

## **Introduction**

**Eating for Health for Babies Under One**

**Eating for Health from One to Five Years**



## 5: INTRODUCTION

### The importance of good nutrition

Healthy eating and physical activity are essential for proper growth and development in young children. Good eating habits formed early in life are likely to be carried into adulthood and therefore impact upon future health. This also applies to other health related behaviours such as physical activity and tooth brushing.

To help children develop patterns of healthy eating from an early age it is important that their experiences of food and eating are positive. Whether at home or in nursery, it is crucial that these positive messages are reinforced by the snacks, drinks and meals provided, as well as any adult's attitude and behaviour towards food.

Increasing numbers of children under the age of 5 are being cared for outside the home in Local Authority nurseries, private nurseries or with childminders. Many children are spending longer periods of time in child care so consume a greater proportion of their daily food intake within these establishments. Nurseries are therefore in an ideal position to help shape children's eating habits and play a key role in encouraging children to enjoy food.



### Current eating patterns

Sadly, the evidence available suggests that, in general, many children's diets are:

- too low in several essential vitamins and minerals such as zinc and iron
- too low in fibre, starchy carbohydrates, fruits and vegetables
- too high in foods that are high in fat, sugar and salt
- and, for an increasing number, too high in calories for the low level of physical activity

Research has shown there is a link between a poor diet in early life and the development of coronary heart disease, stroke, cancer, diabetes and obesity. The incidence of all of these is high in Great Yarmouth compared to the Regional and National Average.

## 6: EATING FOR HEALTH FOR BABIES UNDER ONE

### BREASTFEEDING

#### Getting children off to a good start!

Children who are breastfed have a better nutritional start in life because breast milk is superior to formula milk. Anti-infective properties and antibodies found only in breast milk protect babies from infection as well as boost their immune system. Research also proves that the health benefits of breast milk last into childhood and beyond.

Current guidelines recommend that breastfed babies do not need any other milk, juice, water or cereal for the first 6 months of life because breast milk provides all the nutritional requirements for healthy growth. Breast milk also has a special value for babies born prematurely as it promotes better brain and sight development and provides protection against serious medical conditions found in pre-term babies.



Babies who are exclusively breastfed are:

- Protected against diarrhoea, gastro-enteritis and tummy upsets
- Protected against chest infection and wheezing
- Protected against ear infections
- Protected against colds, flu and sore throats
- Less likely to have eczema and other allergies
- Less likely to develop diabetes
- More likely to have prolonged natural immunity to mumps, measles, polio and other diseases

Evidence also shows that breastfeeding protects children from a range of infections, reduces hospital admissions in the first year of life and gives added protection into the teenage years. Breastfeeding is good for mothers too, as women who breastfeed are less likely to develop:

- Ovarian cancer
- Pre-menopausal breast cancer
- Hip fractures later in life, caused by osteoporosis

Breastfeeding rates in Great Yarmouth are relatively low compared to other areas of Norfolk. There are several initiatives in Great Yarmouth that are aimed at encouraging mothers to breastfeed, to ensure that more children receive the full benefits of breast milk. One of these initiatives is the Breastfeeding Peer Support provided to the mothers at The Young Women’s Project in Great Yarmouth. Breastfeeding peer supporters are volunteers who meet with, offer support, and promote breastfeeding to ante natal women and breastfeeding mothers in their area. They have breastfed their own children and undergo a period of training, including supervised practical experience on the post natal ward in the hospital, which will equip them to give mothers advice and support. This way of promoting breastfeeding has proven to be very successful. Over an 18 month period the breastfeeding rates amongst the women attending The Young Women’s Project soared from 30% up to 82%! Many of the women are still breastfeeding at 10 or 11 months, which shows that not only is breastfeeding being initiated, it is also being sustained. As a response to the success of this programme it was decided that peer support should be extended to cover Gorleston and the Northern Villages (e.g. Caister, Hemsby, Martham, etc). Training to become a breastfeeding supporter is available and volunteers are now being recruited.

