

# Clinical Indications for Pediatric PN

# Timing of PN Initiation

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- Important consideration for clinical outcomes
  - Typically, early nutrition favored
    - reverse macronutrient deficits
    - prevent worsening malnutrition
- Emerging evidence suggests in ICU settings delayed PN initiation ( $\leq 1$  week) may be acceptable
- Pediatric Guidelines
  - Preterm infants; PN should be started promptly after birth
  - If EN nutrition is not anticipated to be sufficient, PN should be started within
    - 1-3 days in infants
    - 4-5 days in older children

# Indication: Intestinal Failure

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“Intestinal failure (IF) is the reduction of functional intestinal mass below that which can sustain life, resulting in dependence on supplemental parenteral support for a minimum of 60 days within a 74 consecutive day interval”

AKA:

- Inability to maintain hydration
- Inability to absorb sufficient calories and or electrolytes

# Intestinal Failure Characterization

Subtype	Presentation Timing	Speed of Onset	Locality of Disease	Pathology	Duration
Type 1	Acquired	Acute	GI and systemic	Benign and malignant	< 28 days
Type 2	Congenital / acquired	Acute	GI and systemic	Benign and malignant	Weeks to months
Type 3	Congenital / acquired	Chronic	GI and systemic	Benign and malignant	Months to years

# Etiologies of Chronic Pediatric Intestinal Failure

Short Bowel Syndrome	Motility Disorders	Intestinal Enteropathy	Other
<ul style="list-style-type: none"><li>• Necrotizing Enterocolitis</li><li>• Intestinal Atresia</li><li>• Gastroschisis</li><li>• Malrotation + Volvulus</li><li>• Abdominal trauma + intestinal resection</li></ul>	<ul style="list-style-type: none"><li>• Hirschsprung disease</li><li>• Chronic Intestinal Pseudo-obstruction</li></ul>	<ul style="list-style-type: none"><li>• Severe small bowel Crohn's disease</li><li>• Tufting enteropathy</li><li>• Microvillus inclusion disease</li></ul>	<ul style="list-style-type: none"><li>• Prematurity</li><li>• Small bowel obstruction</li><li>• Ileus</li><li>• Severe chemotherapy induced nausea/vomiting</li><li>• Radiation enteritis</li><li>• Gastrointestinal fistula</li></ul>