Medication safety and high-alert drugs

Order types, the rights and three checks, A Pinch drugs, controlled substances, before and after the dose

ON THIS SHEET 1 At a glance 2 Priority and safety calls 3 Exam anchors 4 Self-quiz 5 Sources ★ high yield

1 AT A GLANCE

The nurse is the last check before a drug reaches the client: assess before, check during, and evaluate after.

Order types

Order	What it means
Routine	Continues until it's cancelled
★ **PRN**	As needed for a symptom. **Check when the last dose was given**, against the ordered frequency
Standing	An order set or protocol: followed in defined situations without calling first
One-time	Given once, like an antibiotic just before surgery
Stat	A one-time order given right away
Titration	Adjust the dose within set limits, based on the client's response

The three checks

- ★ Check the rights three times: as you take it from the cart or dispensing system (check the expiration date), before you prepare it, and **at the bedside**, right before you give it.
- Barcoding: scan the wristband and the medication. It catches many errors, but you still check the rights yourself.
- Don't simply override a barcode alert: stop, find out why, and follow policy. No workarounds, like borrowing another client's medicine.
- A pill fell on the floor? Discard it. Check whether an NPO order includes medications. Coughing or gurgly when swallowing: hold oral medications and report it.

The rights of administration

Right	What to check
★ **Patient**	**Two identifiers**, like full name and date of birth; **never the room number**. Scanning adds safety; it doesn't replace them
Drug	Matches the order and the medication administration record; no allergy; not expired
Dose	Matches the order, and is in a safe range for this client's age and condition
Time	The right frequency. Many agencies allow 30 minutes before or after the scheduled time
Route	The ordered route, and one that suits the client. If it doesn't, contact the prescriber
★ **Documentation**	Chart **right after** you give it, to prevent a repeat dose by mistake
Four more	History and assessment; interactions; education; the right to refuse: teach first, respect the choice, document, notify the prescriber

Listen to the client: If a client questions a medication, stop. Explore the concern, and verify the order before giving it.

High-alert drugs: A Pinch

	Drugs, and what to know
A	Anti-infectives, like amphotericin and aminoglycosides
★ **P**	Potassium and other concentrated electrolytes. **Always diluted, never pushed**: a push can be instantly fatal. Serum potassium above 2.5 mEq/L: the label limits the rate to **10 mEq an hour**; faster rates for severe deficits need continuous cardiac monitoring
I	Insulin: many agencies require a second nurse to independently double-check it. The wrong type or amount can be life-threatening
N	Narcotics and sedatives, like morphine, fentanyl and benzodiazepines
C	Chemotherapy
★ **H**	Heparin and other anticoagulants. Look-alike vials in many strengths, including 10,000 units in 1 mL: **check the strength every time**

Why: An error with these drugs causes devastating harm. Safeguards: standard ways of ordering, storing and preparing, computer alerts, and independent double checks. The full list is longer.

Controlled substance schedules

Schedule	Abuse risk and examples
I	No accepted medical use; high abuse potential: heroin
★ **II**	High abuse potential: opioids like oxycodone, fentanyl and hydromorphone; stimulants like Adderall. **No refills**; phoned in only in an emergency, for a limited amount, with a follow-up prescription within 7 days
III	Moderate to low: acetaminophen with codeine, ketamine, anabolic steroids. Up to five refills
IV	Lower: alprazolam, lorazepam, diazepam, zolpidem, tramadol. Up to five refills
V	Lowest: some codeine cough syrups, pregabalin

Educational use only. Not a substitute for clinical judgment, your facility's policy or the provider's orders. Where practice varies, follow facility policy and state law. No patient information.

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1 AT A GLANCE, CONTINUED

Counts, waste and diversion

- ★ Kept locked. Count at every shift change with an **authorized, qualified witness**, per facility and state rules; report any mismatch. **Never sign for a count you didn't do.**
- ★ Part of a dose given? Waste the rest in front of an authorized, qualified witness, who documents it.
- Diversion signs: wrong counts, large wastes, many record corrections, clients who keep reporting poor pain relief. Report suspected use to a manager.

