# Use of Supplemental Parenteral Nutrition for Surgical Oncology Patients

## Overview and Expert Recommendations

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**Use of Supplemental Parenteral Nutrition for Surgical Oncology Patients Presentation**

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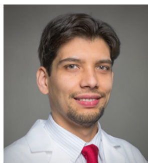

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## Background

- Supplemental parenteral nutrition (SPN) is the addition of parenteral nutrition (PN) to enteral nutrition (EN) to meet nutrition goals.
- Malnutrition in patients with cancer is complex due to systemic inflammation, cancer therapy, and surgery, all of which have significant metabolic effects and may impact clinical outcomes and quality of life.[1-5]
- During the treatment journey of the cancer patient, it is important to look at windows of opportunity for nutrition care, which means using EN or PN when oral intake is insufficient.
- ERAS (Enhanced Recovery After Surgery) programs aim to attenuate the stress response of surgery.[6]
- Identification of surgical oncology patients requiring supplemental nutrition is suboptimal and guidelines are lacking. Eighty-three percent of surgical oncologists believe pre-operative nutrition is important but only 22% of patients receive supplementation.[7, 8]
- Guidelines for SPN in ERAS programs are lacking.[9-13]
- ASPEN Critical Care Guidelines recommend supplemental PN for critically ill patients after 7 days with suboptimal EN intake.[14]
- PN indications include failed EN, EN contraindicated, or diminished GI tract function.
- PN indications specific to surgical oncology patients include short bowel syndrome related to tumor or radiation treatment, GI fistula, bowel obstruction, or prolonged post-op bowel rest or ileus.
- SPN has been shown to be effective in critically ill and hospitalized cancer patients.[15, 16]
- Peripheral parenteral nutrition (PPN) is an option for short term nutrition and can serve as an effective and safe bridge.[17, 18]

**Presentation Recording Available at nutritioncare.org/SupplementalPnOncology**

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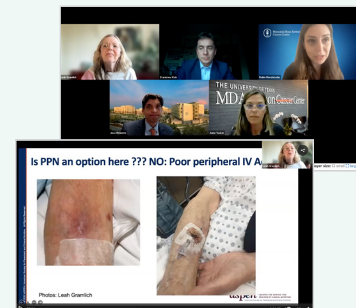


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*Case Presentation #1*

## Patient with Esophageal Cancer: Pre-operative Care

- Patient with adenocarcinoma at gastroesophageal junction to undergo neoadjuvant radiation therapy and radiologic jejunostomy tube placement for enteral nutrition, with surgical resection as long-term plan.
- Nutritional status: patient with 10% weight loss over 3 months (SGA score B) and unable to take in oral diet.
- Had multiple complications with feeding tube and unable to take in more than 50-60% of nutritional needs, continued to lose weight.
- Parenteral nutrition indications included high risk malnourished patient, partial failure of EN, and pending surgery.
- Patient received peripheral parenteral nutrition (PPN) to supplement EN, able to receive 1400 calories, 60 grams of protein, adequate micronutrients, minerals, and electrolytes.

*Case Presentation #2*

## Patient with Pancreatic Cancer: Post-operative Care

- Patient with pancreatic adenocarcinoma, had an attempted unsuccessful Whipple procedure with a jejunostomy feeding tube placed.
- Developed post-operative complication of GI fistula and perforation, undergoing additional surgery.
- Became septic and unable to feed enterally more than 30% of nutritional needs.
- Started central PN via PICC to prevent continued weight loss and provide adequate nutrition and fluids. SPN aided in transition to oral diet.
- Eventually fistula closed and oral diet resumed to meet needs.

## Key Messages from the Experts

- The surgical oncology patient course is often a long and complicated journey.
- Nutrition provision in the surgical oncology patient can be complex.
- Malnutrition should be identified by nutrition assessment and a nutrition care plan should be implemented.
- Supplemental parenteral nutrition (SPN) should be considered in patients who are not meeting their nutrition goals.
- Peripheral parenteral nutrition (PPN) is safe and effective and should be considered as a bridge in those without central access.

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