



Position Statement for Healthcare Professionals

Eggs and Older Adults (65+)

Updated May 2012

Nutrition plays a significant role in the maintenance of health throughout the normal ageing process and in the reduction of risk factors for chronic lifestyle related diseases. Furthermore, diet quality has been linked to longevity in older adults (1). Older Australians are faced with a range of issues that can affect their food intake, in addition to age-related changes in body functioning that may increase their nutrient requirements. People over 65 are reported to be the least likely of all Australians to want to change their diet (2) however around 70 percent of deaths in Australians aged 65 to 84 are due to cardiovascular disease or cancer, both of which have diet related risk factors (3). Ensuring adequate nutrient intake therefore becomes increasingly important for people over 65 years.

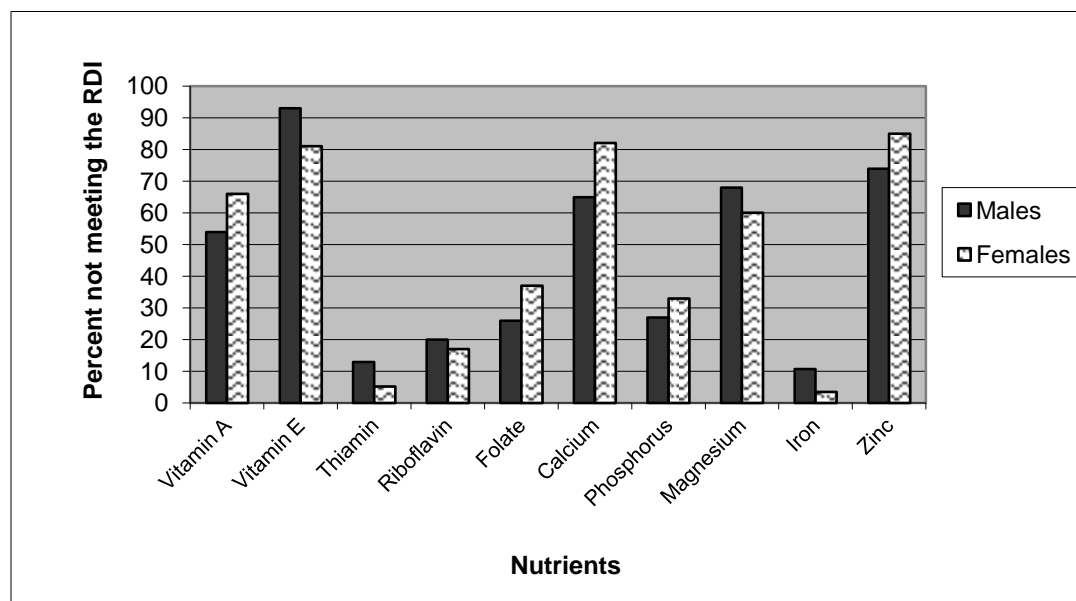
Social issues

Reduced appetite, poor dentition, limited access to shops or transport for food, reduced income, social isolation, living alone, polypharmacy and decreased sun exposure through immobility can all have negative effects on the food intake of older Australians (4).

Nutrition Issues

The National Nutrition Survey shows those aged 65 years and over eat less than the recommended minimum number of serves from each of the food groups (5), and have low intakes of vitamins and minerals (6). Self-reported consumption data of fruit and vegetables from the most recent National Health Survey showed that only 10% of adults in this age group consume the recommended five serves of vegetables and 2 serves of fruit each day (7). This, combined with the fact that many older adults have increased nutrient requirements and decreased food intake means nutrients that are commonly low in the diet of older Australians include fibre, calcium, vitamins A, E, B6, B12, folate, vitamin C, iron, magnesium and zinc (6, 8, 9). A Victorian survey found many older Australians have nutrient intakes below the recommended dietary intake (RDI) (Graph 1).

