

# Age to start complementary feeding of infants

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## Background

The European Commission asked EFSA for advice on the age to start complementary feeding of infants. This is to help determine an age that can be used for the labelling of cereal-based and other processed baby food, commercially available in the European Union (EU).

EFSA last assessed the appropriate age to introduce complementary feeding for infants in 2009, when it concluded that the introduction of complementary foods into the diet of healthy term infants in Europe between the ages of 4 and 6 months is safe and does not pose a risk of adverse health effects.

• For nutritional reasons, **the majority of infants need complementary foods in addition to breastmilk and/or formula from around 6 months of age.**

However, there is no single precise age at which all infants living in Europe should start complementary feeding as this depends on each infant's characteristics and development.

• **Infants who show the developmental skills needed** for consumption of complementary foods may start on foods that are age-appropriate, nutritionally adequate and prepared according to good hygiene practices, even if this is before 6 months of age. But, being developmentally ready before 6 months of age, **does not imply a need to start complementary feeding.**

• **We found no evidence that shows introducing complementary foods before 6 months of age is either harmful or beneficial for health.** This includes introducing allergenic foods such as egg, cereals, fish and peanut, and gluten.

## Scope of our work

EFSA gives scientific advice in response to questions from EU risk managers in the European institutions and Member States. Our advice is based on a state-of-the-art evaluation of scientific data. The question we answered in this updated scientific opinion was **related solely to whether the timing of introduction of foods other than breast milk or infant formula within the first half year of life**

**makes a difference to a child's health.**

EFSA's advice answers one specific, albeit important, aspect of a multifaceted question. Several other factors outside the scope of this evaluation could influence future recommendations or decisions on labelling requirements made by policymakers.

## Out of scope

- Recommendations to the general public – these are issued by the public health authorities of Member States or scientific societies, who may consider pre-defined public health goals as well as other factors
- Benefits of (exclusive) breast-feeding
- Food chain-related risks, e.g. chemical or microbiological contaminants or pesticides
- Type, composition, amount or texture of foods given as first complementary foods to infants or the order of their introduction
- Social interaction and cultural context



## What were EFSA's conclusions?

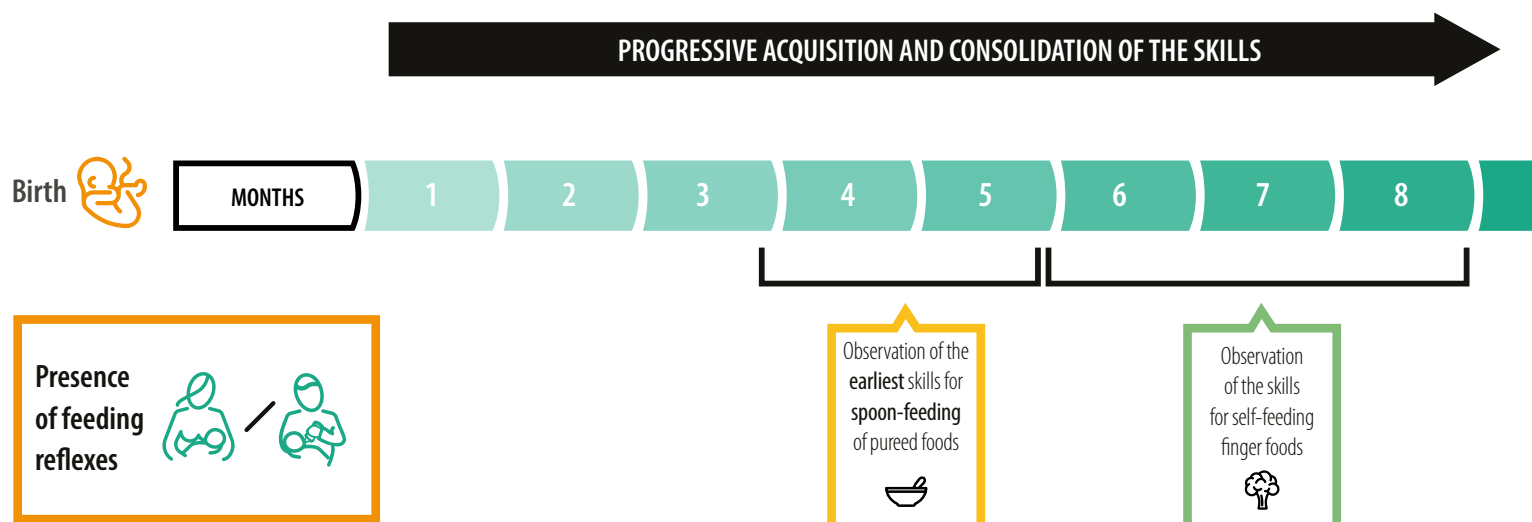
**There is no single precise age** at which complementary foods should be introduced to all infants living in Europe. It depends on each infant's characteristics and development.

