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

Introduction
This resource 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 between 2 and 18 years of age. Information is included for 19 to 60 years 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 not a prescriptive diet plan. It is designed as a tool to raise awareness of portion size to improve diet. As a dietitian you must use your professional judgement and expertise to ensure that the nutritional needs of the child are met.

This guide will provide you with background information on the resource’s development and how to use it. The appropriate energy level suggested is based on the Dietary Recommendations for Energy as stated by The Scientific Advisory Committee on Nutrition (SACN) 2011.

Development of the resource
This resource was developed in response to dietetic need. Dietitians recognised that healthy eating resources are available for families, however guidance is lacking on food portion sizes for children of different ages.

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. This may be difficult for them to accept. Instead, use your clinical judgement to alter the number of food portions in a food group for example, reduce carbohydrate, protein or snack 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 depending on the age group. The following tables and notes describe this in more detail.

Table 1: Boys

<table>
<thead>
<tr>
<th>Age:</th>
<th>2-3 years</th>
<th>4-6 years</th>
<th>7-10 years</th>
<th>11-14 years</th>
<th>15-18 years</th>
<th>19-60 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kcal/day</td>
<td>kcal/ptn (ptns/day)</td>
<td>kcal/day</td>
<td>kcal/ptn (ptns/day)</td>
<td>kcal/day</td>
<td>kcal/ptn (ptns/day)</td>
</tr>
<tr>
<td>F&amp;V</td>
<td>195</td>
<td>39 (5)</td>
<td>275</td>
<td>55 (5)</td>
<td>315</td>
<td>63 (5)</td>
</tr>
<tr>
<td>CHO</td>
<td>396</td>
<td>66 (6)</td>
<td>546</td>
<td>91 (6)</td>
<td>630</td>
<td>105 (6)</td>
</tr>
<tr>
<td>PRO</td>
<td>132</td>
<td>66 (2)</td>
<td>240</td>
<td>120 (2)</td>
<td>414</td>
<td>138 (3)</td>
</tr>
<tr>
<td>D</td>
<td>228</td>
<td>76 (3)</td>
<td>231</td>
<td>77 (3)</td>
<td>267</td>
<td>89 (3)</td>
</tr>
<tr>
<td>F</td>
<td>93</td>
<td>31 (3)</td>
<td>129</td>
<td>43 (3)</td>
<td>147</td>
<td>49 (3)</td>
</tr>
<tr>
<td>Snacks</td>
<td>44</td>
<td>59</td>
<td>43</td>
<td>38</td>
<td>84</td>
<td>38</td>
</tr>
<tr>
<td>Total kcal/day</td>
<td>1088</td>
<td>1480</td>
<td>1816</td>
<td>2355</td>
<td>3005</td>
<td>2500</td>
</tr>
</tbody>
</table>

F&V – Fruit and Vegetables; CHO - Potatoes, bread, rice, pasta and other starchy carbohydrates, Pro - Beans, pulses, fish, eggs, meat and other proteins; D – Dairy; F – Fats, Snacks – Snack allowance.
### Table 2: Girls

<table>
<thead>
<tr>
<th>Age</th>
<th>2-3 years</th>
<th>4-6 years</th>
<th>7-10 years</th>
<th>11-14 years</th>
<th>15-18 years</th>
<th>19-60 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kcal/day</td>
<td>kcal/ptn (ptns/day)</td>
<td>kcal/day</td>
<td>kcal/ptn (ptns/day)</td>
<td>kcal/day</td>
<td>kcal/ptn (ptns/day)</td>
</tr>
<tr>
<td>F&amp;V</td>
<td>185</td>
<td>37 (5)</td>
<td>245</td>
<td>49 (5)</td>
<td>280</td>
<td>56 (5)</td>
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<tr>
<td>CHO</td>
<td>310</td>
<td>62 (5)</td>
<td>492</td>
<td>82 (6)</td>
<td>530</td>
<td>105 (6)</td>
</tr>
<tr>
<td>PRO</td>
<td>124</td>
<td>22 (2)</td>
<td>120</td>
<td>22 (2)</td>
<td>366</td>
<td>122 (3)</td>
</tr>
<tr>
<td>D</td>
<td>216</td>
<td>32 (3)</td>
<td>210</td>
<td>32 (3)</td>
<td>234</td>
<td>32 (3)</td>
</tr>
<tr>
<td>F</td>
<td>87</td>
<td>29 (3)</td>
<td>117</td>
<td>34 (3)</td>
<td>132</td>
<td>44 (3)</td>
</tr>
<tr>
<td>Snacks</td>
<td>81</td>
<td>33 (3)</td>
<td>101</td>
<td>33 (3)</td>
<td>121</td>
<td>33 (3)</td>
</tr>
<tr>
<td>Total kcal/day</td>
<td>1003</td>
<td>1378</td>
<td>1703</td>
<td>2176</td>
<td>2431</td>
<td>2000</td>
</tr>
</tbody>
</table>