Besides the peer support project, support and advice is also offered by health professionals. There is the Breastfeeding Clinic on Ward 11 at the James Paget Hospital. This clinic runs on a drop in basis every Monday excluding Bank Holidays from 10:00 to 12:00am. Mothers can come to these sessions for professional advice and support about any issue related to breastfeeding. No referral is necessary. Other local breastfeeding support groups are listed below:

Where	Who/ What	When
Peggotty Road Community Centre	Parent & Child Group	Tuesdays 1:00 - 2:30pm
Gordon Road Family Centre	Drop In	Thursdays 10:00am - 12:00noon
Magdalen Way Methodists Church Hall	Baby- Café – Drop In	Wednesdays 12.30 - 2:30pm
Crown Street (Lowestoft) Community Hall – Factory Rd entrance.	Drop In	Tuesdays 10:00 - 11:30am

For more information about breastfeeding and to find out more about breastfeeding (peer) support in Great Yarmouth please contact Nicola Lovett, Sure Start Midwife at the Young Women’s Project on 01493 852253.

Nurseries are in an ideal position to promote the benefits of breastfeeding and to support any mother wishing to breastfeed her baby while in the nursery. The poster in appendix 1 can be photocopied and displayed in your nursery, for example in the parent's room, to encourage mothers to breastfeed.

### **Storing Expressed Breast milk**

Many breastfeeding mothers express their breast milk and store it in the fridge or freezer until their baby needs it. Provided that it has been collected in a sterile container breast milk is safe to use when:

- Stored at room temperature for 8 hours.
- Stored in a fridge for 24 hours.
- Stored in the ice box of a fridge for up to one month or in a \*\*\* freezer for up to 3 months.

Breast milk can be thawed overnight in the fridge or more quickly in a jug of warm water. A microwave oven should not be used to thaw or heat breast milk as this may heat the milk unevenly and could scald the baby.

### **FORMULA FEEDING**

For mothers who choose to feed their baby with formula milk (for bottle feeding) there is a large variety of products to choose from. There are 4 main types of formula milk:

- Whey based (e.g. Milupa Apatamil First, Cow & Gate Premium, Farley's First, SMA Gold) - where the protein composition is similar to breastmilk. This type of milk is suitable from birth until 12 months.
- Casein based (e.g. Milupa Aptamil Extra, Milupa Milumil, Cow & Gate Plus, Farley's Second, SMA White) - where the protein composition is similar to cow's milk. This type of milk is suitable ideally from the age of 6 months.
- Follow-on milk (e.g. Milupa Forward, Cow & Gate Step Up, Farley's Follow-On Milk, SMA Progress) - these are enriched with extra vitamins and minerals. This type of milk is suitable from the age of 6 months. Children who are fussy eaters and so have a limited diet, may benefit from continuing on follow-on milk until the age of 2 years, to ensure an adequate intake of key nutrients (see pages 13 + 14 on vitamins and minerals).
- Soya based (e.g. Cow & Gate Infasoy, SMA Wysoy) where the protein is from soy. These formulae should only be used under medical direction. Soy milks sold in supermarkets are not the same as soy infant formulae, as they do not always contain the full range of nutrients required for growth and development.

Some casein based milks are labelled “for hungrier babies” and are often perceived as “second stage” milk, although there is no conclusive research to prove that these satisfy a baby any better than whey based milks. Babies receiving whey based milk do not necessarily need to be changed to casein based milk at the age of 6 months; they can continue on whey based milk until the age of 12 months and then go onto cow’s milk.

Formula milk should always be prepared following the manufacturer’s instructions (see appendix 2 for information on preparing formula milk and appendix 3 for information on sterilising equipment). A microwave oven should not be used to warm formula milk as this may heat the milk unevenly and could scald the baby. Nursery staff should ensure formula milk is clearly labelled with the baby’s name and the date and time of day that the milk was prepared. Once prepared, formula milk should always be stored in a fridge and not kept for any longer than 24 hours. At the end of each day, any unused milk should be returned to the parent.

## **WEANING**

The introduction of solids into the diet (or weaning) is an important step in a baby’s development. During this stage, there is a period of rapid growth so it is essential that the diet provides all the nutrients a baby needs.

It is recommended that solids are introduced between the age of 4 - 6 months, as breast or formula milk alone cannot provide sufficient energy for proper growth. Before the age of 4 months a baby’s system is not mature enough to digest anything other than breast or formula milk. Furthermore, before 4 months, the muscles required for eating and swallowing are not fully developed and a baby’s head control is poor. Research shows that introducing solids too soon can result in problems later such as food intolerance, wheeze or cough.

