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Nutrition in Nursery Schools

East Midlands Regional Guidance

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Background

Children attending nursery often consume a large proportion of their food there, with some attending from 7am- 6pm. It is therefore important that the food offered by nurseries provides children with the correct amount of energy and a good balance of key nutrients. There are currently no regulations for food served in nurseries as there are in schools and although there are a number of guidance documents available they are often very general in their approach or not widely publicised to nurseries.

The East Midlands Nutrition in Nursery Schools survey was jointly commissioned by Trading Standards East Midlands and the Department of Health East Midlands in June 2009 as part of LACORS (Local Authorities Coordinators of Regulatory Services) national coordinated survey of nutritional standards in nursery schools. The aim of the survey was to collect data to determine an overview of the nutritional content of food served to the under fives in nursery schools.

Introduction

These guidelines have been produced as a result of the survey and incorporate feedback from nurseries to ensure the guidance is relevant and easy to follow. The guidelines should be used as a starting point for nurseries to help make changes towards a more balanced food provision for their 1-4 year olds. Its use does not guarantee compliance to nutrient recommendations and it is advised that the information provided is used in conjunction with Caroline Walker Trust guidelines¹

A full day in nursery should incorporate breakfast (where appropriate), mid morning snack, lunch, mid afternoon snack and tea (where appropriate). It is important that children of nursery age eat small amounts frequently and meal and snack times should be at regular intervals throughout the day. If children are leaving nursery after 5 pm it is unlikely that they will be provided tea at home and therefore provision should be made in nursery to ensure an adequate energy content is provided for the day.

¹ Dr Helen Crawley (2006) *Eating Well for Under-5s in Child Care* (2nd Edition), Caroline Walker Trust.

Food Group Balance

To ensure a varied diet, a balance of foods from each of the four main food groups should be on offer each day. A variety of foods should be provided throughout the week using a combination of colours, a range of textures and inclusion of some finger foods to make menus more appealing. Too many different or new flavours at one meal time may not be pleasing to children of nursery age. In addition some children in nursery schools may be following a medically prescribed diet and their requirements should be discussed with their parents or carers.

Fruit and Vegetables- Children under five should be encouraged to taste five different fruit and vegetables each day². Nursery children over two years should be offered fruit and vegetables with each meal and at some snack times.

A variety of fruit and vegetables should be offered each day including 1-2 portions of fruit and 2-3 portions of vegetables. Fruit and vegetables can be fresh, frozen, canned or tinned in natural juice or water, dried fruit, fruit and vegetables with dishes, beans and pulses, juices and smoothies.

Bread, rice, potatoes, pasta and other starchy foods- Starchy foods are a great source of energy and help to satisfy growing appetites. An introduction of whole grain foods is advised at this age but it is important that smaller appetites are taken into consideration as these foods contain more fibre which can fill children up and may result in too little energy being consumed.

A variety of foods from this group should be provided and made available at all meal times and at least one snack time. Starchy foods should be around a third of the food served each day. Bread and foods such as crackers, crumpets, breadsticks etc. should be available a maximum of twice each day (including breakfast) due to their high salt content. Lower salt alternatives should be used whenever possible.

Meat, fish, eggs, beans & other non- dairy sources of protein- Protein is essential for growth and development but the diet of children in Britain provides more than adequate amounts as long as they have a varied diet. However iron deficiency in children under five is frequently reported and this food group provides good sources of iron (see Appendix 2 for other good sources of iron).

Across the week a range of red meat, chicken, fish and vegetarian sources of protein should be made available. To help boost iron levels include a minimum of two red meat dishes or good vegetarian sources such as beans or pulses each week.

Oily fish should be introduced at an early age; this can be through a mix of white and oily fish in dishes such as fish pie or pasta. Salmon sandwiches and sardines or pilchards on toast are other options.

Processed meat products such as ham, sausages, chicken nuggets etc. can be high in both fat and salt and their use should be limited. A maximum of twice each week is a good guide.

² www.5aday.nhs.uk

Dairy foods and milk- Although milk intake decreases as children get older it is still important to have a wide variety of dairy foods. 2-3 portions from this group are recommended each day such as milk, cheese or yoghurt.

A milk based dessert or sauce at either lunch or tea is a good way to incorporate dairy foods into the menu each day. Although cheese is an important dairy food it is not recommended to be a daily option due to its high salt content.