Graph 1: Percentage of older Australians (aged >64 years) with nutrient intakes less than the RDI (8)



As shown above, vitamin E, zinc, calcium, magnesium and vitamin A intakes are of particular concern with the majority of older Australians not meeting the RDI for these nutrients. Other evidence has shown that older Australians with the lowest intake of vitamin D and vitamin B12 may also be at risk of becoming deficient in these nutrients (10, 11). Results from the Blue Mountains Eye Study, an Australian study of 2,895 participants aged 49 years and older, showed that 23% had serum vitamin B12 levels below 185pmol/L, indicating they have, or are at risk of, vitamin B12 deficiency (10). American research suggests that older males are particularly at risk of folate and vitamin B12 deficiency (12). Research also suggests that older people who primarily stay indoors are at a high risk of vitamin D deficiency. Studies have shown that up to 80% of women and 70% of men living in hostels or nursing homes in Victoria, New South Wales and Western Australia were deficient in vitamin D (11). Older people are also less efficient at converting vitamin D from sunlight through the skin compared to younger people (13).

Age-related physiological changes such as decreased immune function, increase in oxidative stress, decreased mineral absorption, decreased gastric acid production and other changes in the gastrointestinal tract can increase the requirements for vitamins B6, B12, E, C, D, folic acid, zinc, calcium, iron and carotenoids (4). Reduced salivary flow, difficulty in swallowing, poor dentition and reduced appetite can also impair the nutritional status of older adults due to decreased food intake (14).

Body composition also changes with increasing age, with a particularly notable reduction in skeletal muscle mass and other body proteins such as organ tissue, blood cells and immune factors (15). The protein RDI for adults aged 70 years and over (81 grams of protein per day for older men and 57 grams for older women) (13) is around 25% higher than the protein needs of younger adults due to increased protein requirements with age. Inadequate protein intakes contribute to increased skin fragility, decreased immune function, poor wound healing and longer recovery times (15), highlighting the importance of maintaining adequate protein intake in older adults.

Table 1 shows the contribution of one serve* of eggs towards the vitamin and mineral RDIs for older Australians. Egg consumption data from the Australian Bureau of Statistics shows that older couples and singles are the highest egg consumers in Australia, with over 35% of this population group purchasing eggs. Furthermore, figures from the National Nutrition Survey show 16% of adults aged 65 years and over consumed eggs and egg dishes on the day of the survey (16). Eggs can play a role in meeting the vitamin and mineral requirements of older adults.

Table 1: Contribution to RDIs of One Serve of Eggs in Older Australians

| Nutrient | % RDI (13) for ages 70+ |
|---------------------|--------------------------------|
| Protein | 16-22% |
| Long-chain Omega-3s | 71-127% adequate intake (AI) |
| Selenium | 59-68% |
| Vitamin B12 | 33% |
| Iodine | 29% |
| Iron | 21% |
| Vitamin A | 27-34% |
| Folate | 24% |
| Vitamin E | 24-34% |
| Vitamin D | 5% AI |
| Zinc | 4-6% |

Health issues

Overweight, high blood pressure and high cholesterol are significant health issues that affect older adults and are risk factors for chronic diseases such as Type 2 diabetes and heart disease. Overweight and obesity rates peak in people over 55 until 65 years, after which they plateau and then decline after 75 years of age (17). Diabetes occurs in 1 in 5 people over 55 years of age (17). High blood pressure is also a risk factor for stroke, and increases with age, especially in men (18). Two thirds of older adults have high cholesterol levels (18).

Another relevant health issue for older adults is eye health. There is evidence that high-dose supplementation with vitamin A, antioxidants and zinc may reduce the amount of visual degeneration in the elderly (19). There is also evidence indicating a role for omega 3 fatty acids and the antioxidants lutein and zeaxanthin in the prevention of age-related macular degeneration (20-24). Eggs provide bioavailable vitamin A, omega 3 fatty acids, the antioxidants lutein and zeaxanthin, selenium and zinc. For further details, refer to ENC's *Eggs and Eye Health* statement.

Eggs are a nutritious food that can be included in a healthy, well-balanced diet for all people. While some older adults may unnecessarily be avoiding eggs because of their perceived fat and cholesterol content, research shows that egg consumption has little association with plasma cholesterol levels and heart disease risk. For further details, refer to ENC's *Eggs and Obesity, Risk or Cardiovascular Disease, Plasma Cholesterol and Lipoproteins and Diabetes* statements.



Conclusion

Due to the variety of nutrients found in eggs, they are an ideal food to include the diets of older adults. They are also economical, easily prepared and soft in texture which makes them appropriate for people of this age group. 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)*



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