During the weaning process babies are learning to accept and enjoy new foods with a variety of flavours and textures. They are also learning to take food from a spoon, which is more difficult than it may sound! At first when introducing food, it is a normal reaction for all babies to spit food out and screw up their face, but this does not necessarily mean that the food is disliked. Ideally, the same foods should be offered on several occasions to allow babies to adjust to the new taste. Gradually, between 6 to 12 months, a wide variety of flavours and textures should be introduced to ensure an adequate intake of all the nutrients needed for growth and development.

- Ideal first foods are baby rice, pureed fruits (apple, banana, pear) and pureed vegetables (sweet potato, potato, carrot). It is important that these are of a thin, smooth, lump-free consistency.
- From the age of 5 months baked beans, lentils, red meat, poultry and fish (without bones) can be introduced. These foods should still be smooth although they can be a thicker puree. Combinations of foods can be introduced such as sweet potato and carrot, potato and parsnip, apple and pear.
- From the age of 6 months, foods containing wheat (bread, pasta and breakfast cereals) can be introduced, as well as cheese, yogurt and fromage frais. At this stage foods should be finely chopped or well mashed as this helps the development of jaw and facial muscles, which are important for speech. Also at this stage, a feeding cup should be introduced for water, expressed breast milk or formula milk.
- By the time babies reach the age of 12 months, they should be eating the same healthy meals as the rest of the family. From the age of 12 months, full fat cow's milk can be introduced as a main drink. Breastfeeding mothers should be encouraged to continue breastfeeding for as long as they wish. Semi-skimmed milk is unsuitable for children under the age of 2 years (see later section on drinks and snacks).
- Salt should not be added to babies' food because their kidneys are unable to cope with added salt. The level of salt that is naturally present in fresh foods will be enough to meet babies' need.
- For babies, sugar should not be added to foods as this is likely to cause tooth decay and may also encourage the development of a preference for sweet foods, which can be hard to change at a later stage. Breast milk, formula milk, cow's milk and water are the only safe drinks for teeth so all other drinks including baby juices, herbal drinks, diluting squashes, fizzy drinks and flavoured milk should be avoided.
- Exclusively breastfed babies rarely need additional fluids. However, in hot weather formula fed babies in particular may need extra water. For babies under the age of 6 months cooled, boiled tap water should be used.
- Staff should encourage parents to prepare their own foods as much as possible, as this gives much greater control over the addition of ingredients. Ready-made jars and packets of baby foods can be expensive and often contain added sugar and thickeners, which are of little nutritional value. Ready-made foods can, however, be useful on occasions where a parent is going out for the day or has little time to prepare a home-made meal.

## 7: EATING FOR HEALTH FROM ONE TO FIVE YEARS

### THE RIGHT STUFF

Healthy eating does not mean denying children or adults the foods they enjoy. It is the balance of foods in our diet that is the most important thing. To make sure children get all the energy (or calories) and nutrients they need for growth and development, they should eat as wide a range of different foods as possible.

Each day children should be encouraged to eat foods from the 4 main food groups:

- 1) **Bread and cereals:** this includes all types of bread and rolls (white, brown, wholemeal, granary), pitta, baps and bagels, potatoes, pasta, rice and breakfast cereals. These foods are good sources of starchy carbohydrate so supply energy. They are packed with vitamins like thiamine, riboflavin, niacin and folate, and also provide fibre. Children should have an item from this group at each meal.
- 2) **Fruit and vegetables:** a long list includes grapes, cherries, melons, pears, kiwis, bananas, pineapples, oranges, strawberries, apples, peaches, plums, nectarines, sweet corn, broccoli, peas, beans, cabbage, spinach, mushrooms, lettuce, parsnip, cauliflower, Brussels sprouts - the list goes on and on! Frozen, tinned (in own juice) and dried fruit and vegetables are just as valuable as fresh. Fruit and vegetables are good sources of a wide range of vitamins especially A, C and folate. Children should have 4-5 child-size servings each day. A serving is the amount that can fit in the palm of a child's hand.
- 3) **Meat and alternatives:** this includes beef, lamb, pork, chicken, turkey, fish, eggs, tofu, soy products and pulses such as beans, chick peas and lentils. These foods are all good sources of protein and iron, therefore essential for growing children. Children should have 2 foods from this group each day.
- 4) **Milk and dairy foods:** these include milk, yogurt, cheese and fromage frais. Not only are these foods rich in protein, they are high in calcium which is needed for the development of strong bones and teeth. Milk should be encouraged as a main drink and can also be used in meals, for example, in a pasta sauce or milk-based puddings. Milk and dairy products should be included in children's diets at least once a day.

