

You can obtain **3 CEU's** for reading the article **"THE GUT MICROBIOME AND CHILDHOOD GROWTH: IMPLICATIONS FOR MICROBIOTA-DIRECTED INTERVENTIONS"** and answering ALL the accompanying questions with a pass mark of 70% or more.

This article has been accredited for CEU's (ref. no. DT/A01/P00004/2026/00005)

HOW TO EARN YOUR CEUs

- 1) Register at <https://www.mpconsulting.co.za/courses>.
- 2) Log in.
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Only online questionnaires will be accepted.

ACTIVITY 196

1. Healthy childhood growth depends on interactions between nutrition, metabolism, immune function and:
 - a) The respiratory microbiome
 - b) The intestinal environment
 - c) Skeletal muscle mass
2. The first 1 000 days are considered a critical period because:
 - a) Growth and development are dependent on nutritional and environmental influences
 - b) Linear growth is complete by two years of age
 - c) The gut microbiome is fully mature at birth
3. The gut microbiome contributes to childhood growth primarily by:
 - a) Increasing appetite
 - b) Supporting nutrient utilisation, immune development and metabolic homeostasis
 - c) Preventing childhood infections
4. Microbiome dysbiosis is best described as:
 - a) The absence of intestinal microorganisms
 - b) An increase in microbial diversity during infancy
 - c) A disruption of the composition and/or function of the gut microbiome that may impair normal physiological processes
5. Current evidence suggests that impaired childhood growth is more closely associated with:
 - a) The functional capacity and metabolic activity of the gut microbiome
 - b) The presence of individual bacterial species
 - c) Stool bacterial counts
6. Environmental enteric dysfunction (EED) contributes to growth faltering primarily through:
 - a) Impaired intestinal barrier function, chronic inflammation and reduced nutrient absorption
 - b) Increased intestinal absorption of nutrients
 - c) Increased production of short-chain fatty acids
7. Breastfeeding is increasingly recognised as the first microbiota-directed nutritional intervention because it:
 - a) Sterilises the infant gut
 - b) Provides nutrients and bioactive components that promote healthy gut microbiome development
 - c) Eliminates the need for complementary feeding
8. Human milk oligosaccharides (HMOs) primarily:
 - a) Provide a direct source of energy for the infant
 - b) Selectively promote the growth of beneficial gut microorganisms
 - c) Replace dietary fibre during complementary feeding
9. The introduction of complementary foods supports healthy childhood growth by:
 - a) Replacing breastfeeding at six months
 - b) Reducing microbial diversity
 - c) Promoting continued gut microbiome development
10. Microbiota-directed complementary foods differ from conventional complementary foods because they are specifically designed to:
 - a) Restore gut microbiome development and microbial metabolic function
 - b) Increase energy density
 - c) Replace breastfeeding during infancy
11. Clinical studies of microbiota-directed complementary foods have shown:
 - a) Consistent improvements in growth across all populations worldwide
 - b) Promising improvements in microbial maturation and child growth, although further evidence is required
 - c) No measurable effects on microbial function
12. Current evidence indicates that prebiotics:
 - a) Promote beneficial changes in the gut microbiome
 - b) Consistently improve linear growth in children
 - c) Are more effective than breastfeeding in supporting microbiome development
13. According to current evidence, probiotics should:
 - a) Be routinely prescribed to promote childhood growth
 - b) Be used for specific clinical indications
 - c) Replace conventional nutritional rehabilitation
14. Repeated or prolonged antibiotic exposure during early life may:
 - a) Accelerate gut microbiome maturation
 - b) Reduce microbial diversity and delay microbial maturation
 - c) Prevent environmental enteric dysfunction
15. The main clinical message of this review is that:
 - a) Microbiome science strengthens existing infant feeding recommendations while informing future nutritional strategies
 - b) Conventional infant feeding recommendations should be replaced by microbiome-directed therapies
 - c) Microbiome-directed complementary foods should become standard clinical practice