

## Topic Area: Clinical Research (Including Outcomes of Intervention)

### Abstract Title

A description of liver functions tests amongst adult patients in the British Columbia Home Parenteral Nutrition (BC HPN) Program who have changed from a soybean oil emulsion to a mixed-lipid emulsion  
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### Abstract

**Introduction:** Prolonged use of soybean-oil (SO) based lipid emulsions in parenteral nutrition (PN) may contribute to the development of PN-associated liver disease (PNALD). Current research suggests a role for mixed-lipid emulsions in preventing, treating, or managing PNALD in acute-care settings. The use of mixed-lipid emulsions and their effects on liver function tests (LFTs) in adults receiving home PN (HPN) has not been widely studied.

**Objectives:** To describe demographic and clinical characteristics of BC HPN patients who have transitioned from Intralipid®, a SO-lipid emulsion, to SMOFlipid®, a mixed-oil emulsion, and to describe any changes with regards to LFTs before and after transition to SMOFlipid®.

**Methods:** A retrospective chart review was completed for BC HPN patients who transitioned from Intralipid® to SMOFlipid® and were active between January 1/13 and October 31/17. Data collected included demographic and clinical information, HPN prescription details, and monthly measurements of LFTs before and after lipid transition. Data was analyzed using descriptive statistics.

**Results:** 19 patients constituted the study group; 6 could not be analyzed, and 3 were outliers, leaving 10 for analysis. The most frequent indication for HPN was short bowel syndrome (SBS) (90%, n=9). 50% of participants showed signs of liver injury on Intralipid®. After transition to SMOFlipid®, 50% of the study population had decreases in their mean value of all four LFTs, however the degree of change varied.

**Conclusions:** Overall, LFTs declined after transition to SMOFlipid®. These findings are consistent with studies observing effects of SMOFlipid® on LFTs; however, most compare SO-based and mixed-lipid intravenous lipid emulsions (ILEs) in acute or surgical settings.

**Significance to the field of dietetics:** No other studies have looked at a transition from Intralipid® to SMOFlipid® in the HPN population. Further understanding of the long-term impact of mixed ILEs will help to inform whether SMOFlipid® should be considered for primary prevention of PNALD for BC HPN patients.