**Nutritional reasons** – The majority of infants **do not need complementary foods before 6 months of age** as exclusive breastfeeding provides sufficient nutrients up to that age. However, infants who are at risk of iron depletion may benefit from complementary foods that are a source of iron introduced before 6 months of age. Infants at risk of iron depletion are those born with low iron stores (i.e. whose mothers had low iron status during pregnancy, or whose growth was restricted in utero and were born too small, or whose umbilical cord was cut too quickly after birth and preterm infants) or used existing iron stores up quickly because they grew fast during the first months of life, and are exclusively breast fed.

**Developmental readiness** – The earliest signs of the developmental skills required for consuming some complementary foods can be observed as follows:

- **Spoon-fed pureed foods: between 3 and 4 months of age**, when some infants can already hold their head straight when lying on their back and control their head when pulled up or helped to sit. Their reflex of pushing objects out of their mouth also starts to diminish at this age. However, mastery of transporting food to their mouth and swallowing takes additional time.
- **Self-fed finger foods: between 5 and 7 months of age**, when infants can sit without support but efficient chewing may still take time to perfect at these ages.

*The fact that an infant may be developmentally ready for a more diversified diet before 6 months of age does not imply that there is a need to introduce complementary foods.*



**Risks/benefits** – We found **no evidence that starting complementary feeding before 6 months of age is either harmful or beneficial to health**. If foods are given to infants they should be in an age-appropriate texture (e.g. to avoid choking), be nutritionally adequate and comply with national feeding recommendations (e.g. to avoid salt, sugar or unmodified cow's milk) and be prepared according to good hygiene practices (to reduce the risk of infections).

**Allergenic foods** (e.g. egg, cereals, fish, peanut) and gluten can be introduced to an infant's diet when other complementary foods are introduced. Delaying their introduction to a later age makes no difference to the risk of developing allergies or coeliac disease.

**Next steps** – EFSA's work provides a strong scientific basis for consideration, together with other factors, by public health authorities or decision-makers for any future recommendations or decisions.

## BENEFITS

Infants at risk  
of iron depletion



## NO RISKS



EGGS



PEANUTS



FISH



CEREALS



OBESITY

**of developing  
allergies**

**or other  
health problems**

## Want more info?

[Scientific opinion on appropriate age range for introduction of complementary feeding into an infant's diet](#)

(EFSA, 2019)

[Scientific opinion on the appropriate age for introduction of complementary feeding of infants](#)

(EFSA, 2009)

## Glossary/Key Terms

- Complementary feeding** – the period when complementary foods are given to an infant together with either breast milk or formula or both.
- Complementary foods** can be beverages, spoon-fed pureed foods, spoon-fed lumpy foods or finger foods, either prepared at home or produced commercially.
- Developmental readiness** – the maturation of bodily functions necessary to metabolise 'non-milk foods', i.e. other than breast-milk or formula, and the neurodevelopmental changes necessary for safe and effective progression from suckling to spoon- and self-feeding, including the infant's apparent emerging interest in non-milk foods and feeding.
- Gluten** – protein found in wheat, barley and rye. The symptoms of coeliac disease are triggered by the ingestion of gluten in coeliac sufferers.

## What work did EFSA carry out?

We evaluated about 300 scientific publications on the timing of introduction of complementary foods in general and specifically for those containing egg, cereals, fish, soy and peanut. The evidence was assessed in relation to **a wide variety of health outcomes** including, for example, risk of obesity, sleep, infections, iron depletion and atopic disease (allergies).

**Open and transparent process** – we defined in advance our strategy and methodology to collect and evaluate the scientific data, which were defined in a scientific document called a 'protocol'. We consulted publicly on the protocol before starting work. We organised a second public consultation on

the draft assessment prior to its finalisation. The results of these two consultations and our responses to your feedback have been published in full on the EFSA website.

There were uncertainties in the available publications. Our experts took into account the main ones when evaluating the information on the way the timing of introduction of complementary foods was assessed or checked, the way the health outcomes were assessed, and if other factors may influence the results (this is called 'confounding'). Our scientists also used statistical methods to strengthen their conclusions.

The experts on EFSA's Panel on Nutrition, Novel Foods

and Food Allergens together with EFSA scientific staff carried out this wide-ranging and comprehensive opinion. All our scientific experts and statutory staff comply with our robust declarations of interest requirements **to ensure the [independence of our scientific work](#) from any outside influence.**

## What other organisations have worked on this topic?

Our scientists took note of previous documents by some scientific advisory and public bodies in Europe (e.g. European Society for Paediatric Gastroenterology, Hepatology and Nutrition), the USA (e.g. US Department of Agriculture) or at international level (e.g. World Health Organization).

These documents were developed in a different regulatory context from EFSA's opinion, for example, to provide public health recommendations. Our definition of complementary foods is however common to several of these organisations, but differs from that used by, for example, WHO.

