Undernutrition in the elderly: a serious health problem

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The Malnutrition Advisory Board is a multi-disciplinary group of experts including geriatricians, GPs, dietitians and pharmacists. The Board has been convened to promote health care professionals’ awareness of undernutrition in the elderly and to communicate intervention and management strategies with the aim of improving health outcomes.
Undernutrition is surprisingly common among older Australians living in the community, with an estimated 10–44% of older people being at risk (1-3). Yet the problem often remains unrecognised and undermanaged. The potential consequences of undernutrition and risk factors contributing to its development are summarised in Figure 1.

Prevention and early intervention is key because reversing the effects of undernutrition and weight loss is difficult. Ageing is associated with normal physiological changes which result in older people having a reduced appetite, feeling full more quickly, and being less likely to compensate with increased intake following periods of decrease in energy intake (e.g. following acute illness)(4). Weight loss in the elderly is also associated with loss of muscle mass and if weight is regained, there is a disproportionate regain of fat rather than lean body mass (5). The resulting sarcopenia is associated with a risk of adverse outcomes such as physical disability, reduced mobility, institutionalisation, poor quality of life and even death (6).

**Figure 1: Undernutrition in the elderly: contributors and consequences**

- **Medical factors:**
  - depression, chronic illness
- **Physical or social factors:**
  - isolation, loneliness
- **Normal physiological changes:**
  - Changes in appetite, taste, smell

**Undernutrition**

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**Increased mortality**

**Increased morbidity:**
- Poor wound healing
- Impaired immune system
- Sarcopenia
- ↑ risk of falls and fractures

**Reduced quality of life**
- Loss of independence requiring support
- Premature institutional placement
# Identifying undernutrition in the elderly

## Who is at risk?

All elderly people are at potential risk of undernutrition. Obese as well as underweight elderly people can experience unintentional weight loss due to undernutrition. It is not possible to identify undernourished patients simply by their physical appearance, body mass index (BMI) or weight at a single time point, therefore routine screening within general practice is a useful means of identifying those most at risk.

### Screening in general practice

Screening for undernutrition among elderly patients should be incorporated into routine practice wherever possible, to help focus time and resources on intervention for those at greatest risk (1).

| · Weight should be recorded twice a year, with any weight loss triggering nutritional screening. (In the elderly, weight loss over time is a better indicator of undernutrition than BMI.) |
| · For patients aged ≥75 years, a validated screening tool should be incorporated into the 75+ annual health assessment conducted. |

## MNA®-SF Screening Tool

Validated nutritional screening tools provide an easy and reliable way to identify those at risk of undernutrition (2,8). A more comprehensive nutrition assessment by an Accredited Practicing Dietitian should be considered for people identified as malnourished/high risk or with complex nutritional needs. One screening tool that can be easily incorporated into general practice is the Mini-Nutritional Assessment Short Form (MNA®-SF). The MNA®-SF was specifically developed for people aged over 65 years. It comprises 6 questions, which can be answered easily in general practice (Figure 2).
### Mini Nutritional Assessment (MNA)

#### Screening

**A.** Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?
- 0 = severe decrease in food intake
- 1 = moderate decrease in food intake
- 2 = no decrease in food intake

**B.** Weight loss during the last 3 months
- 0 = weight loss greater than 3 kg (8.8 lbs)
- 1 = does not know
- 2 = weight loss between 1 and 3 kg (2.2 and 6.6 lbs)
- 3 = no weight loss

**C.** Mobility
- 0 = bed or chair bound
- 1 = able to get out of bed / chair but does not go out
- 2 = goes out

**D.** Has suffered psychological stress or acute disease in the past 3 months?
- 0 = yes
- 2 = no

**E.** Neuropsychological problems
- 0 = severe dementia or depression
- 1 = mild dementia
- 2 = no psychological problems

**F1.** Body Mass Index (BMI) (weight in kg) / (height in m²)
- 0 = BMI less than 14
- 1 = BMI 14 to less than 21
- 2 = BMI 21 to less than 23
- 3 = BMI 23 or greater

**F2.** Calf circumference (CC) in cm
- 0 = CC less than 31
- 3 = CC 31 or greater

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**Screening score**

(max. 14 points)

- 12-14 points: Normal nutritional status
- 8-11 points: At risk of malnutrition
- 0-7 points: Maltreated

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**References:**
- For more information: www.mna-elderly.com

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**Figure 2: MNA®-SF**
Management strategies for undernutrition

Addressing the risk of undernutrition early allows for improved nutritional health. Many contributing factors can be addressed in general practice giving GPs and practice nurses an opportunity to intervene before undernutrition becomes established.

