

What's Enough? A guide to age-appropriate food portion sizes Dietitian's User Guide

Introduction

'What's Enough?' has been designed to support, guide and educate families on age appropriate food portion sizes as part of a healthy balanced diet and lifestyle. The target group is children and young people. Information is also included for adults, to promote a whole family approach and to aid those in their late teens, moving into adulthood.

The resource is a generic guide based on energy. It is designed as a tool to raise awareness of portion size to improve diet: it is not a prescriptive diet plan. Use your professional dietetic judgement and expertise to ensure that the nutritional needs of the child are met.

This Guide provides background information on the resource's development and how to use it. The appropriate energy level suggested is based on the SACN Dietary Reference Values for Energy¹. Figures for 11-64 years olds are capped at 2500kcal/day for males and 2000kcal/day for females to help address issues of overweight and obesity. This is in line with Government Dietary Recommendations².

A guide to using the resource

The resource is designed for use within a one-to-one setting to aid appropriate food and food portion selection. It can be used to tailor dietary information to suit the individual. For example, you may need to suggest that a patient follows a different age group from their own. Use your clinical judgement to alter the number of food portions in a food group for example, reduce carbohydrate or protein sections and/or recommend that they participate in more/less physical activity.

Method used to calculate calories per portion for each age group:

The resource aims to keep a similar number of food portions per day for each food group, whilst adjusting the size of the portion by age. The following tables and notes describe this in more detail.

The portion sizes in this resource are based on the following number of portions per day for each food group.

Table 1

Food Group	Number of portions each day
Fruit and vegetables	5
Potatoes, bread, rice, pasta and other starchy carbohydrates	6-8
Dairy and alternatives	3
Beans, pulses, fish, eggs, meat and other proteins	2-3
Oils and spreads	3

Table 2 (boys and girls combined):

Age	2-3 years		4-6 years		7-10 years		11-64 years	
	kcal/day	kcal/ptn	kcal/day	kcal/ptn	kcal/day	kcal/ptn	kcal/day	kcal/ptn
Fruit & vegetables*	188	38	229	46	282	56	360	72
Potatoes, bread, rice, pasta and other starchy carbohydrates	356	44-59	558	70-93	686	86-114	878	110-146
Beans, pulses, fish, eggs, meat and other proteins	125	42-63	272	90-136	334	111-167	428	143-214
Dairy & alternatives	220	73	200	67	246	82	315	105
Oils and spreads	94	31	100	33	124	41	157	52
Miscellaneous	63		71		88		112	
Total kcals/day	1046		1430		1760		2250	

ptn = portion.

*Fruit and vegetables for 2-3 year olds are 40g portions. For all other age groups, fruit and vegetable portions are 80g as recommended by the Eatwell Guide³. This may deviate from calorie (kcal) values slightly, however, variation in the diet should help balance this out.

Notes

1: The food portions have been calculated based on energy (kcal), as the different food groups have a mixture of macronutrients. This allows for macronutrient variation between the food groups, for example dairy products include protein, fat and carbohydrate. This is also how the proportion of energy from each food group is calculated. The nutritional value is taken from the *McCance and Widdowson's The Composition of Foods, Integrated Dataset 2019*.

2: The foods used in the photos were previously chosen from commonly eaten foods of the *National Diet and Nutrition Survey (NDNS); Headline results from Year 1 of the Rolling Programme (2008/2009)*. The food choices have been updated (2019) as part of the review to ensure diversity, variation and interest.

3: It is assumed that for 4-64 years of age, the average percentage energy from each food group per day is:

- 16% from fruit and vegetables
- 39% from potatoes, bread, rice, pasta and other starchy carbohydrates
- 19% from beans, pulses, fish, eggs, meat and other proteins
- 14% from dairy and alternatives
- 7% from oils and spreads
- 5% from miscellaneous.