## Getting the balance right

Children under 5, particularly those under 2 years, have specific nutritional requirements, and therefore not all healthy eating recommendations for adults apply to this age group. Because younger children under 2 years have smaller tummies and often smaller appetites, they are not able to eat as much at any one meal. Relative to their size, children need higher amounts of some nutrients such as vitamin C and iron, than adults need. Fat is necessary to provide essential fatty acids that the body cannot make itself and to provide fat-soluble vitamins, so for children under 5 do not cut out all the fat. However, it is still desirable to limit fried foods and foods that are high in fat.

- Make sure children get enough energy for growth by giving nutrient dense foods, in other words, foods that are high in nutrients like protein or carbohydrate.
- Give children under 5 years full fat varieties of milk and dairy products, not low fat varieties. From the age of 2, if a child enjoys a varied diet then semi-skimmed milk can be used at home.
- Children need regular meals and may need small healthy snacks in between.
- High fibre foods such as wholemeal bread, pasta and brown rice are bulky so can fill some children up too quickly. From the age of 2 years higher fibre foods can be introduced gradually, so that by the time they reach age 5, children are eating the same healthy foods as the rest of the family.

## Foods containing sugar

Foods such as sweets, chocolate, and biscuits are high in sugar. They are low in nutritional value because they do not contain nutrients such as vitamins or minerals and are high in calories. These foods need not be avoided completely, but when they are given, they should be offered after mealtimes rather than between meals to avoid tooth decay (tooth decay is discussed in more detail later).



## **Foods containing salt**

Some salt (or sodium chloride) is necessary in everyone's diet, although too much can be harmful for babies and young children as their kidneys are not able to cope with a high intake. If children from an early age become accustomed to a high amount of salt they will develop a taste for it in their diet making it difficult to change. A high salt intake is linked with high blood pressure and increases the risk of stroke later in life. Most people eat too much salt probably due to an over-reliance on convenience foods (tinned products, ready-made meals and sauces are all high in salt).

- Limit snacks such as crisps and corn snacks to no more than one packet per day as these are salty and high in fat.
- Smoked foods e.g. bacon, fish and cheese are high in salt so try not to have more than one of these foods per day.
- Children get enough salt from the amount that is naturally present in food so avoid adding it during cooking or at the table.
- When reading food labels look out for "sodium" and "monosodium glutamate", because products containing these are likely to be high in salt.

## **Vitamins**

Vitamins are necessary in our diet for a variety of functions, for example, to maintain healthy skin, hair, bones and teeth, for maintaining our immune system and for protection against chronic diseases such as heart disease and cancers. Vitamins can be split into 2 groups: fat-soluble and water-soluble.

Fat-soluble are vitamins A, D, E and K - these can be stored by the body. Water-soluble are B vitamins (including thiamine, riboflavin, niacin, B6 and B12), folate and vitamin C - these cannot be stored by the body so a daily intake of these is important. Table 1 in appendix 4 lists the main functions and food sources of key vitamins.

Children under the age of 5, particularly those who are fussy eaters or have a limited diet, should be given vitamin drops containing A, C and D - these are free to families on Income Support or Jobseeker's Allowance and are available at Health Centres.

- Encourage parents to discuss the need for vitamin drops with their Health Visitor.

## Minerals

Like vitamins, minerals are required in our diet for a range of functions, for example to develop strong teeth and bones, maintain healthy blood, to help breakdown carbohydrate and fat and for a healthy immune system. There are a number of important minerals, but for children the key minerals are iron, calcium and zinc.

