THE STUDY VAULT

Clinical Chaos

TPN

SKILL SNAPSHOT

Purpose

- Provides amino acids, dextrose, lipids, electrolytes, vitamins, and trace elements intravenously when enteral nutrition is not

When to use

- Intestinal failure, severe malabsorption, prolonged ileus/obstruction, high-output fistula, or other ordered indication requiring parenteral nutrition.

Supplies needed

- Patient-specific PN bag; dedicated pump and lumen; appropriate in-line filter; tubing; antiseptic; glucose monitor; lipid setup if separate; backup dextrose per policy.

PREP + PATIENT SETUP

- Verify order, patient identifiers, ingredients, total volume, rate, cycle, route, filter, expiration, and storage.
- Inspect bag for leaks, precipitate, separation, discoloration, and correct label; allow refrigerated

VAULT TIP

- TPN errors can be metabolic or line-related. Check the bag, pump, patient, and catheter as one connected system.

STEP-BY-STEP

1. Hand hygiene; identify patient with two identifiers; explain therapy.
2. Perform required independent double-check against PN order/MAR: patient, ingredients, concentrations, total volume, rate, cycle, and access route.
3. Confirm central access for hyperosmolar TPN and verify dedicated lumen. Assess catheter site, dressing, patency, and infection signs.
4. Remove PN from refrigeration at the policy-specified time. Do not microwave, warm in hot water, or use a bag with precipitate/separation.
5. Use aseptic technique. Attach the specified filter and new tubing; prime completely with PN.
6. Scrub needleless connector with approved antiseptic/friction and allow it to dry. Connect without contaminating ends.
7. Program infusion pump with ordered rate, volume, cycle, and limits. Trace the line from bag to patient.
8. Start at ordered rate. Do not speed up to catch up and do not abruptly stop a high-dextrose infusion unless an emergency requires it.
9. Keep lumen dedicated to PN. Do not piggyback medications, blood, or incompatible solutions into the PN line.
10. Monitor bedside glucose at ordered intervals and more often with initiation, cycling, rate changes, or instability.
11. Monitor I&O, daily weight, edema, lungs, temperature, catheter site, and ordered electrolytes/labs. Watch for refeeding syndrome.
12. Change bag/tubing/filter at policy intervals using strict asepsis. Never add medication to a PN bag on the unit.
13. If PN is unexpectedly interrupted, notify provider/pharmacy and follow the ordered backup dextrose and glucose-monitoring protocol.

SAFETY REMINDERS

- PN is high-alert therapy: use independent double-checks and a smart pump.
- Abrupt interruption can cause hypoglycemia; excess rate can cause hyperglycemia/fluid overload.
- New fever/chills may indicate central-line infection.
- Stop and clarify any precipitate, oiling/cracking, damaged bag, or label mismatch.

COMMON MISTAKES

- Using a nondedicated lumen.
- Skipping filter or using wrong filter.
- Catching up a delayed infusion.
- Failing to monitor phosphorus, Mg, K, and glucose during initiation.

DOCUMENTATION

- PN formulation/bag, route/lumen, rate, volume, times.
- Independent check and filter/tubing change.
- Line/site assessment and aseptic care.
- Glucose, labs, I&O, weight, fluid status.
- Tolerance, interruptions, interventions, notifications.