

How much food and how often?

The taste of a new food may surprise a child. Advise mothers to:

- start by giving one or two teaspoons twice a day
- gradually increase the amount and variety (by 9 months, a child should be eating a variety of family foods).

It takes time for a young child to learn how to use his/her lips to clear food off the spoon, and how to move the new food to the back of the mouth, ready for swallowing. Some food may run down the chin, or be spat out. Tell families to expect this – it does not mean that the child dislikes the food. With *encouragement* and *patience*, a child soon learns how to eat new foods and enjoy new tastes.

As the child becomes older, suggest that families:

- continue to breastfeed often
- increase the amounts of food given at mealtimes and give as much as the child will eat with active encouragement¹
- gradually increase the number of meals. Give complementary foods three times daily at 6–7 months, increasing to at least five times (3 meals and 2 snacks) by 12 months
- at first, make the food soft; later, mash it or cut into small pieces
- help and encourage the child to eat.

Figure 10 gives an example in which health workers set out their feeding recommendations. Note they use words and pictures to:

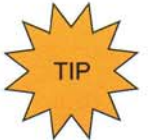
- describe the changing pattern of feeding as children grow older
- recommend frequent breastfeeding for two years
- suggest what complementary foods to give, how much, and how often
- use locally available mixtures of foods
- show families actively encouraging their children to eat.

Would something like this be helpful for families in your area?



Help and encourage a child to eat.

When working out options to suggest, you will want other health workers to accept them too, so involve them when making plans. You will also want families to be able to select an appropriate option for their circumstances. So before finally deciding, discuss your ideas with families who have young children, and ask if they think families will want, and be able, to follow the suggestions.



¹ By the age of 9 months, a child can eat several spoonful (or about half a cupful) at each meal. As shown in Figures 4–9 by the second year a child can eat several large spoonful, or a small bowl, at each meal.

Figure 10 Feeding recommendations during sickness and health on the mother's counselling card.

Up to 4 months of age

- Breastfeed as often as the child wants day and night, at least 8 times in 24 hours.



4 months up to 6 months

- Breastfeed as often as the child wants day and night, at least 8 times in 24 hours.
- Only give other foods if the child:
 - appears hungry after breastfeeding or
 - is not gaining weight adequately.If so, add complementary foods (listed under 6 months up to 12 months). Give these foods 1 or 2 times per day after breastfeeding.

6 months up to 12 months

- Breastfeed as often as the child wants.
- Give adequate servings of:
 - thick porridge made out of either maize or cassava or millet or soya; add sugar and oil mixed with either milk or pounded ground nuts
 - mixtures of mashed foods made out of either matooke or potatoes or cassava or posho (maize or millet) or rice; mix with fish or beans or pounded ground nuts; add green vegetables.

Give 3 meals per day if breastfed.

Give 5 meals per day if not breastfed.

Give nutritious snacks between meals like egg, banana or bread.



12 months up to 2 years

- Breastfeed as often as the child wants.
- Give adequate servings of:
 - mixtures of mashed foods made out of either matooke or potatoes or cassava or posho (maize or millet) or rice; mix with fish or beans or pounded ground nuts; add green vegetables
 - thick porridge made out of either maize or cassava or millet or soya; add sugar and oil mixed with either milk or pounded ground nuts.

Give 3 meals per day and 2 snacks.



2 years and older

- Give family foods at 3 meals each day. Also, twice daily, give nutritious snacks between meals, such as: bananas, eggs or bread.



Encouraging young children to eat

Appetite is a good guide to the amount of food a child needs *if* the child is healthy, is fed frequently and is encouraged to eat. If the appetite decreases, it is a sign that something is wrong. Perhaps the child is ill or unhappy, or jealous of a new baby. Perhaps the child is trying to get extra attention, or is going through a fussy stage. Perhaps the diet is the same every day and the child is getting tired of the same taste. If the appetite remains poor for some time, the child may become malnourished.