### Iron

Iron is involved in the formation of red blood cells which carry oxygen around the body. A deficiency of iron in the diet leads to anaemia, which is common in young children. As many as a quarter of children under the age of 5 years in the UK have an iron intake below the recommended amount. Children with anaemia may appear pale, tired, and lethargic and have a poor appetite. Prevention of Iron deficiency is important as it affects intellectual achievement and is linked to poorer development and health overall.

There are two forms of iron: haem iron and non-haem iron. Haem iron is easier for our bodies to absorb and is found in meat and meat products such as red meat e.g. beef and lamb, chicken, turkey and some fish such as sardines. Liver, in particular, is a rich source of iron. Non-haem iron is harder for our bodies to absorb than haem iron. Non-haem iron is found in plant foods such as pulses e.g. peas, beans and lentils, dark green vegetables, dried fruit e.g. apricots and raisins, fortified breakfast cereals, bread and eggs.

- Vitamin C helps the body absorb iron so encourage children to have a glass of fresh fruit juice such as orange or apple (diluted for younger children, 1 part juice to 2 parts water), vegetables or some fruit with a meal.
- Tannin found in tea and coffee hinders the absorption of iron so avoid giving these drinks to children. If parents do give tea or coffee, advise them to offer these between meals, without sugar, make them as weak as possible and add lots of milk.
- Bran or foods containing added bran can hinder the absorption of iron so for young children these should be avoided. Giving whole-wheat breakfast cereals, some wholemeal bread, lots of fruit and vegetables will ensure children get all the fibre they need. Don't forget to offer plenty of water throughout the day to prevent dehydration and constipation.

## Calcium

The main function of calcium is to form and maintain strong bones and teeth as well as to build muscle and maintain the nervous system. Whilst the evidence available suggests that most children in the UK under 5 years have an adequate calcium intake, older children, particularly teenagers, have a worryingly low calcium intake. This is likely to lead to problems later in life with osteoporosis, or thinning of the bones, which can be very debilitating.

- Encourage children to eat rich sources of calcium including milk and milk products e.g. yogurt, cheese and fromage frais, sardines, pilchards, pulses, eggs, spinach and dried fruits.
- For children who are fussy eaters and have a limited intake of calcium rich foods, it is advised that they are given follow on formula milk from 6 months until the age of 2, or if breastfed, when a mother chooses to stop breastfeeding.
- For children with cow's milk allergy or intolerance, soya formula milk should be given and used only under medical supervision. Soya milks sold in supermarkets are not the same as soya infant formulae, as they do not always contain the full range of nutrients required for growth and development.

## Zinc

Zinc plays a part in a variety of functions including breakdown of protein, fat and carbohydrate, wound healing, maintaining the nervous and immune systems.

- Encourage children to eat rich sources of zinc including milk and milk products, meat, eggs, pulses and wholegrain cereals.



## Vegetarian diets

By excluding meat and animal products from the diet, consideration has to be given to alternative sources of key nutrients such as protein, iron, calcium and some vitamins. Staff should ask parents of vegetarian children for information on the foods that the child should/should not be given, for example, some vegetarians will eat eggs or fish while others will not. It should not be assumed that all vegetarians follow the same diet or exclude the same foods. Some people exclude animal products completely and follow a vegan diet. For children under 5 years this requires very special attention and staff should request that parents provide them with detailed information on the foods their child will eat.

- To ensure an adequate protein intake, food such as milk, cheese, fish and eggs should be included. However, if these are not eaten then pulses such as chickpeas, beans (butter, haricot, broad, pinto) and lentils are good sources of protein.
- Similarly for calcium, milk and dairy products are the best sources although spinach, pulses, dried fruit, oranges, white bread and Tofu are good alternatives.
- Non-meat sources of iron must be included in a vegetarian child's diet on a daily basis to prevent anaemia (see above section on iron). Remember that vitamin C helps the body to absorb iron so include fruits, vegetables or fruit juices with meals.

