The Importance of Nutrition During the Toddler Years

An evidence-based guide to toddler nutrition for health care professionals

Healthcare professionals play an important part in helping parents of toddlers (1-3 years) establish healthy and lifelong habits around nutrition and eating.

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Key Learnings

1. The toddler years are a time of rapid change. Body, brain growth and development are faster and more significant in the first three years than at any other time.

2. Lifelong health is built at this time. The right nutrition during the toddler years sets in place foundations for lifelong good health.

3. The importance of iron can’t be stated enough. Parents need to be informed how valuable iron is for toddlers.

Why toddler nutrition lays the foundations of lifelong health

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Why Toddler Nutrition Lays the Foundations of Lifelong Health

1. **Rapid physical growth.** Good nutrition is particularly important during the early years of life when body growth and brain development are faster than during any other period. Adequate intake of both macronutrients (carbohydrate, protein and fat) and micronutrients (vitamins and minerals) is essential to ensure optimal growth and brain development.

2. **Vital brain development.** Brain development is most sensitive to nutrition between mid-gestation and two years of age.

3. **Heart disease & obesity risks.** Nutrition during infancy and the toddler years influences the risk of heart disease and obesity in later life.

4. **Giving them the best start.** Providing toddlers with a healthy balanced diet will optimise their physical and cognitive development, promote attainment of a healthy weight, and reduce the risk of chronic disease in later life.

Rate of body growth in the first three years

Body growth is faster during the first three years of life than during any other period.

The average length of a baby at birth is 50cm. Average length at age two is 86.5cm – an increase of over 70% from birth!

The average weight of a baby at birth is 3.45kg. Average weight at age two is 11.8kg – an increase of over 340% from birth!

Brain development in the first three years

The first three years of life are a time of very rapid brain growth. The brain cells known as neurons rapidly increase in size during the first three years of life. Individual neurons are structured much like trees. Each brain cell begins as a tiny sapling at birth and gradually sprouts hundreds of long branches called dendrites. Myelination of nerve cells also begins around birth and is most rapid during the first two years of life.

QUICK TIP FOR PARENTS

A newborn’s brain is about 25% the size of an adult’s. By age three, it will be 80% of its adult size.

A rapidly growing brain needs nutritional support.
Effects of nutrition on brain development

Brain development is most sensitive to a baby’s and a toddler’s nutrition between mid-gestation and two years of age. Toddlers who suffer from chronic malnutrition during this critical period have smaller brains as a result of reduced dendritic growth, reduced myelination and the production of fewer brain cells known as glia cells. Compromised brain growth can result in long-term irreversible behavioural and cognitive deficits.

The role of Iron in Brain Development

Iron is the world’s single most common nutrient deficiency and intakes of iron can be inadequate in otherwise healthy diets. Iron is essential for neuronal energy metabolism, the metabolism of neurotransmitters, myelination and memory function. The National Pre-School Nutrition Survey shows that 23% of one year olds, 10% of two year olds and 11% of three year olds in Ireland were estimated to have inadequate intakes of iron.

Diet, nutrition and toddlers: how you can help parents

Explaining the ‘when’...
Nutrition during the toddler years has a lasting influence on how our brain and body are ‘hard wired’. During this time everyone’s metabolic clock is set, influencing our risk of heart disease and obesity in later life. The toddler years are a critical time for acquiring good eating habits to promote lifelong health.

Explaining the ‘why’...
A healthy diet is important for both short and long term health. Adequate intake of both macronutrients (carbohydrate, protein and fat) as well as micronutrients (vitamins and minerals) is essential during the toddler years to ensure optimal growth and brain development. Providing toddlers with a healthy balanced diet will optimise their physical and cognitive development, promote attainment of a healthy weight and reduce the risk of chronic disease in later life.
**Explaining the ‘how’…** Toddlers need to eat small, frequent meals throughout the day as they have small stomachs relative to their high nutritional needs. Three main meals and two-three healthy snacks is about right. Planned snacks contribute significantly to a toddler’s daily energy and nutrient intake. Achieving a balanced diet is all about eating a variety of foods, in the right proportions, providing a good combination of protein, carbohydrate, fat, vitamins and minerals.

Suitable articles for parents on this topic are available at [www.toddlebox.ie/nutrition](http://www.toddlebox.ie/nutrition)

**References**


2. [www.zerotothree.org](http://www.zerotothree.org)