In addition to the four main food groups food and drinks high in fat and/ or sugar, salt and fluids have an important role to play-

Food and drinks high in fat and/or sugar- There are a number of important foods in this group for the under fives such as butter, spreads and cooking oils as well as some fruit and milk based desserts.

It is recommended that desserts such as biscuits and cakes are provided only at mealtimes and where possible contain some fruit. A fruit and/ or milk based dessert is recommended at lunch or tea as a minimum.

Processed meat products and fried foods should be kept to a minimum and alternatives used whenever possible. When using fat in cooking or in dishes use a vegetable oil high in monounsaturated or polyunsaturated fat e.g. olive oil, rapeseed oil or sunflower oil.

Fluids- It is recommended that water is available throughout the day and that when milk is served it is at a snack time to allow a more varied diet at meal times without filling up on milk. Diluted fruit juice (1 part juice to 10 parts water) at meal times will help iron absorption but is not necessary if other good vitamin C sources such as fruit and vegetables are available (see appendix 2 for further examples).

Whole cow's milk (pasteurised) is suitable from 12 months of age. Semi-skimmed milk can be gradually introduced from 2 years old providing that the child is a good eater and has a varied diet. Skimmed milk is not suitable as the main drink for children under 5 years of age³.

Salt- Sodium is essential to help balance body fluids but too much can be potentially dangerous for young children. The main source of sodium in the diet is salt (sodium chloride). 1g sodium = approximately 2.5g salt.

Around ½ teaspoon is the maximum amount of salt recommended each day for the under fives (maximum of 2g/ day for 1-3 year olds and 3g/ day for 4-6 year olds)⁴. As such a small amount of salt is required at this age it is important that foods high in salt are kept to a minimum. (Appendix 2 provides examples of foods high in salt).

³ Department of Health (1994) *Weaning and the Weaning Diet*: Report of the Working Group on the Weaning Diet of the Committee on Medical Aspects of Food Policy (Report on Health & Social Subjects), Stationary Office Books.

⁴ SACN (2003) *Salt and Health*, The Stationary Office.

Recipe Content and Portion Size

It is essential to serve an appropriate portion size to ensure that children have an adequate energy intake and the correct balance of nutrients. Children in nursery schools should be provided proportionally smaller portions to school aged children and adults. Their meals should be small and frequent to ensure a good variety of foods is consumed. A portion size guides can be found in Appendix 1.

Main Courses- Where appropriate inclusion of vegetables and pulses within the main course is recommended. These foods will boost the iron content and aid its absorption.

Care should be taken when buying ready to use/ packet sauces as they can often have a high salt content. It is recommended that where possible all dishes are 'made from scratch'. The use of stocks and gravy granules should be limited and reduced salt varieties used where necessary. Corn flour or lentils can be used to thicken dishes and herbs, spices or garlic, for example, used to provide flavour.

Fruit and Vegetables- A good guide to a portion is the amount a child can hold in their hand; this will increase as they grow. It is important not to provide unlimited amounts of fruit and vegetables; this is to ensure a variety of other foods are eaten. Inclusion of fruit and vegetables in dishes is encouraged where appropriate.

Bread, rice, potatoes, pasta and other starchy foods- Try having a range of starchy foods including some whole grains such as a mix of wholemeal and white pasta within a dish and a proportion of wholemeal flour in desserts.

Desserts- Desserts are important to help maintain good energy levels and can incorporate whole grains, fruit and milk, appropriate portions are necessary to ensure that added sugar intake is not exceeded. Second helpings of desserts are not recommended.

Avoid yoghurt and fromage frais with a high sugar content (more than 15g/ 100g). Natural yoghurt and fromage frais with fruit added is a lower sugar option. Try frozen yoghurt instead of ice cream.

Drinks- Milk and fruit juice drinks should be approximately 100-150ml. If the portion is too big children may fill up before a good variety of foods have been eaten. It can be beneficial to provide milk after the majority of food has been eaten to help prevent this.

