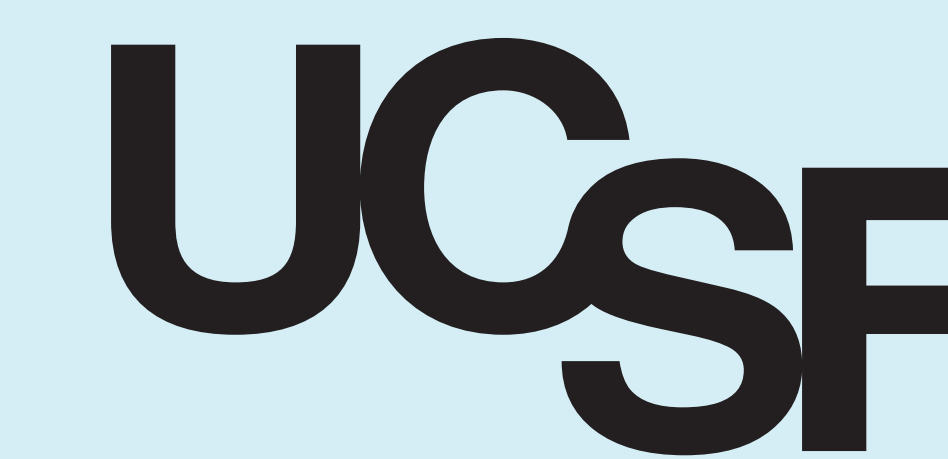


Hospital and home infusion nutrition support teams: allies in safe transition of care for parenteral nutrition patients during times of shortages

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Background

Parenteral nutrition (PN) is a complex therapy requiring an experienced team for patient safety. ASPEN's *Safe care transitions for patients receiving parenteral nutrition consensus statement 2022* reports that gaps and safety concerns in care coordination can occur during transition affecting outcomes. This is especially true during transition from hospital to home. Numerous PN component shortages in 2021-2022 have complicated this process. Shortages impact inpatient and outpatient settings differently adding another layer of challenge, thus communication between hospital and home PN teams is vital. This abstract demonstrates a collaborative approach resulting in safe transition and PN meeting patient needs despite shortages.

Methods

Verbal communication between hospital and home infusion PN Registered Dietitians (RDs) was established. During patient transition, discussion included:

1. PN component availability in both settings.
2. Recommended goal PN.
3. Necessary PN adjustments based on patient needs and available components.

A case report highlights PN RD communication during patient transition. A shared timeline of PN component shortages and actions was created as reference for both teams.

Results

Various PN components have been in shortage during 2021-2022 (Table 1). Discrepancy exists between recommended PN regimen based on patient need vs. actual PN regimen limited by shortage. When transitioning PN patients from hospital to home, relying solely on review of medical records was found to be inadequate as PN components may be withheld due to shortage, not based on clinical indication. Therefore, verbal communication between hospital and home infusion PN RDs is key. This case report highlights the collaborative approach between PN RDs.

A 59 y.o. was hospitalized for acute severe necrotizing pancreatitis. PN was initiated for bowel rest. Home infusion PN RD proactively called inpatient PN RD for care coordination during transition. Hospital could not provide daily lipid injectable emulsion (ILE) due to national shortage, so 100g was given 2x/week. To provide adequate calories with ILE shortage, dextrose

was increased to 399g/day. Hospital precautionarily added regular insulin 2 units/day in PN, as sliding scale insulin averaged 6 units/day. Home infusion provider had access to adequate alternate ILE. PN RDs determined patient was clinically appropriate for ILE formulation change. Providing ILE daily enabled dextrose reduction to 336g, with insulin no longer needed, simplifying home PN regimen. While hospital had adequate intravenous multivitamin (MVI) stock, home infusion provider experienced shortage. PN RDs agreed to reduce MVI to 3x/week and provide oral multivitamin supplement. Patient discharged on home PN regimen as discussed (Table 2). Figure 1 demonstrates timeline of ILE shortages affecting provision in PN. Both organizations referenced ASPEN guidelines for shortages.

Conclusion

Healthcare transparency and communication are vital to ensure patient safety and optimal outcomes. The importance is amplified during times of shortage. Hospital and home infusion PN teams should verbally communicate during transition to discuss goal PN and necessary adjustments based on component availability and nutrition goals to provide best possible PN. This collaborative approach was successfully utilized with seven additional PN patients during this timeframe, highlighting the importance of allies in care for safe transition.

