



# Position Statement for Healthcare Professionals

## *Eggs and Teenagers*

*Updated June 2016*

Teenagers (aged 12-18 years) can have irregular eating patterns, with a tendency to skip breakfast, graze constantly, have a high intake of snacks, confectionary and soft drinks, experiment with different diets, and make poor food choices<sup>1</sup>. Australian teenagers are not meeting fruit and vegetable recommendations or physical activity guidelines<sup>2</sup> and have high free sugar intakes with three-quarters of 9-13 and 14-18 year olds consuming more than 10% of their energy intake from free sugars (exceeding the WHO recommendation)<sup>3</sup>. As nutrient requirements during adolescence are high to fuel rapid growth and development, it is essential that teenagers are eating a well balanced diet.

### **Nutrient Intakes**

Teenagers require sufficient energy and nutrient intakes to achieve normal growth and development<sup>1</sup>. Adolescents have higher requirements for calcium than adults (up to the age of 51 years) and need additional kilojoules to support the adolescent growth spurt<sup>4</sup>. Results from the 2011-2012 National Nutrition and Physical Activity Survey (NNPAS)<sup>5</sup> show teenagers are not meeting recommended dietary intakes (RDI's) for calcium and vitamin A<sup>5</sup>. Girls also have intakes of iron and magnesium below RDI levels. Both boys and girls have sodium intakes higher than the upper limit of intake<sup>5</sup> as well as excessive sugar intakes. The highest 10% of 14-18 year olds were deriving at least 23% of their energy from free sugars.<sup>3</sup>

Results from the NNPAS also show that teenagers and young adults consume more soft drinks, burgers and chips than any other age group while only 15.6% of adolescents consume eggs and egg dishes on any given day. One serve\* of eggs provides teenagers with 239µg of vitamin A (27-34% RDI), 97µg of folate (24% RDI), 43µg of iodine (29% RDI), 0.5mg zinc (4-7% RDI), 208mg phosphorus (17% RDI), 1.7mg of iron (11-15% RDI), 0.8µg of vitamin D (16% RDI) and 2.4mg of vitamin E (24-30% RDI). Due to the wide range of nutrients found in eggs, they may therefore play a useful role in meeting the nutritional requirements of teenagers.

### **Snacks**

The NNPAS also showed 41 percent of teenagers energy intake comes from discretionary foods, the highest percentage of all age groups<sup>5</sup>. These foods are low in nutritional quality such as sweet biscuits, cakes, pastries, processed meats, savoury pastries and pies and commercial fried foods. High intakes of discretionary foods may displace more nutritious foods in the diet, in turn leading to lower than ideal intakes for many nutrients. The Australian Health Survey indicates that around 85% of teenagers do not meet the guideline for daily vegetable intake while just over half consume two or more serves of fruit daily<sup>6</sup>. Eggs are a nutrient-rich food and may therefore have a useful role to play as a nutritious snack food for teenagers.

### **Breakfast**

The 2010 NSW Schools Physical Activity and Nutrition Survey (SPANS) indicates that between 30-40% of secondary school students skip breakfast<sup>7</sup>. Research shows breakfast eaters are more able to control their weight, have better nutrient intakes, better concentration levels and are better able to perform mental tasks throughout the morning<sup>8-13</sup>. In particular, a low glycemic index (GI) breakfast has been shown to benefit cognitive performance in adolescence more than those who consume a high GI breakfast or skip breakfast<sup>14</sup>. Australian teenagers who skip breakfast are more likely to have lower intakes of key nutrients such as thiamin, riboflavin, calcium, magnesium and iron, with breakfast eaters

tending to have a healthier diet overall<sup>15</sup>. Improving teenage breakfast eating habits is therefore important to ensure good health, optimal mental and physical performance and for long-term establishment of healthy eating habits that may assist weight control. Eggs have been shown to have a greater satiety index than ready-to-eat breakfast cereals or white bread, and when eaten for breakfast, eggs can reduce the amount of energy (kilojoules) consumed at lunch by 29%<sup>16</sup>. A 2013 study in adolescents who frequently skipped breakfast found the consumption of a higher protein egg-rich breakfast assisted appetite control and prevented snacking later in the day<sup>17</sup>. Research has also shown that eating a variety of foods at breakfast is associated with better mental performance in adolescence<sup>18</sup>. Other breakfast research specific to adolescents showed those consuming breakfast felt more alert, satiated and content compared to those who did not consume breakfast and that they were generally at an advantage in terms of cognitive performance during the school morning<sup>19</sup>. Furthermore, a recent study has linked poor breakfast eating habits at 16 years of age with an increased likelihood of developing the metabolic syndrome or having particular components of the metabolic syndrome including central obesity and high fasting blood glucose at 43 years of age<sup>20</sup>. Another research study in overweight or obese adolescent girls who skip breakfast indicated that a high protein (35g) breakfast including eggs causes the greatest reduction in food cravings and increase in brain reward signalling compared to a 'normal' protein (13g) breakfast<sup>17</sup>. The high protein breakfast also reduced daily ghrelin (hunger hormone) and increased daily peptide YY (satiety hormone) levels compared to having no breakfast. A high protein breakfast also reduced evening snacking of high-fat foods compared with breakfast skipping. As eggs provide a wide range of different nutrients including protein and numerous vitamins and minerals, they can make a significant contribution to teenagers' diets.

### **Health status**

The level of overweight and obesity in Australian teenagers remains high, due to declining levels of physical activity, more screen time and dietary changes with time<sup>21</sup>. Current figures show 25.7% of adolescents aged 12-17 years are overweight or obese, with more boys being overweight than girls<sup>6</sup>. Being overweight or obese substantially increases the risk of acute health problems and chronic disease. Overweight and obese teenagers are more likely to have risk factors for diabetes, cardiovascular disease and liver disease than those who are not overweight<sup>22</sup>. Similarly, an Australian study among 14 year olds concluded that based on blood glucose, insulin and cholesterol levels and anthropometric measures, almost a third of the teenagers showed physical signs that raise their risk of developing heart disease later in life<sup>23</sup>. Studies from overseas also suggest being overweight or obese during adolescence can lead to emotional and behavioural difficulties<sup>24</sup>.

Eggs are a highly nutritious food and are relatively low in kilojoules, with one serve\* providing 581 kilojoules. As eggs are rich in protein, they may also increase satiety therefore contributing to a greater ability to manage total food intake over the day<sup>16</sup>. For further details on eggs and obesity, refer to ENAG's *Eggs and Obesity* statement.

### **Acne**

Some evidence suggests higher protein, low glycemic load diets can improve symptoms of acne that is common in teenagers<sup>25-28</sup>. As a protein-rich food, eggs lower the glycaemic load of the diet and could therefore play a role in the treatment and prevention of acne.

### **Conclusion**

Overall, eggs are a highly nutritious food that can play an important role in the diet of teenagers. Eggs are recommended as part of a healthy eating pattern that also includes adequate amounts of wholegrain breads and cereals, fruits, vegetables, low fat dairy foods, lean meat, fish and poultry and unsaturated fats.

This statement is for healthcare professionals only.

*\*One serve = 2x60g eggs (104g edible portion)*

**Useful links:**

Australian Health Survey

<http://www.abs.gov.au/australianhealthsurvey>

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