

Administration Checklist

The American Society for Parenteral and Enteral Nutrition (ASPEN) champions evidence-based practices that support parenteral nutrition (PN) therapy across varying patient populations, disease states, and practice settings. The appropriate use of PN aims to maximize clinical benefit while minimizing the potential risks. Use the ASPEN PN administration competency model to verify staff skills.

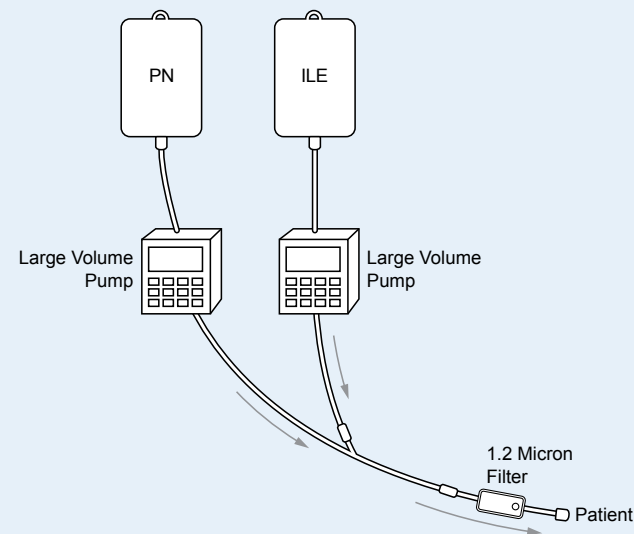
The checklist promotes safe PN practices by the nursing staff or patient/caregiver when administering PN formulations, particularly regarding compatibility and stability issues. It should be utilized when a patient starts PN therapy and reviewed daily to confirm that PN remains appropriate and is prescribed safely. Use this checklist along with companion checklists on PN prescribing, order review, and compounding.

- Perform hand hygiene.
- Use sterile technique when manipulating vascular access device (VAD).
- Inspect PN container.
 - Check for integrity of container: no defects or leaks present
 - Inspect that there are no visible particles or precipitates
 - Check that no oiling, streaking, clumping, or separation are present
 - Do not shake bag
 - Avoid direct exposure to sunlight and consider photoprotection as appropriate
- Confirm correct formulation, check for:
 - Patient's name on label
 - Allergy to any PN components
 - Match all components listed on the label against the PN order
 - Route of administration (central vs peripheral)
 - Documentation of proper VAD tip placement
 - Infusion start and end time
 - Infusion rate with taper, if appropriate
 - Beyond use date (the date and time after which the PN should not be started based on compatibility, stability, and sterility concerns)
- Verify patient identification.
 - Confirm patient identity using two identifiers
 - Inspect armband (not applicable in home care)

- Initiate PN infusion.
 - Use 1.2 micron filter on distal end of tubing below any Y-sites and as close to catheter hub as practical
 - Use photoprotection for preterm infants
 - Spike container and prime tubing to remove air (non-DEHP-containing if ILE)
 - Set infusion pump settings using independent double check
 - Trace catheter system to point of origin
 - Disinfect needleless adapter on VAD hub
 - Connect PN to patient
 - Initiate PN infusion at prescribed rate
 - Avoid co-infusion with intravenous (IV) medications through the PN line
 - If access is limited, consult pharmacist with any compatibility or stability issues with IV medications

For full recommendations, rationale, and references, go to:

- Boullata JI, Salman G, Mirtallo JM, et al. Parenteral nutrition compatibility and stability: Practical considerations. *Nutr Clin Pract.* 2024;39(5):1150-63.
- Ayers P, Adams S, Boullata J, Gervasio J, Holcombe B, Kraft M, et al. A.S.P.E.N. Parenteral Nutrition Safety Consensus Recommendations. *JPEN J Parenter Enteral Nutr.* 2014;38: 296-333.
- Pertkiewicz M, Cosslett A, Mühlebach S, Dudrik SJ. Basics in clinical nutrition: Stability of parenteral nutrition admixtures. *e-SPEN, the European e-Journal of Clinical Nutrition and Metabolism.* 2009;4(3):e-117-e119.
- Worthington P, Gura KM, Kraft MD, et al. Update on the Use of Filters for Parenteral Nutrition: An ASPEN Position Paper. *Nutr Clin Pract.* 2021;36(1):29-39.
- Guenter P, Worthington P, Ayers P, et al. Standardized Competencies for Parenteral Nutrition Administration: The ASPEN Model. *Nutr Clin Pract.* 2018 Apr;33(2):295-304.
- Worthington P, Balint J, Bechtold M, et al. When Is parenteral nutrition appropriate? *JPEN J Parenter Enteral Nutr.* 2017;41(3):324-377.



Setup for using a 1.2 micron in-line filter to administer dextrose-amino acids admixture with ILE given as a separate infusion.

PN = Parenteral Nutrition ILE = Lipid Injectable Emulsion

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Initiate monitoring protocol which includes:

Table 1. Clinical Monitoring During PN: Hospitalized Patients (Adult and Pediatric)

Parameter	Approach	Frequency
Physical examination	Including a nutrition-focused approach: <ul style="list-style-type: none"> Micronutrient abnormalities Muscle and fat stores Fluid accumulation Functional/developmental status 	On initial examination ^a
Adults: evaluate weight and height	<ul style="list-style-type: none"> Use of stadiometer, knee height calculations, or arm span measures Weight scales used in a consistent manner; patients should not wear shoes or heavy garments 	<ul style="list-style-type: none"> On initial examination, then weights daily until stable 2–3x/wk for stable patient
Neonates/pediatrics: growth parameters measured and documented on z score charts	Children less than 36 mo old: <ul style="list-style-type: none"> Weight for age Head circumference for age Weight for length Length for age Children 2–20 y old: <ul style="list-style-type: none"> Standing height for age Weight for age Body mass index for age Length/height for age 	<ul style="list-style-type: none"> Neonates: weight daily, length and head circumference weekly Infants: daily weight, monthly head circumference and length Children: weight daily to twice weekly, height monthly
Evaluate intake and output records	Oral or enteral intake, intravenous fluids and medications, blood products, urine, stool/ostomy/fistula output, other relevant wound/drain output	On initial examination, then daily until stable
Review vital signs	Blood pressure, respiratory rate, heart rate, temperature	On initial examination, then daily until stable
Blood glucose monitoring	Capillary glucose levels, in addition to correctional dose insulin program and ancillary orders for appropriate intervention for hypoglycemia	Every 1–24 h, as warranted by clinical status, discontinue once blood glucose values normalize and PN reaches target dextrose dose
Examination of VAD	<ul style="list-style-type: none"> Inspection and palpation to assess for redness, tenderness, or rash under dressing or along subcutaneous tunnel Observe for upper extremity edema Review position on chest x-ray 	Daily assessment; x-ray confirmation at VAD placement, when admitted with a VAD in place, whenever concern for catheter displacement exists
Reassess continued need for PN therapy	Intake and output records, nutrition adequacy assessment, physical examination, radiologic evaluation	Daily; or with signs indicating return of or improvement in bowel function or with change in pertinent clinical condition
General response to therapy	Wound healing, stamina, functional status, progress toward weight or growth goals	Ongoing throughout the course of therapy

PN, parenteral nutrition; VAD, vascular access device. ^a Physical examination should be done initially, then according to individual hospital nutrition reassessment policy. Adapted from Worthington P, Balint J, Bechtold M, et al. When is parenteral nutrition appropriate? *JPEN J Parenter Enteral Nutr.* 2017;41(3):324-377.

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