A mother or other responsible person should actively encourage and help a young child at mealtimes even when the child is well and has a good appetite. It is especially important to supervise mealtimes from the time a child starts other foods up to two years of age. A child left on her own may not eat enough. A child needs time to learn to use a spoon. A young child often eats slowly and is messy and easily distracted. It is important that the child has sufficient time to eat enough. So advise families:

- to put the child's food in a separate bowl to make sure the child gets a fair share and eats the correct amount
- to sit with the child at mealtimes, watch what the child is eating, and actively give help and encouragement when needed
- not to hurry the child. A child may eat a bit, play a bit, and then eat again; encouraging a child to eat needs patience and a good sense of humour!
- once a child has stopped eating, to wait a little and then offer more
- to give some foods that the child can hold or pick up. Young children often want to feed themselves; parents should encourage this but be ready to help to make sure that most of the food eventually gets into the mouth
- to mix foods together if the child picks out and eats only favourite foods
- to feed as soon as the child is beginning to get hungry. If children wait too long to eat and get upset, they may lose their appetites
- not to feed when the child is sleepy
- not to force-feed. This increases stress and decreases appetite even more; mealtimes should be relaxed, happy occasions



It is good if someone sits and encourages a child at mealtimes.



Young children often like to feed themselves, but they may need helping.



Imaginative games can help children eat more.

The time spent with the child at meal-times can also be used to tell new words and concepts and so improve the child's mental development.



Suggest families use mealtimes to:

- name the utensils, foods and colours
- show some things are small and some big
- talk about how the food tastes.

Let a child touch and pick up food and feed herself. This helps develop co-ordination and motor development.



Mealtimes are opportunities to help a child feel good about herself and what she is able to do. Encourage families to give praise, to smile at the child, and say 'that is very good'.



- to make sure the child is not thirsty. (But do not give so much liquid before or during a meal that the appetite is reduced)
- to play games to persuade reluctant children to eat more, for example pretending the spoon is a bird coming to feed its chick, or pretending the food is for a doll or another child or a toy animal
- to be prepared to do a little cleaning up afterwards!

A child may refuse food to gain attention. You can help families avoid this by advising them to pay attention to children when they eat well and praise them for eating well. If a child refuses food, take it away and offer it later. If the child continues to refuse it, the child may really dislike the food and should be offered something else.

Imaginative games can be created to help reluctant children to eat more.

Question

1. In your area, do families have games or other ways of encouraging children to eat?

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If so, ask them to share these ideas with you, and with other families.

2. How do families recognise that a child is hungry?

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Stopping breastfeeding

You have seen that breast milk provides important amounts of energy and nutrients even in the second year. By the third year, a child will be able to eat family foods easily and the risk of illness and malnutrition will be less. So breastfeeding can be stopped gradually. A child may still want to breastfeed occasionally, for example if tired, upset or sick.

Many mothers believe that if they become pregnant they should stop breastfeeding immediately. This is not necessary as their breast milk is still good and does not harm the new baby. Stopping suddenly can upset a child emotionally, so it is best to stop gradually.



Advise families to encourage a child to eat even if he is not hungry.

Protecting young children from disease

Babies are protected from disease by:

- inheriting some immunity from their mothers. This *natural (passive) immunity* (for example immunity from measles) is present at birth and lasts a few months
- substances in *colostrum* (the mother's first milk)
- substances in breast milk.

Gradually, babies develop their own protective immunity.

Young children are most vulnerable to disease between 6 and 24 months of age because:

- their passive immunity from their mother has declined
- their own immunity is not yet fully developed
- they are increasingly exposed to pathogens.

Pathogens are organisms that cause disease. Examples are bacteria, viruses, moulds and the eggs and larvae of parasites (for example, roundworms). Diarrhoeal pathogens are present in the faeces of people and animals and are easily passed to young children. Unless faeces are disposed of properly, diarrhoeal pathogens get into soil, food and water and onto hands, containers and utensils. Animals, flies and other insects can carry pathogens and so spread disease.

Young children are more likely to get diarrhoea than older children and adults because:

