



# Nutritional Management of Complicated Diverticulitis: Case Report

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## Background

Diverticulosis is the formation of several small pouches, called diverticula, within the intestinal lumen. Diverticulitis occurs when these pouches become inflamed.<sup>1</sup> Uncomplicated diverticulitis is typically managed through bowel rest and pain management.<sup>2</sup> However, complicated diverticulitis, such as cases involving an abscess or fistula, often require surgical intervention, which can significantly impact nutritional status through complications during a hospital stay.<sup>1</sup> Patients often experience inadequate oral intake due to prolonged diet restrictions, abdominal pain, nausea, and vomiting. As a result, these patients are at increased risk for malnutrition and unintended weight loss, all of which may negatively impact recovery. Early nutrition intervention is critical to prevent further weight loss. This case report examines the diet progression following a diverticulitis flare-up with placement of colostomy in a patient who presented with severe, chronic malnutrition.

## Nutritional Considerations

**Diet Initiation:** Start with complete bowel rest and then progress through a liquid diet to a high-fiber diet, advancing the diet as tolerated.

**Diet Advancement:** Once inflammation decreases, advance to a low-fiber diet with an oral nutrition supplement as needed to optimize calories and protein. After symptoms have subsided, gradually increase to a high-fiber diet, followed indefinitely.<sup>2</sup>

**Nutrition Support:** If patient is unable to consume nutrition orally after 7-10 days, nutrition support, preferentially enteral nutrition, is recommended. Total parenteral nutrition (TPN) is recommended if the gastrointestinal tract is compromised.<sup>3</sup>

**Colostomy:** After surgery, avoid high-fiber foods, aiming for <13 grams/day. Most patients begin to eat normally 6 weeks post surgery. Focus on small, frequent meals, chewing small bites thoroughly, and avoiding foods that cause gas or diarrhea.<sup>4</sup>

Table 1: Nutrition Guidelines

Nutrients	Guidelines	Rationale
Calories	25-30 kcal/kg of actual body weight <sup>4</sup>	To prevent further weight loss and support recovery.
Protein	1.0-1.2 g/kg of actual body weight <sup>4</sup>	Supports lean body mass during recovery.
Fluid	1 mL/kcal <sup>4</sup>	Promotes normal bowel function with high fiber diet.
Fiber	Low: <13 g/day High: 25-35 g/day <sup>4</sup>	Low-fiber to allow the bowel to rest at first and high-fiber to reduce risk of recurrence once healed.

## Case Report

### Case Summary

**History:** Patient is a 61-year-old male who presented with abdominal pain, nausea, and vomiting. Past medical history of diverticulosis turned diverticulitis and postoperative nausea and vomiting. Patient was diagnosed with diverticulitis of both large and small intestine with abscess.

**Clinical Course:** Over the hospital course, the patient experienced complications of malnutrition, patient received total parenteral nutrition, and had operative management of complicated diverticulitis, which included a Hartmann's end colostomy procedure.

### Assessment

- **Anthropometrics:** Ht: 5'10", Wt: 181 lbs, BMI: 25.99, 9.5% weight loss in one month.
- **Diet History:** Decreased oral intake to <50% of meals were consumed on a clear liquid diet due to severity of symptoms.
- **Nutrition Focused Physical Findings (NFPE):** moderate muscle loss (temples, clavicle, interosseous muscle, quadriceps), moderate fat loss (buccal fat pads, triceps); diagnosed with chronic, severe malnutrition.
- Patient at high risk for refeeding syndrome. Therefore, K+, Phos, and Mg monitored before and after initiation of TPN. Labs were within normal limits (WNL).

