Low protein intake from human milk fortified in a routine fashion is the main cause of postnatal growth restriction

**Key insights**
This article reviews the current knowledge regarding the nutritional needs of a preterm infant in the first few days of life. It explains why and how to increase nutrient intake to support normal growth, with the benefits and risks, as well as the extra efforts needed in resource-poor environments.

**Current knowledge**
The gastrointestinal tract of a preterm infant is immature. Yet, inadequate nutrition most likely causes postnatal growth restriction, which is associated with poor neurocognitive development in a dose-dependent fashion. Factorial and empirical studies on the nutritional requirements appear consistent.

**Practical implications**
Adequate intake of proteins is rarely achieved in practice. At a minimum, nutrients need to be administered as soon as possible after delivery. Parenteral nutrition should be started early and combined with a small amount of trophic feeding to quicken gut maturation. Targeted or adjustable protein fortification in clinical practice may be useful.

**Recommended reading**

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**Fetus reaches term**

Protein/energy ratio (g/100 kcal) vs. Weight (g)

- Parenteral
- Enteral

- Preterm infant
  - incomplete absorption
  - accretion
  - energy cost of growth

Protein/energy ratio needed to achieve fetal weight gain (adapted from table 1). A preterm infant fed parentally and/or enterally should mimic the growth rate of a fetus; however, additional variables make this challenging (see text for details).