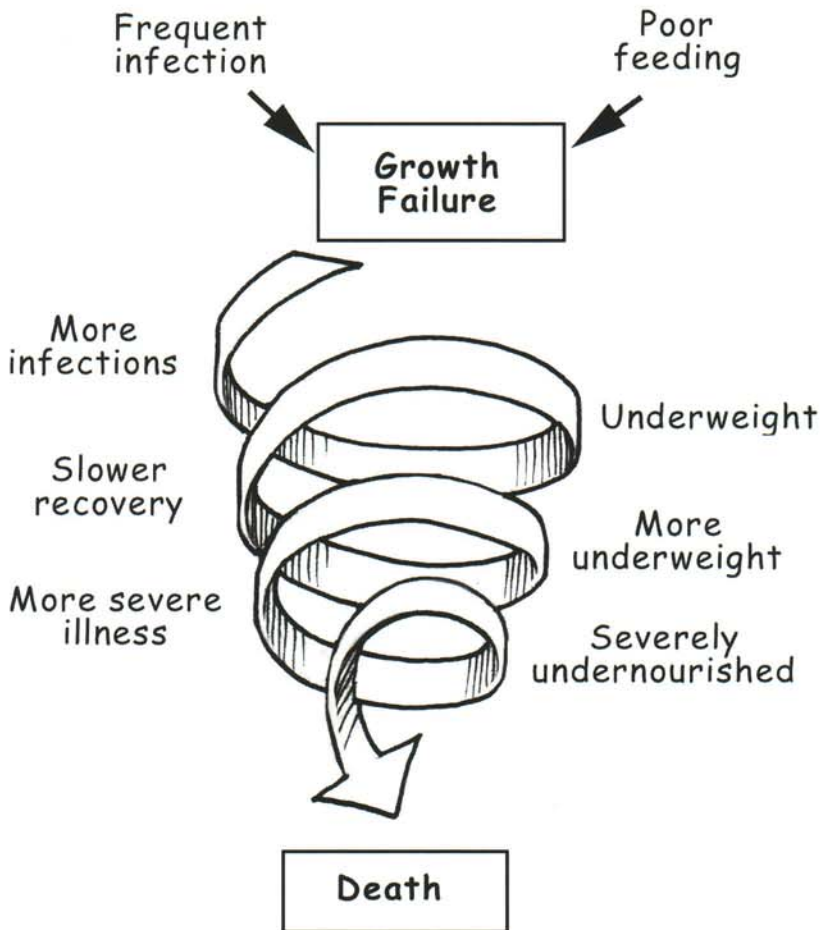
- young children crawl and play on the floor
- they put dirty fingers and other dirty objects into their mouths
- they may be fed from feeding bottles which are difficult to keep clean, safe and free of pathogens

*Freshly-prepared food
reduces the risk of
diarrhoea*

- they may be given food that has been kept for a long time in a warm place. These conditions allow pathogens to multiply quickly
- their immunity is less developed.

A child who is ill usually does not want to eat. If the illness is severe or lasts a long time, the child may become malnourished. If the child is already malnourished, illness makes the malnutrition worse.

Figure 11 Infection and poor feeding produce ever-worsening undernutrition and illness.



When children are malnourished, they have less protection against pathogens because:

- barriers to pathogens (like skin) are less efficient. So it is easier for pathogens to invade the child's body
- malnourished children lack nutrients and so cannot make enough antibodies and other substances that fight disease. So pathogens multiply more easily inside the body.

This means that malnourished children are:

- ill for longer than well-nourished children
- more likely to become seriously ill
- more likely to die.

Families can reduce the risks of illness (particularly diarrhoea, respiratory infections and malaria) and malnutrition by:

- feeding breast milk alone for at least 4 months, and 6 months if possible
- then feeding increasing amounts of appropriate complementary foods
- continuing to breastfeed during the first two years
- keeping food and water clean and safe
- keeping the home and surroundings clean
- putting children to sleep under a net if there are mosquitoes
- taking children for immunizations on time.

Children who are well-nourished during the first two years of life are likely to stay well-nourished for the rest of their childhood.

How can food be kept clean and safe?

Food is unclean and unsafe if it:

- contains pathogens that cause conditions like diarrhoea, vomiting, worms, typhoid, cholera, hepatitis
- contains pesticides and harmful chemicals
- contains toxins
- chokes or burns a child.

To help keep food safe from pathogens, advise families to:

- wash hands with soap before preparing food
- use fresh food that looks and smells good
- keep perishable food (meat, milk etc) and cooked food in a refrigerator if the family has one



A clean home reduces the risk of illness.



Children who are well-nourished during the first two years are likely to stay well-nourished later.



Advise families to wash hands with soap before preparing food.



Keep food and utensils covered.