## Children with special dietary requirements

Fortunately, very few children require a restricted diet and, often, any restriction may only be for a short period of time. Those children with special dietary requirements should be under the supervision of a State Registered Dietician or another Health Professional. Parents or carers should provide nursery staff with a copy of any relevant dietary information, specific to their child. In some cases this it may be necessary to request that parents provide specific food items such as milk, snacks or packed lunches. These are some of the more common conditions that staff may encounter in children in their care:

**Coeliac disease** - This is a condition where gluten (protein found in wheat) is not tolerated by the digestive system. Here, the child would need to avoid all foods containing wheat, rye, barley and oats and foods that these may be contained in such as biscuits, puddings, cakes, soups, some tinned and packet foods. Parents should be able to provide a comprehensive list of fresh, tinned and packet foods that are gluten free. Further information can be obtained from Coeliac UK (see Useful Contacts section for details).

**Food allergy** - Food allergy involves an adverse response of the immune system and affects less than 1.2% of children in the UK. The effects of an allergic response can be minor, although in some cases, can cause a severe reaction or even be life-threatening. Research shows that many people perceive they have a food allergy when in fact it is food intolerance.

**Food Intolerance** - Intolerance to a number of foods, or a specific food, can result in a range of symptoms from wheezing to gastrointestinal upset or discomfort.

In all cases of suspected food allergy or intolerance in children, it should be recommended that parents seek medical advice for accurate diagnosis and future dietary management. It could be harmful for parents to exclude foods from their child's diet without proper advice, as this could lead to malnutrition and be unnecessarily restrictive.

Foods which can result in an adverse reaction caused by allergy or intolerance described above are: hen's eggs, cow's milk, fish, shellfish, Soya beans, wheat (gluten), peanuts, some other types of nuts and products containing any of these foods.

If you have any children at your playgroup or nursery that have a known (food) allergy, we would advise you to pay a visit to the website of the Anaphylaxis Campaign ([www.anaphylaxis.org.uk](http://www.anaphylaxis.org.uk)). On this website you will find guidance for pre-schools on what anaphylaxis is and on how to manage care for children with any allergies that may induce anaphylaxis.

**Diabetes** - Fortunately, diabetes is rare in children under the age of 5. Diabetes is a condition where the hormone insulin is not produced, resulting in the body's inability to control blood sugars. Children with diabetes may require 2 or 3 injections of insulin daily. A healthy and varied diet should be encouraged. The timing and frequency of meals and snacks for these children is crucial to ensure good control of their blood sugars. A regular intake of carbohydrate (bread, fruit, crackers) usually every 2 hours or so, will ensure a steady blood sugar.

If children with diabetes miss a snack or a meal, are ill, or are more active than usual, this can increase their need for foods containing carbohydrate. At these times, children with diabetes may need extra snacks containing carbohydrate to prevent hypoglycaemia (low blood sugar level). Hypoglycaemia (a 'hypo') can present in different ways for different children. Nursery staff should ask parents for information on recognising symptoms in their child and appropriate action that should be taken. Generally, if a child has a hypo, they require sugar, glucose or a sugary drink quickly, followed by a more substantial snack or meal. For general information on diabetes, staff could contact Diabetes UK (see Useful Contacts section for details).

## Weight gain in childhood

Following a healthy diet and taking part in regular physical activity in childhood will help reduce the likelihood of excess weight gain. Studies show that children in the UK are doing less exercise, whilst at the same time are regularly consuming foods high in fat and sugar, resulting in almost 1 in 5 children being overweight. Evidence suggests that excess weight in childhood is more likely to lead to being overweight or obese as an adult. If a parent expresses concern over their child's weight, nursery staff should suggest that they contact their Health Visitor for further advice.



## Children with special needs

Children with a disability may not be able to chew, eat and enjoy a wide range of textures and foods due to a variety of mild or severe physical, learning or sensory impairment, while some children may have a combination of disabilities. Working with parents to agree an individualised feeding plan to be used in the nursery is essential. This may involve input from a range of professionals, including a Dietician, a Speech and Language Therapist, Occupational Therapist or Physiotherapist. Children may require foods modified in texture, specialised feeding equipment, safe seating and positioning for eating and a high level of one-to-one support to eat and drink. If a parent expresses concern over their child's eating or drinking, nursery staff should suggest that they contact their Health Visitor, or appropriate Therapist for further advice.

Children with chronic illness may require regular, frequent medication and therefore should be under the continuing care of a Dentist. As with all children, parents should be encouraged to pay attention to maintaining good oral hygiene.