Table 1. PN components and related supplies in shortage during 2021-22

Macronutrients	Micronutrients	Supplies and other
Dextrose	Multivitamins	Multi-chamber bags
Amino acids	Sodium chloride	Sterile water
Lipids	Potassium chloride	Heparin
	Magnesium sulfate	PN compounder products
	Calcium gluconate	Infusion pump tubing sets
	Sodium and potassium phosphates	

Table 2. PN adjustments made for transition from hospital to home

	Inpatient PN regimen	Home PN regimen
PN volume	2100 ml 2-in-1 daily + 500 ml ILE 2x/week	2350 ml 3-in-1 daily
Cycle	12 hours	12 hours
AA (g)	105 g	105 g
Dextrose (g)	399 g	336 g
Lipid formulation	SO, MCT, OO, FO-ILE	OO, SO, ILE
Lipid (g)	100 g 2x/week	50 g daily
Total calories	2062 kcal	2062 kcal
Multivitamin	10 ml daily	10 ml 3x/week
Trace elements	1 ml	1 ml
Regular insulin	2 units	0

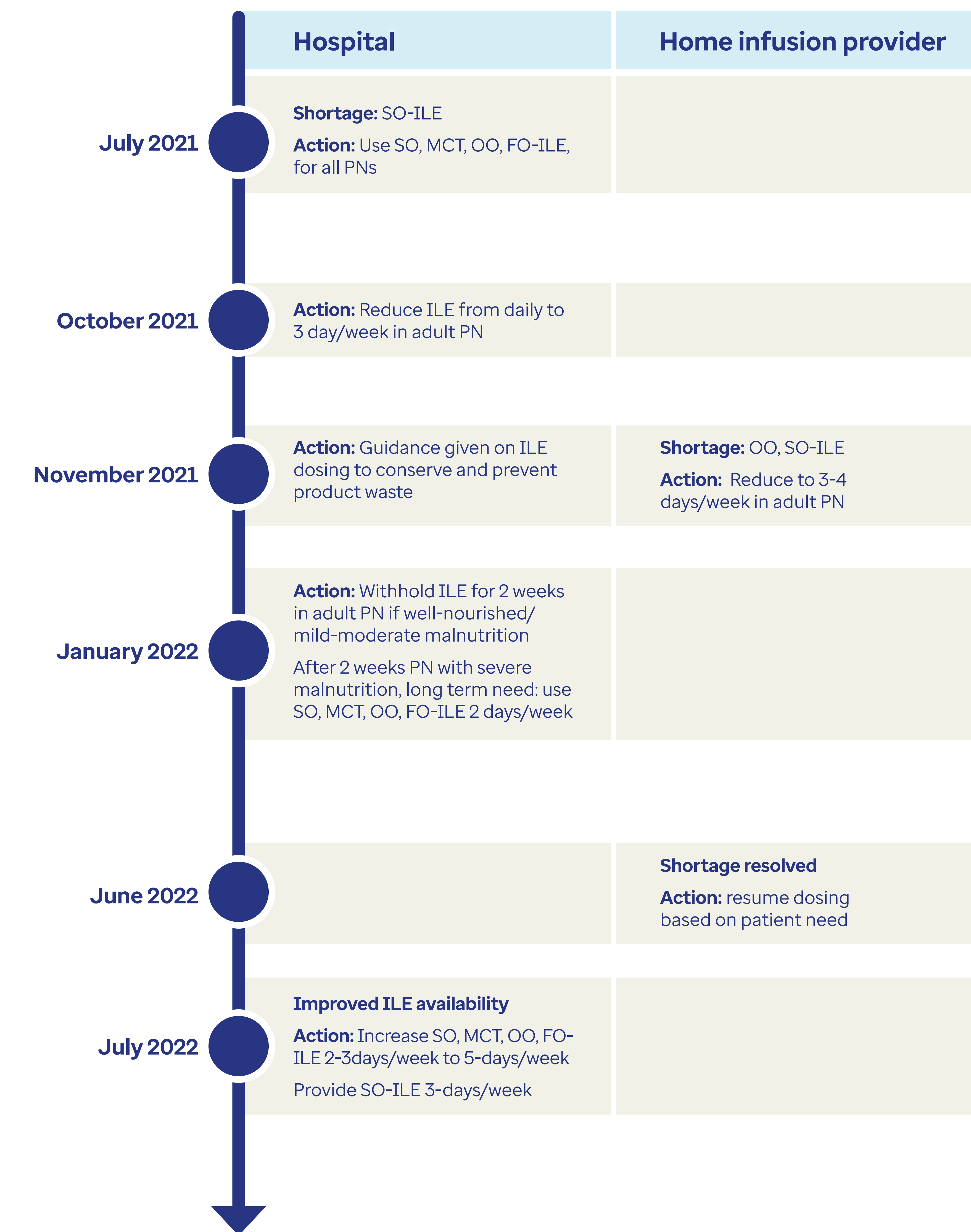


Figure 1: Lipid injectable emulsion (ILE) shortage timeline

SO-ILE: soy oil-based lipid injectable emulsion
SO, MCT, OO, FO-ILE: soy, MCT, olive, fish oil-based lipid injectable emulsion
OO, SO-ILE: olive, soy oil-based lipid injectable emulsion