- cover cooked food and eat within 2 hours if there is no refrigerator. If kept longer, reheat food thoroughly so that it is all boiling hot and any pathogens will be killed
- wash children's hands before meals
- feed the child with a clean spoon or cup, never a feeding bottle
- use fermented (soured) foods if these are available (because pathogens grow less easily)
- keep animals outside the house
- keep the house and outside areas clean so that rats, mice and insects do not breed
- use toilets so that faeces are not left exposed
- use potties for young children or remove their faeces from the ground and put in a covered pit or latrine
- wash dirty nappies straightaway or put them in a tightly-sealed plastic bag or bucket to keep flies off them
- wash hands with soap after using the toilet and after cleaning the baby's bottom
- protect food and utensils from rats, mice, cockroaches, flies and dust by keeping them covered
- protect stored drinking water from animals, dust, hands, dirty scoops and dippers.

To help keep food safe from pesticides and other harmful chemicals, advise farming families to:

- keep pesticides and other dangerous chemicals, and the equipment and containers used for them, away from the house and water supply
- follow the manufacturer's instructions before harvesting crops that have been sprayed
- keep away from the house and water supply clothing worn while spraying.

To keep food free of toxins, advise families:

- to store food and crops in a dry, cool, airy place
- not to use mouldy food
- not to eat bitter cassava roots without proper treatment (for example, peeling, cutting, soaking and boiling, or grating and fermenting, or making into flour).

Feeding during illness

A child may eat less when ill because:

- the child does not feel hungry
- the child is vomiting
- the mouth or throat is sore
- parents think food will harm a sick child and so give less food, or none at all
- parents give more watery food.

To reduce the risk of malnutrition, advise parents to:

- encourage the child to eat, even if not hungry
- feed *during* illness
- feed more *after* illness.

Sick children often need *extra* foods and drinks – for example if they have fever or diarrhoea. Sick children may prefer breast milk to other foods.

So during illness, advise families to:

- increase the number of breastfeeds
- offer small amounts of food frequently (perhaps every 2 hours)
- gently coax and encourage the child to eat even if not hungry
- give soft foods, especially if the mouth or throat is sore
- give extra fluids if the child has diarrhoea or fever
- give foods that the child likes
- feed when the child is alert, not sleepy
- make the child comfortable before feeding, for example by clearing a stuffy nose.

Advise families to take a child to the clinic at once if the child:

- is sick and refuses to drink
- has diarrhoea and drinks poorly
- has diarrhoea with blood
- has a cough and difficult breathing
- has a cough and fast breathing
- is breastfeeding poorly, especially if less than 2 months of age
- has a fever and lives where malaria is common
- is getting worse.



All the family can help coax children to eat.



Advise families to give extra food during recovery from illness.



Regular weighing helps to check if a child is progressing well.



Discuss a child's progress and child feeding whenever you can.

Feeding during recovery

A child's appetite usually increases after illness. So this is a good time to give extra food so that lost weight is quickly regained. Advise families to:

- continue to breastfeed frequently
- give complementary foods more frequently
- encourage the child to eat as much as possible at every meal
- continue to give extra food until the child has regained lost weight and is growing well again.

Helping working mothers

It is an advantage to the child to stay with the mother for as long as possible so that she can breastfeed often. If a mother has to work away from home and leave her child, advise her that she can continue to provide good care if she:

- continues to breastfeed as often as possible, including at night
- chooses a responsible care-giver or nursery to look after the child
- expresses breast milk and shows the care-giver how to feed it by cup. If expressed breast milk is put into a clean covered container, it can be kept for 8 hours in a cool place even when there is no refrigerator
- tells the care-giver how to feed the child with complementary foods, how often and how much
- asks the care-giver to use a small cup or spoon to feed complementary foods to the child, never a feeding bottle
- teaches the care-giver how to keep food safe and clean
- tries to keep the same care-giver each time.

Checking progress

Signs that a young child is healthy and well-nourished are that the child:

- is growing at a healthy rate¹
- is eating well
- is active, happy and playful
- is not sick often
- recovers quickly from common childhood illnesses.

¹ The best way to check growth is to plot the child's weight on a growth chart. The child should be weighed regularly (preferably every month in the first year). Then the direction of the child's line on the chart can be seen and compared to the direction of the reference line.

So when you meet with mothers and care-givers of young children:

- advise them to take their children to the clinic or health post regularly for growth monitoring
- discuss child feeding and their children's progress, and give advice or counsel if needed, or if asked.