Disposal

- Facility: follow the facility's waste and diversion policy; don't carry household flush or trash steps over. Never give an expired drug.
- ★ Home: a **take-back site or prepaid mail-back envelope first**.
- If neither is available: flush only drugs on the FDA flush list (check the exact list). Others: mix with dirt, cat litter or used coffee grounds, without crushing, seal in a bag, and trash it. Scratch out the label.

Before the dose: check first

Drug	Check first
Blood pressure or heart drug	Blood pressure and heart rate against the ordered parameters. Below a hold parameter: hold it, and follow the order or policy. Suddenly dizzy? Postpone it until you've assessed
Inhaled breathing drug	Oxygen saturation, heart rate, respiratory rate and lung sounds; recheck them afterwards
★ **Furosemide**	**Potassium.** If low: assess how low and any symptoms, then follow the hold parameters or the prescriber's plan
Pain medicine	A full pain assessment, so you have something to compare with afterwards
Any drug	Allergies: what drug, what happened, how severe. A related drug can cross-react: tell the prescriber first

Levels, age and the response

- ★ **Trough: just before the next dose**, when the level is lowest. Peak: when the drug is highest.
- Narrow therapeutic window: small changes can cause failure or toxicity. Monitoring fits the drug: phenytoin levels, warfarin INR.
- After the dose, compare with the baseline. Anaphylaxis: hives, itching, a swollen tongue or throat, shortness of breath, dizziness, low blood pressure. **Skin signs may be absent.** Suspect it? Stop the drug, get emergency help, and expect epinephrine.

Medication reconciliation

- Admission, transfer and discharge are high-risk moments. Get the best possible history: the client plus at least one other source, like a pharmacy record, the bottles or family. Compare with the new orders, resolve differences, communicate the changes.
- Look-alike names, like Adderall and Inderal: use brand and generic names, and the purpose.

2 PRIORITY AND SAFETY CALLS

★ Potassium chloride ordered by IV push: **hold it and contact the prescriber**. Potassium is diluted and given slowly; a push can stop the heart.

★ After a medication error: **assess and monitor the client first**; then notify the nurse manager and the prescriber, and report it per policy.

The ordered route doesn't suit the client, like by mouth when he is NPO with a PEG tube: **contact the prescriber to clarify the route**. Don't change it yourself.

Furosemide due, potassium below the ordered hold parameter: hold it and notify the prescriber.

3 EXAM ANCHORS

1. Two identifiers. The room number is the trap.
2. Check, then give, then chart. Charting before giving is the trap.
3. Waste and count with an authorized witness. Wasting alone, or signing a count you didn't do, is the trap.
4. At home: take-back first, flush only listed drugs. Flushing every medicine is the trap.
5. Giving below a hold parameter, or skipping the potassium before a diuretic, are traps.

4 SELF-QUIZ

1. Many agencies allow _____ minutes before or after the scheduled time.
2. Check the rights _____ times.
3. With a serum potassium above 2.5 mEq/L, the label limits the rate to _____ mEq an hour.
4. A phoned emergency Schedule 2 order needs a follow-up prescription within _____ days.

ANSWER KEY 1. 30 · 2. three · 3. 10 · 4. 7

5 SOURCES

1. Open RN, Nursing Skills 2e, 15.2 Basic Concepts of Administering Medications. wtcs.pressbooks.pub/nursingskills/chapter/15-2-basic-co…
2. Open RN, Nursing Pharmacology 2e, 2.5 Preventing Medication Errors. wtcs.pressbooks.pub/pharmacology/chapter/2-5-preventing…
3. DailyMed, Potassium Chloride for Injection Concentrate label. dailymed.nlm.nih.gov/dailymed/drugInfo.cfm
4. DEA, Practitioner's Manual. deadiversion.usdoj.gov/GDP/%28DEA-DC-071%29%28EO-DEA226%29…
5. FDA, Drug Disposal: FDA's Flush List for Certain Medicines. fda.gov/drugs/disposal-unused-medicines-wha…

Built from RN PocketPal course lessons: Medication safety: rights, orders and reconciliation (c05-l01); High-alert and controlled medications (c05-l03); Before and after you give a medication (c05-l04). Every line on this sheet comes from those lesson scripts.

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