

Parenteral Nutrition (PN) Safety: Minimize the Risk for your Patients

■ **Access** the parenteral nutrition tools and resources you need to deliver PN

■ **Incorporate** these best practice recommendations to optimize safe and effective PN

Overview: The American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) champions the best evidence-based practices that support parenteral nutrition therapy in varying age populations and disease states. Approximately 350,000 patients in the U.S. receive parenteral nutrition (PN) during hospital stays and many more receive PN at home and in alternative care settings (www.hcupnet.ahrq.gov). The appropriate use of this complex therapy aims to maximize clinical benefit while minimizing the potential risks for adverse events.

Clinical Evidence: Complications can occur as a result of the therapy and as the result of the PN process. These consensus recommendations are based on best practices that are generally accepted to minimize errors with PN therapy. These recommendations are categorized in the areas of PN prescribing, order review and verification, compounding, and administration.

Recommendations:



PRESCRIBING

1. Prescribe PN using a standardized PN order format and review process applicable to patients of every age and disease state within a healthcare organization
2. Reorder PN in its entirety, including full generic names and doses.
3. Educate all prescribers, including physicians, pharmacists, nurse practitioners, physician assistants, and dietitians, on basic PN prescribing and monitoring.



ORDER REVIEW

1. Avoid verbal and telephone orders for PN, except for pharmacist to prescriber communication to modify or clarify the order.
2. Require transcription of PN order data to undergo an independent double-check process prior to compounding.
3. Develop criteria to evaluate and identify pharmacists who are competent to review and verify PN orders.
4. Develop a policy and procedure/protocol for standardized labeling of PN formulations.
5. Develop, communicate, and implement protocols for PN component substitution and/or conservation strategies to be used in the event of a PN component shortage or outage.



COMPOUNDING

1. Provide an in-depth training program focusing on CSPs for all staff members participating in the preparation process with an ongoing competency assessment program.
2. Implement specific computerized soft limits and hard (catastrophic) limits for PN ingredients based upon pharmacists' reviews that are consistent with the needs of their patient population.
3. Comply with USP Chapter <797> standards.
4. Consider outsourcing as an alternative to in-house compounding or standardized, commercially available PN products when the healthcare organization does not possess the technological resources or staffing to prepare PN admixtures according to USP Chapter <797>.



ADMINISTRATION

1. Conduct ongoing validation of competency in PN administration.
2. Visually inspect the integrity of the PN container and formulation before spiking the container.
3. Verify the PN label against the original prescriber order and avoid verbal orders.
4. Trace administration tubing to the point of origin in the body at the initiation of the infusion and at all handoffs.
5. Infuse PN infusions through a filter appropriate for the type of formulation. Never remove an occluded filter in response to occlusion alarms, thus allowing the unfiltered formulation to continue to infuse.
6. Maintain PN infusion at the prescribed rate using verified correct pump settings via an independent double check.

For full recommendations, rationale, and references, go to 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.* 2013. www.nutritioncare.org/pnsafety

A.S.P.E.N. Parenteral Nutrition Resources

- **Incorporate** these best practice recommendations to optimize safe and effective PN.



ELECTRONIC (www.nutritioncare.org/pnsafety)

1. Parenteral Nutrition Safety Consensus Recommendations
2. Parenteral Nutrition Safety Webpage
3. Parenteral Nutrition Drug Shortages Webpage



PRINT

1. A.S.P.E.N. Parenteral Nutrition Handbook
2. Boullata JI, Guenter P, Mirtallo JM. A Parenteral Nutrition Use Survey With Gap Analysis *JPEN J Parenter Enteral Nutr.* 2013; 37, 2: pp. 212-222
3. Mirtallo JM. Parenteral Nutrition: Can Outcomes Be Improved? *JPEN J Parenter Enteral Nutr.* 2013; 37: 181-189



EDUCATION OPPORTUNITIES

1. Writing Parenteral Nutrition (PN) Orders Workshop

The workshop is designed to train clinicians to assess a patient requiring PN and subsequently initiate and manage the PN therapy for that patient. The workshop is offered annually as a preconference course prior to Clinical Nutrition Week and is limited to 40 attendees.

www.nutritioncare.org/pnworkshop

2. Clinical Nutrition Week (CNW)

CNW is A.S.P.E.N.'s annual conference and is the premier conference on clinical nutrition and metabolism. CNW offers educational sessions for the diverse patient populations served by an interdisciplinary audience of clinical nutrition professionals. The conference consistently offers educational sessions related to patient safety, including but not limited to, safe practices in PN.

www.nutritioncare.org/cnw