Snacks- In addition to fruit and vegetables at snack times the following could be included-

Toast with butter or margarine

Muffins/ Crumpets/ Scones

Cheese and crackers

Breadsticks/ rice cakes with dips (e.g. houmous)

Yoghurt/ fromage frais

Plain popcorn

Note- Bread and products such as breadsticks and crumpets contribute to the salt content and their use should be balanced across the day. Menu plans and recipes ideas to help balance the full day can be found in the Caroline Walker Trust guidance documents for the under fives. www.cwt.org.uk

Summary

The recommendations are given as guidance to help nurseries enhance the food on offer. Any changes made to nursery menus should be gradual to ensure minimal impact to the children. It is recommended that any major changes are in consultation with nursery staff, parents and children. In addition it is advised that nutritional analysis of the menu should take place to determine that a balance has been achieved.

Key Recommendations

1. Fruit and/ or vegetables to be offered each day at meal times and some snacks.
2. A starchy food (bread, potatoes, pasta, rice etc) to be available at each meal time and at least one snack time.
3. A variety of meat, fish, eggs, pulses and cheese to be available across the week.
4. Milk, cheese or yoghurt to be offered daily.
5. Whole grains, beans and pulses to be incorporated into dishes where possible and provide red meat each week.
6. Fruit and/ or milk based desserts to be available each day.
7. High salt meat products, stocks, gravy, ready to use sauces and other foods high in salt should be kept to a minimum and alternatives used where possible.
8. Milk, water and diluted fruit juice should be the only drinks available.
9. Salt not to be added during the cooking process.
10. Appropriate portions sizes to be provided and intake monitored when a free choice is offered.

Appendix 1- Portion Size Guide

Bread, rice, potatoes, pasta and other starchy foods-

Examples of a portion are-

- 1 slice of bread
- 2 tbsp breakfast cereal
- 3 tbsp mashed potatoes
- 4 small new potatoes
- Half a small jacket potato
- 3 tbsp cooked pasta
- 2 tbsp cooked rice

Fruit and Vegetables-

<i>Suggested fruits and vegetables for mealtimes</i>	<i>Suggested fruits and vegetables for snacks</i>
½-1 heaped tablespoon of cooked vegetables such as peas, sweetcorn, carrots, cabbage, courgettes or swede.	½ medium carrot cut into sticks
½-1 heaped tablespoon of beans such as butter beans, chick peas or lentils.	2-3cm piece of cucumber in sticks
1-2 broccoli or cauliflower florets	1 small celery stick cut into pieces
4-5 green beans	4 cherry tomatoes or 4 small tomato quarters
Small handful of salad leaves	1 ring of pepper
¼-½ sweet potato	½-1 small banana
1 small parsnip	½ apple or pear
½ tablespoon of dried fruit	1 plum
1-2 tablespoons of stewed fruit	½-1 kiwi
1-2 tablespoons of canned fruit in juice	¼-½ large orange or 1 small orange, Clementine or Satsuma
100-150ml 100% diluted fruit juice	1 small slice of melon or pineapple
	1 tablespoon of berries
	4-6 strawberries
	8-10 grapes

Eating well for under-5s in child care (Crawley, 2006)

Meat, fish, eggs, beans & other non- dairy sources of protein-

Examples of a portion are-

- 40-50g meat, fish and poultry
- 30-40g canned fish
- 1-2 fish fingers
- 1 egg
- 2-3 tbsp pulses

Dairy foods and milk-

Examples of a portion are-

- 15-20g hard cheese
- 60-100g milk based desserts (e.g. custard, rice pudding)
- 60-100g yoghurt
- 100-150ml milk

Appendix 2- Good Sources of Key Nutrients

The table below lists some examples of good food sources of the key nutrients that are included within the Caroline Walker Trust Nutrient Based Standards for the under fives⁵. Good sources have been provided to help nurseries work towards these standards. A full nutritional analysis of individual menu cycles would be required to determine if the standards have been achieved.