Meaning of words

Absorbed iron: this is the iron that passes into the body after it has been released from food during digestion. Only a small proportion of the iron present in food is absorbed. The rest is excreted in the faeces.

Active encouragement: assistance given to encourage a child to eat. This includes praising, talking to the child, helping the child put food on the spoon, feeding the child, making up games.

Antibodies: substances produced by the body to attack bacteria and viruses that might get into the body. Antibodies are passed from a mother to her baby in breast milk and so breastfeeding helps protect babies from infection. Antibodies are also called immunoglobulins.

Anti-infective factors: substances that prevent infection. These include antibodies.

Anti-nutrients: substances that interfere with the absorption or utilisation of nutrients. Examples are phytates in cereals and tannins in tea which reduce the absorption of iron from eggs, milk and plant foods.

Chapati: a flat bread made by mixing whole wheat flour with water and then shaping pieces of the dough into flat circles and baking on a griddle (hot metal sheet). Traditionally eaten in India and Pakistan.

Colostrum: the 'first' milk that mothers produce before the main flow of breast milk becomes established.

Deficiency: shortage of a nutrient that the body needs.

Family foods: foods that are part of the family meals.

Fermented foods: foods that are soured. For example, yoghurt is fermented milk. Another example is fermented cereals made by mixing cereal flour with water and then leaving for 2 or 3 days. In this process, microorganisms change some of the starch into other substances. These substances can be beneficial and kill pathogens that may be contaminating the food. So food that has been fermented is often safer than other food. Fermenting cereals breaks down the phytates in the cereal and allows more iron, zinc and calcium to be absorbed.

Filtered water: water purified and made safe by passing it through a special filter to remove germs and dirt.

Fortified foods: these are foods that have certain nutrients added to improve their nutritional quality. An example is the addition of B vitamins and iron to milled flour so that the nutrients removed during milling are restored to their original content. Another example is the addition of vitamins A and D to margarine so that it has the same vitamin value as butter.

Germinated seeds/flour: seeds that have been soaked and allowed to sprout. Seeds may be soaked in water for 24h and then covered with a damp cloth for 48h. The sprouted seeds can be dried and milled to make germinated flour. If a little of this flour is added to warm thick porridge it makes the porridge soft and easy to eat.

Ghee: butter that has been heated so that the fat melts and the water evaporates. It looks clear. It can be made from cow or buffalo milk and is widely used in India. In the Middle East it is called *samna*.

Gruel: another name for thin porridge. Examples are *atole* in Central America, *uji* in Africa.

Immunity: a defence system that the body has to fight disease.

Jaggery: brown sugar made from the sap of the palm flower. It is widely used in the Indian subcontinent.

Matooke: green banana.

Micronutrients: essential nutrients required by the body in small quantities (like vitamins and some minerals).

Natural (passive) immunity is the protection a baby inherits from his/her mother.

Nutrients: substances the body needs that come from the diet. These are carbohydrates, proteins, fats, minerals and vitamins.

Nutritional needs: the amounts of nutrients needed by the body for normal function, growth and health.

Offal/organs: liver, heart, kidneys, brain, intestines, blood.

Pasteurized: food (usually milk) made safe by heating it to destroy disease-producing pathogens.

Pathogen: any organism that causes disease.

Pesticides: substances (usually sprays) used by farmers to prevent pests from attacking crops.

Porridge: is made by cooking cereal flour with water until it is smooth and soft. Grated cassava or other root, or grated starchy fruit can also be used to make porridge.

Phytates: substances present in cereals, especially in the outer layer (bran), and in peas, beans and nuts. Phytates combine with iron, zinc and calcium in food to form substances that the body cannot absorb. Eating foods containing vitamin C helps protect iron from the adverse effect of phytates.

Pulses: peas, lentils, beans and groundnuts.

Puree: food that has been made smooth by passing through a sieve or mashing with a fork, pestle or other utensil.

Quinoa: a cereal grown at high altitude in the Andes in South America.

Safe water: water that has had disease-causing pathogens removed, for example by boiling, adding chlorine, or passing through a filter specially made for this purpose.

Tarwi: a bean grown in the Andes in South America.

Tortilla: a flat bread made by mixing maize flour and water and then making the dough into a thin round shape. It is cooked on a hot metal griddle. Traditionally eaten in Central America. Wheat flour can also be used.

Toxin: a poisonous substance.