

Dietary Reference Values for children.

Children model themselves on their parents' eating behaviour, lifestyle, eating-related attitudes, and satisfaction or dissatisfaction regarding body image (Scaglioni, 2018). Throughout the assignment this statement will be challenged with the appropriate dietary requirements and guidelines. As a starting point Dietary Reference Values (DRVs) will be discussed with the focus being children (2-12 years) and adolescence (13-18 years).

Dietary Reference Values (DRVs) are a series of estimates of the energy and nutritional requirements of different groups in the UK population (British Nutrition Foundation, 2021). The Department of Health (1991) states that DRV's apply to groups of healthy people and are not necessarily appropriate for those with different needs arising from disease or metabolic abnormalities. Therefore, some individuals might need unique tailored nutritional advice whilst others might thrive after given these Dietary Reference Values. A gradual increase in the need for nutrients can be expected for a steady growth during childhood, protein is a ~~great~~ **very good** example of this as a child should consume 14.5g of protein a day from 2-3 years old whilst 15-18 year old should consume almost three times this amount as their daily requirement is 45g of protein a day.

Protein is a macronutrient that needs to make up roughly 20% of your diet. Below shows the daily protein requirement for children and adolescents from 2-18 years of age. The main role of protein in the diet is to help with repair and recovery of tissues in organs, blood, skin and muscles.

Age	Daily Protein Requirement
2-3 years	14.5g/day
4-6 years	19.7g/day
7-10 years	28.3g/day
11-14 (male)	42.1g/day
11-14 (female)	41.2g/day
15-18(male)	55.2g/day

15-18 (female)	45g/day
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(Public Health England,2016)

Protein rich foods can be incorporated into meals daily e.g 80g of cooked chicken (23g of protein), 100g of tofu (12g of protein), 2 slices of cheese (10g of protein) or 1 can of tuna (20g of protein). Protein can also be found in sweet foods that could allow children to reach their required amount through small snacks or dessert after a meal e.g yogurt (8g of protein), nut butter (3.5g of protein) (Only About Children, 2024). Dairy foods can provide children with protein as well as calcium which can aid healthy bone development throughout childhood. . In some cases some families may find these challenging with children in mind as they can be fussy eaters and so some of these foods they may not enjoy.

Calcium is essential for developing bodies during childhood and adolescence to allow / support the development of strong bones and teeth. Calcium needs to be incorporated through our diet, mainly found in dairy products, as our bodies cannot produce it itself.

Age	Daily Calcium Requirement
1-3 years	350mg/d
4-6 years	450mg/d
7-10 years	550mg/d
11-18 years (male)	1000mg/d
11-18 years (female)	800mg/d

(Leeds NHS,2023)

The table above highlights the Daily Requirements for Calcium needed by children, it shows a steady increase as children age which will aid development as they approach peak bone mass. For males, their calcium intake needs to be greater than females with a 200mg/d difference. According to Braun (2006) “boys have a higher-total body bone mineral content than girls”,in a controlled trial which was designed around thirty-one boys aged 12-15 years tesing a range of calcium intakes and were compared with thirty-five adolescent girls in a previous study. In order for children to meet their daily requirement many different dairy products can be consumed;100ml of milk translates to 120mg of calcium, and the dairy product with the highest

calcium content would be 30g of hard cheese which would be 220mg of calcium. Calcium-enriched alternatives can allow non-dairy consumers e.g Vegan or Vegetarian children to meet their daily calcium requirement, 100ml of milk alternative such as oat or soya contains 120mg of calcium. Other alternative include breads & cereals; 1 medium slice of bread (white) contains 62mg of calcium. Protein foods can contain high levels of calcium an example would be tinned sardines (100g) contains 500mg (Leeds NHS, 2023). As well as Calcium, Iron is also another vitamin and mineral that is needed for a young body to have in order to ensure positive development.

