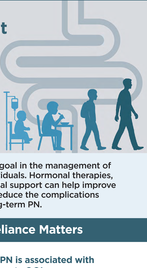
Medical Management Considerations to Reduce Reliance on PN in Children and Adolescents Living With SBS



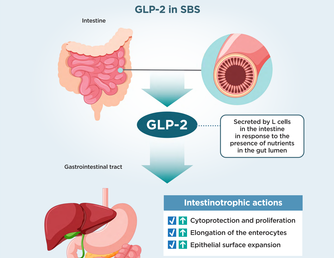
Reducing reliance on PN is a central goal in the management of SBS in pediatric and adolescent individuals. Hormonal therapies, multidisciplinary care, and psychosocial support can help improve gut function, enhance QOL, and reduce the complications associated with long-term PN.

Why Reducing PN Reliance Matters

Although essential, long-term PN is associated with serious risks and impacts QOL.

Medical Risks	Lifestyle Impact
Infections	Limited physical activity
Thrombosis	Disrupted sleep
Catheter-related complications	Limited social participation
Metabolic disturbances	Reduced independence
Liver dysfunction	

Even short-term PN reduction (a "night off") is highly valued by patients and families.



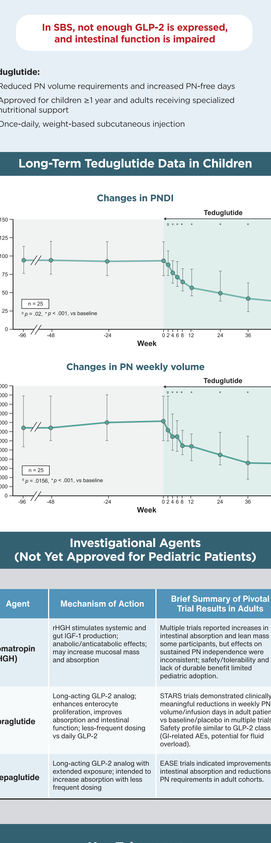
Hormonal Therapies to Reduce Reliance on PN

Pharmacologic agents targeting intestinal growth and function can support PN reduction in children with SBS.

Teduglutide (GLP-2 analog)

- The only FDA-approved pharmacologic therapy for reducing reliance on PN in pediatric patients with SBS
- Stimulates enterocyte proliferation, enhances nutrient absorption, slows gastric motility

GLP-2 in SBS



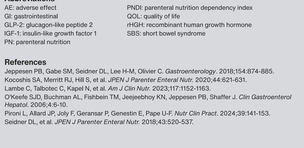
In SBS, not enough GLP-2 is expressed, and intestinal function is impaired

Teduglutide:

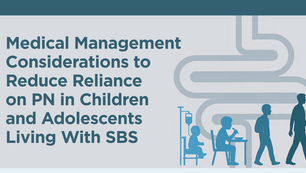
- Reduced PN volume requirements and increased PN-free days
- Approved for children ≥1 year and adults receiving specialized nutritional support
- Once-daily, weight-based subcutaneous injection

Long-Term Teduglutide Data in Children

Changes in PNDI



Changes in PN weekly volume



Investigational Agents (Not Yet Approved for Pediatric Patients)

Agent	Mechanism of Action	Brief Summary of Pivotal Trial Results in Adults
Somatropin (rhGH)	rhGH stimulates systemic and gut IGF-1 production; anabolic/anticatabolic effects; may increase mucosal mass and absorption	Multiple trials reported increases in intestinal absorption and lean mass in some participants, but effects on sustained PN independence were inconsistent; safety/tolerability and lack of durable benefit limited pediatric adoption.
Apraglutide	Long-acting GLP-2 analog; enhances enterocyte proliferation, improves absorption and intestinal function; less-frequent dosing vs daily GLP-2	STARS trials demonstrated clinically meaningful reductions in weekly PN volume/infusion days in adult patients vs baseline/placebo in multiple trials. Safety profile similar to GLP-2 class (GI-related AEs, potential for fluid overload).
Glepaglutide	Long-acting GLP-2 analog with extended exposure; intended to increase absorption with less frequent dosing	EASE trials indicated improvements in intestinal absorption and reductions in PN requirements in adult cohorts.

Key Takeaways

PN is necessary but carries significant risks; reducing dependence improves safety and QOL

Teduglutide is the primary pediatric-approved therapy to enhance intestinal adaptation and reduce PN reliance

Emerging long-acting GLP-2 analogs may expand future options

Somatropin may be used short-term in adults but is not standard pediatric therapy

Close monitoring and weight-based dosing of teduglutide are essential for efficacy and safety

Abbreviations

AE: adverse effect
GI: gastrointestinal
GLP-2: glucagon-like peptide 2
IGF-1: insulin-like growth factor 1
PN: parenteral nutrition
PNDI: parenteral nutrition dependency index
QOL: quality of life
rhGH: recombinant human growth hormone
SBS: short bowel syndrome

References

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