4: The only group where there is a difference in the percentage energy from each food group is the 2-3 years of age group. This group requires slightly more fat and less protein. Therefore, it is assumed that, the average percentage energy from each food group per day is:

- 18% from fruit and vegetables
- 34% from potatoes, bread, rice, pasta and other starchy carbohydrates
- 12% from beans, pulses, fish, eggs, meat and other proteins
- 21% from dairy and alternatives
- 9% from oils and spreads
- 6% from miscellaneous.

5: The average energy requirements for each age group was calculated (the energy requirements for males and females were combined for each age group and the median calculated^{1, 2}). Based on the above assumptions, the corresponding weight for each food was calculated.

6: The food groups are based on the Eatwell Guide³. A small percentage of energy has been kept for miscellaneous foods – foods that are not included within the Eatwell Guide. Portion sizes for foods high in fat, salt or sugar have not been included as these should be discouraged.

7: The resource does not provide an exhaustive list of food choices. It should not be used to provide an example of daily food intake using only the foods demonstrated — additional foods should be included to meet nutritional needs.

8: From birth, everyone should be given a daily supplement containing 10 micrograms of vitamin D. Babies who are formula fed do not require a vitamin D supplement if they are having at least 500ml/day, as infant formula already has added vitamin D. The type of support available varies locally. The child's GP/Health Visitor will be able to provide more details.

Photographs of the food portions

The photographs of the food portions appear with a text description stating the weight and the 'handy' measure, where possible. As a general guide for measuring fruit and vegetables, recommend using the child's hand to measure the right amount.

Patient testing feedback noted that the exact weight of food under the photos was too prescriptive. Therefore, the weight of food has been rounded to the nearest 5g.

We have taken the approach of providing practical, realistic portion sizes to increase ease of use. Weight is the main measure used, however, where foods are generally bought packaged, for example, bread or yoghurt, we have adapted the weight to provide a practical measure.

Some photos for whole foods are similar or the same, as it was too difficult to show a calorie difference when converted to a weight in the photograph. For example, 1 wheat biscuit is shown for both the 2-3 years and 4-6 years age brackets. However, the calorie value per age group for this food group is slightly different. It is difficult to demonstrate this small calorie difference in food weight; therefore, the same photo has been used for both age groups.

We have included white rice, bread and pasta for ages 2-3 years, moving on to wholemeal/brown rice, bread and pasta from 4 years onwards. A high fibre diet is not suitable for young children as it may not provide enough energy, fat and other nutrients essential for growth and development. Higher fibre foods should be introduced gradually.

Please note the difference between portion and serving sizes. For example, portions may need to be combined in order to achieve a suitable serving/meal. For example, an 11 year old could have 2 wheat bisks, 3 slices bread, 6 tbsp brown rice and 6 breadsticks in a day to achieve 6 portions of carbohydrate.

Plate size used in the photos

The plate used is 22cm/8½ inches in diameter - an outline image is included in the resource. This side plate is used to deter parent/carers from filling up large dinner plates with food regardless of the age/size of family member.

Plated meals

This section provides examples of plated breakfast, lunch and dinner options, and can be used to highlight the differences in portion sizes for different ages. It can also support discussion on composite meals and how foods within the resource can be used in these. **This section is not a meal plan and should not be used as one.**

For composite meals, such as fish pie, portions are provided in easy measures:

- For 7-10 years, a portion is $\frac{3}{4}$ of an adult portion
- For 4-6 years, a portion is $\frac{1}{2}$ of an adult portion
- For 2-3 years, a portion is $\frac{1}{4}$ of an adult portion.

1. Scientific Advisory Committee on Nutrition (SACN), 2011. *Dietary Reference Values for Energy*. [pdf] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/339317/SACN_Dietary_Reference_Values_for_Energy.pdf
2. Public Health England, 2016. *Government Dietary Recommendations: Government recommendations for energy and nutrients for males and females aged 1- 18 years and 19+ years*. [pdf] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/618167/government_dietary_recommendations.pdf
3. Public Health England, 2018. *The Eatwell Guide Booklet*. [pdf] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/742750/Eatwell_Guide_booklet_2018v4.pdf