To support growth in children, Iron needs to be present in their diet. Additionally, girls need to absorb 0.45mg of iron a day to cover menstrual losses, some girls will require considerably more than this as losses can be three times higher than the median (Mann, 2023). Haem iron (easily absorbed) can be found in animal based products such as meat, whilst non-haem iron (less easily absorbed) can be found in vegetables and pulses.

Age	Lower Reference Nutrient Intake mg/d	Estimated Average Requirement mg/d
1-3 years	3.7 (65)	5.3 (95)
4-6 years	3.3 (60)	4.7 (80)
7-10 years	4.7 (80)	6.7 (120)
11-14 years (males)	6.1 (110)	8.7 (160)
(females)	8.0 (140)	11.4 (200)
15-18 years (males)	6.1 (110)	8.7 (160)
(females)	8.0 (140)	11.4 (200)

Above is a table from the Department of Health (1991) which outlines the Dietary Reference Values for Iron from the age of 1 all the way to 18 years. As shown in the table above the intake of iron between these ages are far lower than the average requirement. As a result of this children are eating diets that aren't developing their growth. Iron deficiency in children can lead to poor development in motor, cognitive, social-emotional and neurophysiologic. As well as this it is easy to see the clear difference in the need for Iron in young girls' diets from the age of 11 onwards as a result of their menstrual cycle, the table shows a requirement of 8.7 mg/ day for

young boys whilst young girls need 11.4 mg/ day. Dietary Reference Values will make this easier as they highlight all nutrients including iron.

Dietary Reference Values (DRV) provide a scientific basis for developing nutritional and dietary recommendations. They guide professionals to assess the amount of a nutrient needed to maintain health. DRV are also essential for nutrition-related public health actions aiming to help consumers make positive choices for a balanced diet (Chaparro, 2024). The Scientific Advisory Committee on Nutrition (SACN) provides similar advice and guidelines to the UK government on “nutrition related matters” (Association for Nutrition, 2024). These dietary guidelines should be met in the same way as for adults, by eating in line with the Eatwell guide, which provides an appropriate balance between the five main groups shown (Lean, 2017).

With the aim of the overall health of the child, guidelines should be turned into practical healthy eating. The best guide with the most significant research behind would be the Eatwell Guide. The Eatwell Guide was launched in March 2016 replacing the **Eatwell Plate** as the UK's ‘healthy eating tool’. The guide illustrates the different types of foods and drinks, and in the proportions in which they should be consumed, to achieve a healthy balanced diet. The guide reflects up to date dietary recommendations, including sugar and fibre (Public Health England 2016). The guide divides the food and drinks consumed into five main groups; Fruit and Vegetables, Starchy Carbohydrates, Dairy, Protein, and oils. Foods that are not essential in the diet such as foods high in salt, sugar and fat are placed outside of the Eatwell Guide and should only be consumed in small amounts (Food Standards Agency, 2023). According to Culliford (2023) communication of the Eatwell Guide is one of the many essential strategies needed to improve adherence and to support sustainable diets in the UK. But could this be true to all children and families in the UK? From the perspective of primarily the food that is consumed in the diet of the child, the Eatwell Guide is the way forward, however, many factors surrounding the guide can be seen as barriers for these families. Low Income families might have difficulty affording fresh fruit and vegetables therefore the ‘5-a-day’ could be challenging as well as not having the time to make fresh homecooked meals. As the Eatwell Guide is mainly taught in schools many parents might not have a true understanding of the foundations of the guide, many might only have a child's understanding of the guide as the child might translate the work they have done in the classroom

into the home. The guide lacks the understanding of a meal, it advises what ingredients to use without giving any guidance with meals and portion sizes and as a result of this families could be misinterpreting the guide. Parents may believe that this guide could help whilst planning family meals as it might guide them in the right direction whereas others might stray from it as they believe that the guide could be a setback for the Childs health and wellbeing.

In conclusion, although eating behaviours, lifestyle, eating-related attitudes and satisfaction or dissatisfaction regarding body image might be one of the main causes of good or bad diet if a child has the correct foundations for a good diet, it will allow them to grow and develop throughout their childhood.

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