

# TASTE DEVELOPMENT WEANING AND HEALTHY NUTRITION

WHEN	WHICH NUTRIENTS	WHICH ORDER OF INTRODUCTION
Usually and recommended by the WHO from 6 months onwards	Iron, protein, zinc, calcium, vitamin D, energy	No evidence for a benefit to introducing solid foods in any specific sequence or at any specific rate
WHAT	HOW	REMARKS
Infant cereals, fruit, vegetables, follow-up milk, fruit juice Later: meat, fish, egg	One food at the time; not too much, parents should watch if infant is hungry or satisfied	Make sure parents give the right example; limit addition of sugar and salt; give plenty of variety

## COMMON QUESTIONS

When, what, and how should I start weaning. These are common questions for the health care professional. There is increasing evidence that what children eat in their early years affects their health in later life. A balanced diet containing appropriate levels of energy, protein and micronutrients is therefore of great importance.

## REFERENCES

1. Walker RB, et al. Mother's views on feeding infants around the time of weaning. Public Health Nutrition (2006) 9, 707-713. 2. Butte N, et al. The start healthy feeding guidelines for infants and toddlers. J Am Dietetic Association (2004) 104, 442-454. 3. Saarilehto S, et al. Connections between parental eating attitudes and children's meagre eating: questionnaire findings. Acta Paediatr (2001) 90, 333-338. 4. Mennella JA, et al. Vegetable acceptance by infants: effects of formula flavours. Early Human Development (2006) 82, 463-468. 5. Rosegrant MW, S Meijer. Appropriate food policies and investments could reduce child malnutrition by 43% in 2020. Symposium: Feeding the World in the Coming Decades. J Nutr (2002) 132, 3437S-3440S.

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Concerns about the introduction to solid foods represent one of the primary matters discussed by mothers with their health care professional. Careful selection of weaning foods to prevent adverse reactions and ensure sufficient nutrients for the proper continuation of growth and development is crucial.

The WHO recommends starting weaning after 6 months of age<sup>1</sup>. From 6 months onwards, there are nutritional reasons to extend the diet, as increased protein, energy, iron, calcium and other micronutrients are now required. Higher nutritional intake is needed because of physiological maturation and growth. Around the age of six months teeth start to erupt and the ability to chew begins to develop, which makes it desirable to introduce (semi) solid foods.

## TIMING

Many families decide to start weaning earlier, although this is discouraged by most health care professionals. Even small problems might be the reason to start new foods, because it is believed that the infant needs it. Parents need to be aware of the recommended timing, but also of suitable foods and quantities. It is therefore important that the family understands why earlier weaning is not recommendable (e.g. risk of reduced breast milk, higher risk of allergy).

## NEW FOODS

New foods should be offered no more frequently than each 4 or 5 days initially, to avoid confusion and to rule out the possibility of food allergy or sensitivity<sup>1</sup>. Making small gradual changes and phasing in new foods and flavours, rather than implementing a completely new menu, is more likely to be acceptable to children. Cow's milk, fresh or powdered, should not be introduced before 12 months or preferably not before 36 months, because of the low iron and high protein level.

Fruit juice is less preferable than fresh fruit as it reduces the nutrient density of the fruit component in the diet<sup>1</sup>. Infant milk cereals are good food for first solids. It is easy to find a wide variety and it can be used during the whole day as the basis of the meal.

The sequence of food introduction is not divided in 'right' or 'wrong'. It is more important that the first foods offered are smooth in texture and bland in flavour<sup>2</sup>.

GOOD WEANING	
Infant cereals	Follow-up milk
Vegetables	Fruit, fruit juices
Rice	Meat, fish, egg yolk

#### PARENT'S INFLUENCE

Eating habits of the parents as well as the type of milk the infant received during the first 6 months influence the acceptance of new foods in young children<sup>3</sup>. Moreover, the grandmother may have a strong influence and it may be advisable to include her in the information transferred to the parents.



An infant will respond to a certain taste by its facial expression.

A positive response to a slightly sweet taste is evident in very young infants. However, they are less eager to accept very sweet tastes. The response to salt seems to be indifferent. Sour and bitter tastes are generally associated with negative responses from the newborn, although infants, who were fed with for instance hydrolysed milk, seem to accept bitter and sour better on the long run<sup>4</sup>.

Variety and patience will stimulate taste development in young infants. Parents should be role models and it is good to create a pleasant and social environment during meal times.

#### NUTRITION PROGRAMMES

The emphasis in child nutrition programmes is changed from the prevention of dietary deficiencies towards the broader view of promoting healthy feeding practices for long-term benefits.

The brains of newborns are growing up to 3 years of age. Good nutrition is of utmost importance for adequate growth of brain cells and thus mental development (intelligence, speech, and sight). Malnutrition in the first year of life has been shown to result in retarded mental development. This is irreversible<sup>5</sup>.

The food intake in developing countries is dependent on tradition in many cases; if not economical conditions decide what foods can be purchased<sup>5</sup>.

The protein quality of maize that is used for infants is worse than the quality present in rice. This may influence the nutritional status of infants. Countries that do not traditionally eat fish, will not give fish to their children. If meat is expensive, it is more difficult to meet requirements for iron that is bioavailable. The health care professional should be aware of possible difficulties in finding the right foods.