Manage chronic or reversible medical conditions
This may include
- Screening for, or reviewing management of dementia, anxiety and depression (depression is one of the commonest causes of undernutrition in the elderly);
- Reviewing medications that may influence appetite or nutrition (e.g. those causing side effects such as nausea, constipation, anorexia);
- Reviewing dietary restrictions – refer to an Accredited Practicing Dietitian for specific advice and support as required
- Identifying and managing dyspepsia, nausea or constipation
- Reviewing oral health - encourage regular reviews with the dentist
- Optimising mananagement of chronic conditions that may affect nutrition, such as dysphagia, gastro-intestinal diseases

Address social and functional issues
Limited functional ability and social isolation are often major factors contributing to undernutrition in older adults (9). Financial constraints, living or eating alone, and a reduced ability to shop for or prepare food often results in older people eating less and increases their risk of undernutrition.
Management of these issues requires an individualised approach for each patient. Where possible, enlist the help of family, friends and local council support.

Recommend nutritional support
Nutritional therapy is a vital component in the management of undernourished patients, and should be provided alongside medical and social/functional interventions.
- Dietary requirements change in elderly people; in particular, protein requirements for older people are approximately 25% higher than for younger adults
- Referral to an experienced Accredited Practicing Dietitian should be considered for patients with complex needs.
Nutritional advice should always be tailored to the individual however, some general recommendations may include:
• Review any dietary restrictions (which may be unnecessary)
• Maximize the flavor of foods
• Include frequent protein containing small meals and snacks
• Ensure availability of nourishing snacks (e.g. nuts, yoghurt, cheese)
• Ensure food texture suits chewing and swallowing ability
• Suggest ways to increase protein and energy intake such as
  o Adding milk, butter or cheese to foods such as soups, sandwiches or mashed potato
  o Using milk-based sauces (e.g. custard, cheese sauce) to fruit and vegetables
  o Adding powdered nutritional supplements to foods such as soups, cereals, custard, mashed potato
• Try high-energy/protein nutritional supplements (nutritional drinks are a convenient and effective way to meet requirements when appetite and/or mood are low)
• Refer to an Accredited Practicing Dietitian (www.daa.asn.au).

Reinforcement and monitoring
It can be difficult for elderly patients to change eating habits. Regular follow-up and reinforcement of nutritional messages is needed. This may include:
  • providing written advice (e.g. sticky notes to place around the kitchen, or a doctor’s prescription of dietary advice)
  • involving family members
  • telephone prompting/reminders.
As weight gain is achieved, meal plans and dietary supplements should be reviewed.

Overweight in the elderly
Elderly people who are underweight are at greater risk of mortality than those who are overweight (10-12), and the optimal BMI range for older people is suggested to be higher than for younger adults. Intentional weight loss is considered inappropriate unless excess weight is associated with functional problems. If a weight loss program is considered necessary, attention to adequate protein and micronutrient intake, as well as exercise, is required to preserve muscle mass. Close monitoring of the weight loss program is important to ensure preservation of muscle mass.

Summary
Undernutrition presents a significant clinical and public health problem among older Australians living in the community. Assessment and treatment of nutritional risk should be part of routine care for the elderly, just as assessment and management of
cardiovascular risk factors are standard practice in adults. General practice is an ideal setting to identify and manage patients at risk of undernutrition.

**Key points**

Early identification of patients who are at risk of undernutrition is important

- Monitor weight
- Incorporate nutritional screening into routine clinical practice.

If patient is at risk of undernutrition:

- Review food intake, including ability to shop/cook and ability to chew/swallow, as well as access to social and functional intervention
- Provide simple dietary advice, such as small meals, nutritious snacks, protein with every meal/snack
- Consider services such as home help, Meals on Wheels or similar
- Monitor and follow up

Additional measures if patient has undernutrition or has lost weight:

- Review medical conditions
- Manage reversible causes of undernutrition
- Suggest oral nutritional supplements (high energy/protein)
- Refer to an Accredited Practicing Dietitian for full nutritional review
References