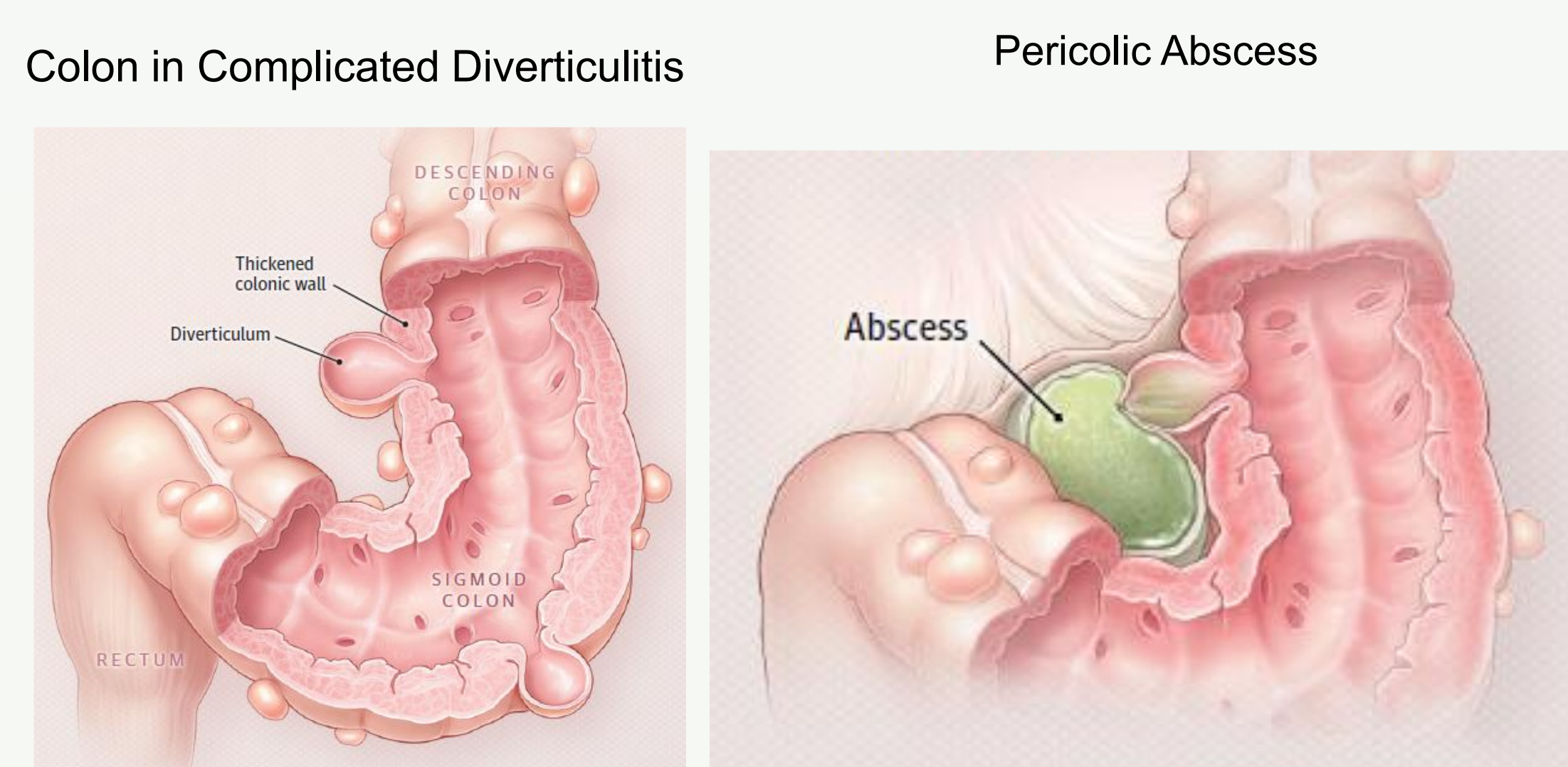
Table 2: Weight Trends

Time Frame	Weight (lbs)
Admit	181 lbs
7 days PTA	190 lbs
1 month PTA	201 lbs

### Nutrition Diagnosis

- Severe protein calorie malnutrition related to nausea, vomiting, decreased appetite as evidenced by moderate muscle and fat loss via NFPE, patient report, chart review, weight history.
- Inadequate oral intake related to altered GI function, surgery as evidenced by chart review, patient report, poor tolerance of liquid diet for 2 weeks.

Figure 1: Diverticulitis Colon



### Interventions

- **Nutritional goals of care:** to prevent further weight loss, advance diet to low-fiber diet, correct malnutrition, and educate patient on nutrition recommendations to prevent future complications.
- **Total Parenteral Nutrition:** Patient receiving liquid diet for 2 weeks and unable to tolerate advancement. Surgeon consulted for TPN initiation. TPN was discontinued on day 6 per general surgery.

Table 3: TPN Formulation

Estimated Needs	2043-2541 kcal/day 82-98 g protein/day <sup>4</sup>
TPN Initiation	100 g AA, 100 g CHO, 48 g lipid, providing 1220 kcal, meeting 100% estimated protein needs and 60% estimated calorie needs daily.
TPN Goal	100 g AA, 300 g CHO, and 60 g lipids, providing 2020 kcal, meeting 100% estimated calorie and protein needs daily.

- **Oral diet:** advanced to a low-fiber diet on hospital day 14-discharge with good tolerance, no nausea, vomiting, abdominal distention, or worsening pain.
- **Oral nutrition supplements:** Initiated Ensure Clear and advanced to Ensure Plus High Protein twice daily on day 14.
- **Nutrition Education:** Provided nutrition recommendations for diverticulitis and colostomy diet on hospital day 15.

### Outcomes

- TPN was discontinued on hospital day 6.
- Oral intake and nutritional status improved. Patient tolerated diet advancement to soft and bite sized, low fiber diet without nausea, vomiting, abdominal distention, or worsening pain.
- Patient highly motivated to adhere to nutrition education on diverticulitis and colostomy diet.
- Patient was able to discharge from the hospital.

## Discussion and Application

The patient was originally admitted for complicated diverticulitis and experienced associated malnutrition, which impacted his recovery. Inadequate oral intake and lack of diet progression required the initiation of TPN to adequately meet estimated calorie and protein needs and to support overall patient care. In this case, TPN was paused on hospital day 6, despite the patient continuing to demonstrate poor tolerance to diet advancement beyond a liquid diet. Given the patient's prolonged limited oral intake and diagnosis of malnutrition, earlier reassessment of nutrition support needs may have improved nutrition adequacy during recovery. This case highlights the important role of nutrition professionals in monitoring and advocating for appropriate nutrition interventions. Continued evaluation of nutrition status and proactive advocacy for the patient is important to ensure timely initiation or continuation of nutrition support when oral intake remains inadequate.

## Conclusion

Tolerance of diet progression following surgery can vary significantly among patients and may be difficult to assess. Early and comprehensive nutrition assessment and ongoing monitoring of intake and tolerance are essential to identify patients who are unable to meet their needs through oral intake alone. Proactive advocacy for timely nutrition support can help ensure adequate nutrient intake and promote optimal recovery.

## References

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