**Saving Healthcare Dollars: Safe Home Initiation of Parenteral Nutrition in Patients at Nutrition Risk Prevents Hospital Admissions**

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**Introduction**

Healthcare reform is a major issue in the United States. Hospital admissions and healthcare dollars are being closely scrutinized. Initiating parenteral nutrition (PN) in the home care setting versus an acute care center in carefully selected, appropriate patients will avoid hospitalization and therefore avoid a costly hospital admission.

**Background**

A *Home PN Initiation Checklist*, used to identify patients who are appropriate for safe home initiation of PN, has been published and was applied in the following case studies to further substantiate the application of this tool.

![Sample Home PN Initiation Checklist](image)

**Case Study #1**

A 57-year-old female was admitted to the hospital for initiation of PN due to persistent diarrhea, dehydration and weight loss over several months. She did not meet criteria for an inpatient hospital admission. A PICC line was placed and the patient was discharged to home to initiate PN after the Checklist indicated that she could safely start PN in the home. Baseline labs demonstrated electrolytes were within normal limits (WNL) and PN containing low dextrose (75g) and 30g amino acid without lipid was initiated. Electrolytes were dosed based on lab values. Her labs were redrawn in 48 hours and were WNL. She was advanced to her goal calories within one week, and blood glucose remained stable allowing cycling of her PN. The PICC line was inadvertently cut two weeks later and not replaced for one month. Diarrhea and weight loss continued, and PN was resumed at home after outpatient PICC replacement. Transition to an oral diet was initiated using pancreatic enzyme replacement therapy after her GI workup demonstrated pancreatic insufficiency. She achieved her goal weight, eventually tolerated an oral diet, and PN was discontinued after three months.

**Case Study #2**

A 57-year-old female s/p laparoscopic gastric bypass complicated by post-prandial vomiting, abdominal pain, and severe weight loss was referred for home initiation of PN. The Checklist was completed and it was determined that the patient met criteria to safely initiate home PN, despite a 47 percent weight loss over 10 months and a body mass index (BMI) of 17.7. According to the Checklist, criteria was met as evidenced by stable electrolytes, no excessive non-urinary fluid losses, and a safe home environment. Home PN was started at goal protein, with 10 percent dextrose concentration cycled over 20 hours with an additional 100 mg of thiamin. PN was advanced to goal calories and cycled to a 12 hour infusion within one week. The patient’s blood glucose was checked four times a day during the initial cycling period, ranging between 90 to 128 mg/dL, demonstrated optimal glycemic controlled, and no insulin to be added to PN solution. The patient did not experience any complications during the seven months of therapy, and eventually underwent a gastric bypass revision, allowing her to tolerate an oral diet and wean the PN.

<table>
<thead>
<tr>
<th>Date</th>
<th>Weight</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/01/09</td>
<td>105 lbs.</td>
<td>Home PN Initiation</td>
</tr>
<tr>
<td>05/19/09</td>
<td>107 lbs.</td>
<td>PICC line cut</td>
</tr>
<tr>
<td>06/02/09</td>
<td>95 lbs.</td>
<td>PICC line replaced</td>
</tr>
<tr>
<td>07/05/09</td>
<td>117 lbs.</td>
<td>PN reduced to QOD</td>
</tr>
<tr>
<td>07/20/09</td>
<td>115.5 lbs.</td>
<td>PN discontinued</td>
</tr>
</tbody>
</table>

**Conclusion**

These cases demonstrate the success of overcoming barriers to safe home initiation of parenteral nutrition in patients who are carefully evaluated using a standardized checklist.

**Benefits include:**

- Customized PN cautiously advanced to goal to avoid refeeding syndrome
- Appropriate utilization of healthcare dollars
- Avoidance of potential nosocomial infection
- Improved patient quality of life