**Notes:**

1: The food portions have been calculated based on energy, as the different food groups have a mixture of macronutrients. This allows for macronutrient variation between the food groups for example, dairy products will be made up of 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 *Food Standards Agency (2002) McCance and Widdowson’s The Composition of Food, Sixth Edition. Cambridge Royal Society of Chemistry.*

2: The foods used in the photos were chosen from commonly eaten foods of the *National Diet and Nutrition Survey (NDNS) National Diet and Nutrition Survey; Headline results from Year 1 of the Rolling Programme (2008/2009)* Edited by: Beverley Bates, Alison Lennox, Gillian Swan. Some examples were chosen to demonstrate value for calories in comparison to other foods, for example Quorn versus sausages.

3: It is assumed that for 4-18 years of age boys and girls, the average percentage energy from each food group per day is:
   - 16% from fruit and vegetables
   - 39% from carbohydrate based foods
   - 19% from non-dairy sources of protein
   - 14% from dairy
   - 7% from fat
   - 5% from ‘snack allowance’.

4: The only group where there is a change to 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 for boys and girls, the average percentage energy from each food group per day is:
   - 18% from fruit and vegetables
   - 34% from carbohydrate based foods
   - 12% from non-dairy sources of protein
   - 21% from dairy
   - 9% from fat
   - 6% from ‘snack allowance’.

5: Based on the above assumptions the average energy requirements for each age group was calculated (*Ref; Scientific Advisory Committee on Nutrition (SACN) 2011 Energy Requirements Technical Fact Sheet, Table 2. Revised population Estimated Average Requirements (EAR) for children aged 1-18 years old*) and the corresponding weight for each food calculated.
6: A snack allowance has been included using the ‘left-over’ calories after calculating the number of food portions per day for each food group. These are shown in the resource as ‘snack allowance’ in calories. For suggestions on how to use this, see page 22. For ease, this calorie value has been rounded to the nearest 5 kcals in the resource. It is assumed that the dietitian will guide the recipient on how to make the best choices for this allowance, reminding the recipient of the 5-a-day message.

7: Nutritional analysis of an example meal plan based on the 32 foods showed that the average percentage energy from fat was 25% which is lower than the recommended level of 35%. Therefore, the resource should not be used to provide an example of daily food intake using only the 32 foods demonstrated — additional foods should be included.

8: It is recommended that children between 1 and 5 years of age should take a supplement of vitamins A and D to meet their daily needs. If a parent/carer is pregnant and receiving benefits, or if they are on benefits and have children under the age of 4, they are entitled to Healthy Start Vouchers. These can be used to buy vitamins and plain, fresh or frozen fruit and vegetables. Visit www.healthystart.nhs.uk to find out more.

Photographs of the food portions
The photographs of the food portions have been split into 2 groups; boys and girls. Each photo appears with a text description underneath 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.

Some of the 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, in the 11-14 years of age sausage photo, 1½ sausages are shown for boys and girls. However the calorie value per age group for this food group is different; boys = 155kcals and girls = 129kcals. It is difficult to demonstrate this 26kcal difference in food weight therefore the same photo has been used for both genders.

Plate size used in the photos
The plate size used is an 18cm/7½ inches side plate and an outline image is included in the resource. The rational for using this size is to deter parent/carers from filling up large dinner plates with food regardless of the age/size of family member.

‘Your Daily Meal Plan’
‘Your Daily Meal Plan’ can be used with the patient to help them understand what a day’s intake of food can look like. It has been left blank to allow the dietitian to discuss favourite foods with the patient and fill out the plan together. Composite meals should also be discussed with an explanation of how the foods in the resources can be used in these.

NDR-UK’s product ref: 9268 Blank Daily Meal Plan (ref: 9268) available via: www.ndr-uk.org can support future meal planning.
This information was produced for Nutrition and Diet Resources UK (NDR-UK) with the kind support of dietitians and related health and care professionals. At the time of publication the information contained within the resource was, to the best of our knowledge, correct and up-to-date. Always consult a suitably qualified dietitian and/or your GP on health problems. NDR-UK cannot be held responsible for how clients/patients interpret and use the information within this resource. Visit www.ndr-uk.org for more information and to contact the team on the development and evidence supporting this resource.