<i>Nutrients</i>	<i>Good Sources</i>
Fat	Full fat oil, butter and margarine Dairy foods (no low fat options) Nuts (should not be given to small children due to risk of choking) Meat and oily fish
Carbohydrates	Cereals and grains e.g. breakfast cereals, rice, pasta, bread Pulses Fruit Vegetables e.g. potatoes, yams, plantain Milk
Protein	Meat, poultry, fish Eggs Pulses Tofu Milk, cheese Bread, rice, pasta
Calcium	Milk Yoghurt Hard cheeses, cheese spread, soya cheese Canned sardines or salmons mashed up with bones, fish paste. Tofu Soya drink with added calcium Soya mince Egg yolk Bread (except wholemeal), crumpets, muffins etc. Beans, lentils, chick peas Ready to eat or stewed figs Provides some calcium- Dates, sultanas, raisins, ready to eat or stewed apricots, baked squash, sweet potato, tomato puree, broccoli, dark green leafy vegetables, turnip, carrots, cabbage and peas.
Iron	Lean beef, lamb, pork, liver, kidney, heart Chicken & turkey especially dark meat, liver Canned sardines, pilchards, mackerel, tuna, shrimps, crab Sausages Fish paste Other sources (addition of vitamin C or meat or fish will help the iron to be absorbed) Breakfast cereals with added iron Breads Red kidney beans, haricot beans, pinto beans (boiled or canned) Baked beans, peas Tofu, creamed coconut Apricots, prunes, figs, peaches (ready to eat or stewed) Raisins, sultanas Cauliflower, spring greens, broccoli, mixed vegetables

⁵ Dr Helen Crawley (2006) *Eating Well for Under-5s in Child Care* (2nd Edition), Caroline Walker Trust.

Zinc	Lean beef, lamb, pork, liver Chicken & turkey especially dark meat, liver Canned sardines, pilchards, tuna Sausages Hard cheeses Eggs Brown and wholemeal bread Whole grain breakfast cereals Red kidney beans, chick peas, lentils
Vitamin A	Liver, liver sausage/ pate Spinach, carrots, red pepper, sweet potatoes Canteloupe melon, mango, dried apricots, Nectarine, peach, blackcurrant, fresh or canned apricots Tomatoes, watercress Dark green cabbage, broccoli, Brussels sprouts, runner beans, broad beans Margarine, butter, cheese
Vitamin C	Blackcurrants, orange (orange juice), strawberries Raw green and red peppers, spring greens Broccoli, cabbage, spinach, tomato, cauliflower, Brussels sprouts, water cress Grapefruit, mango, kiwi

Fibre- There are no specific dietary recommendations for the fibre intake of the under fives but a diet with an adequate fruit and vegetable intake and inclusion of some whole grain foods each day will provide enough fibre for good health and growth.

It is important that the diets of the under fives is not too high in non-milk extrinsic sugars (NME sugars) or sodium. The foods listed below should be limited.

NME sugars- These are the sugars that are not part of the cellular structure of food; this includes sugar added to food as well as sugar in fruit juices and other drinks. Many processed foods contain these sugars. Other sources are sweets, chocolate, cakes, biscuits, table sugar, honey and sugary breakfast cereals.

When planning menus dental health should also be taken into consideration by reducing the amount of time teeth are exposed to NME sugars.

Salt- Savoury snack foods, packet soups/ sauces, meat products, stocks, gravy and marmite are some examples of foods that can be high in salt. Check the salt content of any pre prepared and processed food such as ready meals, tins and jars⁶. Cheese and bread have an important role to play in the diet of the under fives but will also contribute to salt intake therefore insure they are not provided too frequently. Remember it is not necessary to add salt during the cooking process.

⁶ Look at the figure for salt per 100g. **High** is more than 1.5g of salt per 100g (or 0.6g sodium), **Low** is 0.3g salt or less per 100g (or 0.1g sodium), and if the amount of salt per 100g is in between these figures then that is a medium level of salt.

Supporting Documentation

The following websites, reports and guidance documents were used as reference points throughout this survey and will provide further information-

East Sussex Trading Standards (2009) *Nippers' Nutrition Report*, East Sussex County Council.

Dr Helen Crawley (2006) *Eating Well for Under-5s in Child Care* (2nd edition), Caroline Walker Trust.

Scottish Executive (2006) *Nutritional Guidance for Early Years: Food Choices for Children Aged 1-5 Years in Early Education and Childcare Settings*. Scottish Executive.

Department of Health (1994) *Weaning and the Weaning Diet: Report of the Working Group on the Weaning Diet of the Committee on Medical Aspects of Food Policy (Report on Health & Social Subjects)*, Stationary Office Books.

Soil Association & Organix (2008) *Georgie Porgie Pudding and Pie: Exposing the truth about nursery food*. Soil Association.

SACN (2003) *Salt and Health*, The Stationary Office.

www.cwt.org.uk

www.schoolfoodtrust.org.uk

www.nurseryfood.org.uk

www.food.gov.uk

www.actionsalt.org.uk

www.nhs.uk/change4life

www.5aday.nhs.uk

www.henry.org.uk

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