiate products.** List methylprednisolone products on ADC screens, other storage areas, and on MARs using the brand name first, then the generic name, if brand name products are being used.

to the point

➔ **Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.**

-- Margaret Mead

Look for unexpected hazards with chemicals

Nurses play an essential role in identifying hazardous situations *before* accidents occur. Chemicals used during the care of patients are one source of hazards that may be overlooked, as the following event reveals.

A 3-year-old child attempted to drink a cup of phenol, but spilled it down the front of his face and chest, sustaining immediate pain and irritation to the lips, chin, chest, and abdomen. An ENT resident working in a hospital clinic had poured about 1 mL of phenol (89%) into a cup and placed it on the counter in an exam room where he was preparing to perform a myringotomy on the child's mother. Phenol is used to anesthetize the tympanic membrane. The child was allowed in the treatment room along with another family member who was supposed to be watching the child. Unfortunately, the child was still able to grab the bowl and place it to his lips before spilling its contents over his mouth and chest. The involved areas were quickly flushed with water and the child was transferred to a local children's hospital,

where examination revealed erythema and whitish areas of sloughed-off dead tissue (eschar) on the oral mucosa of the lower lip, the chin, neck, anterior chest, and upper abdomen. The child also underwent an endoscopy and bronchoscopy to ensure there was no further harm to his airway and esophagus.

Prior to the accident, the hospital's ENT clinic had been receiving phenol in bulk containers necessitating the pouring into an open cup for use. Since the event, the hospital pharmacy now supplies the clinic (and ED) with unit-dose phenol applicator kits (from Apdyne), which reduces the potential for unintended exposure to this harsh chemical. Additionally, children (unless being treated) are no longer allowed in treatment rooms.

Look around your treatment areas for potential hazards like this. Also, talk to your pharmacists (or lab/central supply staff) about reducing the risk of patient harm by supplying as many chemicals as feasible in child-resistant containers or unit-dose applicators.

nicecatch



"Tuck" this one away. A nurse found an unlabeled, wrapped suppository in her patient's medication cassette. Appropriately, she returned it to the pharmacy. As it turns out, it was the correct drug, **TUCKS**, a topical starch hemorrhoidal suppository, for her patient. This product is labeled such that only alternating suppositories are labeled with the name, address, and website of the manufacturer, Pfizer. Each box contains two strips of six suppositories. While each individual suppository is labeled with a lot



number and an expiration date, only three in each strip are labeled with the product name (see photo). If dispensed individually as unit doses, three of the six suppositories will not be labeled with

the product name. ISMP has contacted Pfizer about this problem, as well as another problem with their product.

Tucks suppositories used to be called **ANUSOL**. It was re-branded about a year ago. In the upper right corner of some boxes is a prominent statement, "Formerly Anusol." Of course, Tucks has been a registered trademark associated with topical witch hazel products (pads, topical gel) for decades. Using this trademark for the Anusol line of products has caused confusion, especially in post-partum settings and outpatient settings where both product lines are commonly used.

If your patients typically use these suppositories, ask pharmacy to apply auxiliary labels to clearly note the drug name and route of administration. As this nurse did, if anything is unlabeled or unmarked, return it to the pharmacy for proper identification. If you use both the topical Tucks products and the suppositories, be sure to specify the active ingredients and route of administration on medication administration records. When appropriate, alert patients to the differences between the various products that now use Tucks as a trademark.

safetywire

⚡ Don't foil a patient's chance for success. There's a good chance you've heard the story about a patient who received a prescription for rectal suppositories but inserted them, foil-wrapper and all, because no one said to remove the foil first. Similarly, patients might swallow still-wrapped oral unit-dose products. In the ambulatory setting, if you expect patients to unwrap unit dosages themselves and use the drug properly, patient education is extremely important. However, accidents have also happened to hospitalized patients, when patients were handed unit-dose packages without explicit instructions. If plastic unit-dose packages are swallowed, intestinal perforation can occur. In one such incident, a man was injured by the sharp corner of a plastic blister package that cut through all layers of the intestinal wall (Norstein J. et al. Intestinal perforation after ingestion of a blister-wrapped tablet. *Lancet* 1995; 346:1308). Always wait to unwrap medications at the bedside when you are ready to administer them.

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Thank you to those who made National Nurses Week special! (May 6-12)