Eating well for older people

Practical and nutritional guidelines for food in residential and nursing homes and for community meals

REPORT OF AN EXPERT WORKING GROUP

SECOND EDITION

THE CAROLINE WALKER TRUST

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Members of the Expert Working Group on Nutritional Guidelines for Food Prepared for Older People

These are the members of the Expert Working Group which produced the first edition of this report. Their affiliations are as at 1995 when the first edition was published.

Anne Dillon Roberts (Chair)	Director of Public Affairs, National Farmers Union of England and Wales; Trustee of The Caroline Walker Trust
Dame Barbara Clayton	Honorary Research Professor in Metabolism, University of Southampton
June Copeman	Chair of the Nutrition Advisory Group for Elderly People, the British Dietetic Association; Senior Lecturer in Nutrition and Dietetics, Leeds Metropolitan University
Dr Louise Davies	Consultant in Gerontology Nutrition and Honorary Senior Lecturer, Royal Free Hospital School of Medicine, London
Mandy Downes	Director of Food Services, Women's Royal Voluntary Service
Dr Anthea Lehmann	Consultant Geriatrician, Homerton Hospital, Hackney, London
Dorothy Newman	National Chair, Advisory Body for Social Services Catering, Bradford
Maggie Sanderson	Principal Lecturer in Nutrition, University of North London; Chair of The Caroline Walker Trust
Professor Aubrey Sheiham	Professor of Dental Public Health, University College, London
Kiran Shukla	District Dietitian, Thameside Community NHS Trust, Essex
Elizabeth Walker	Health Care Divisional Dietitian, Gardner Merchant, Northwich, Cheshire

Observers

Dr Petra Clarke	Senior Medical Officer, Department of Health, London
Sylvia Stenhouse	Matron/Manager, DGAA Homelife, Rush Court Nursing Home, Wallingford, Oxfordshire
Dr Jennifer Woolfe	Senior Scientific Officer, Food Safety Directorate, Ministry of Agriculture, Fisheries and Food, London

The first edition of this report was researched by Dr Katia Herbst.
This edition was researched and updated by Dr Helen Crawley.

Contents

List of Tables and Figures

Foreword

The Caroline Walker Trust is dedicated to the improvement of public health by means of good food. Established in 1988 to continue the work of Caroline Walker, and in particular to protect the quality of food, it is a charitable trust whose work is wholly dependent on grants and donations.

The Trust has produced a number of publications, training materials and computer packages which provide practical guidance on eating well for those who care for vulnerable people in our society. The Trust's first Expert Report *Nutritional Guidelines for School Meals*,[1] published in 1992, has been widely used as the basis for quantitative standards for school meals and is provided as guidance by the Department for Education and Skills in its nutritional guidelines for school lunches.[2] Practical and nutritional guidelines have also been produced for under-5s in child care[3] in 1998, and for looked after children and young people[4] in 2001. More information about these documents and their accompanying training packs and software can be found on the Caroline Walker Trust website: www.cwt.org.uk.

In 1995 the Trust produced the first edition of this publication – *Eating Well for Older People*.[5] Members of the working group responsible for that report were also involved in the VOICES report *Eating Well for Older People with Dementia*,[6] produced in 1998. A computer program called the *CORA Menu Planner*,[7] produced in response to the publication of the first edition of *Eating Well for Older People*, has provided a practical tool for those planning menus for older people and is now extensively used across the UK.

Since this report was first published, it has been widely used in residential and nursing homes, and in the community, both to raise the profile of eating well for older people and to provide practical guidance for those who work in this sector and for those who advise and support them.

When the first edition of the report was published in 1995, the last national survey of the nutrition of older people available to the Expert Working Group was over 20 years old. The Committee on Medical Aspects of Food and Nutrition Policy (COMA) had recognised this lack of information in their reports on Dietary Reference Values[8] and on the Nutrition of Elderly People.[9] The Government responded to COMA's recommendations, and commissioned a nutrition survey of people aged 65 years and over in Great Britain as part of the National Diet and Nutrition Survey (NDNS) programme. The results were published in 1998,[10, 11] after the first edition of this report had been published. More recently, the Government has also published a National Service Framework for older people.[12]

This report on *Eating Well for Older People* remains in high demand. It is now five years since the NDNS survey of people aged 65 years and over was published. The Trust recognised that it would be appropriate to ensure that the report took account of this more recent information and of the National Service Framework for older people, and therefore decided to produce a new edition.

The Trust is delighted that many of its recommendations have been incorporated into the new National Minimum Standards for Care Homes for Older People[13] and this new report will hopefully be a good starting point from which nutritional standards can be further improved.

The Trustees would like to thank the original Expert Working Group, and particularly Anne Dillon Roberts the Chair, for their work in compiling the first edition of this report. They would also like to thank Dr Helen Crawley and Rosie Leyden for updating this report and June Copeman and Anita Berkley for their useful comments on the text for this edition.

We hope that this second edition of this report will be as well used as its predecessor and provide practical advice to all those who have an important role to play in the care of older people.

Professor Martin Wiseman
Chair, Caroline Walker Trust

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Summary and recommendations

Chapter 1 Why nutritional guidelines are needed

The Caroline Walker Trust Expert Working Group regards the provision of community meals – including meals delivered to the home and meals served at a lunch club or day centre – as a vital component of community care.

Adequate nutritional standards of food in residential care accommodation – including both residential and nursing homes – are crucial to the well-being of residents and patients.

The Working Group makes the following recommendations:

- The nutritional guidelines in this report (see Tables 2 and 3 on pages 41 and 44) should become minimum standards for food prepared for older people in residential care accommodation and for community meals. Cost considerations should not override the need for adequate nutritional content in the planning and preparation of food for older people.
- Local authorities should adopt these nutritional guidelines and insist on them being maintained in residential and nursing homes with which they contract for long-term care, and in the provision of community meals.

Chapter 2 Food prepared for older people: who provides it, and who eats it?

In 2001, 341,200 older people lived in residential care accommodation and a further 186,000 people in nursing homes. About a quarter of people over 85 years of age live in long-stay care. The percentage of the population in long-term care has remained steady but the actual number has been rising because of the increase in population in these age groups. That growth is set to continue because of the particularly rapid increase in the number of over-85s.

Many older people in residential care accommodation are undernourished, either through previous poverty, social isolation, or personal or psychological problems, or due to the effects on appetite of illness or medication.

Since this report was originally published there have been a number of recommendations made relating to food service to older people in residential and nursing care. These recommendations are welcomed but there is still a need to provide practical information to managers of residential or nursing homes on how they can achieve appropriate nutritional content in the food they serve.

Community meals, whether delivered to people's own homes or eaten in lunch clubs or day centres, are a very important source of nutritious food for older people living in their own homes and unable to cook adequately for themselves.

The Working Group makes the following recommendations:

- Residential and nursing homes applying for registration should be required to meet the nutritional guidelines for food prepared for older people as part of the registration process. Monitoring of the nutritional standard of meals should be carried out regularly, and

homes which do not meet the guidelines should receive appropriate advice and help to meet the standards, or forfeit registration.

- In residential care accommodation, at least £18 per resident per week (2004 prices) should be spent on food ingredients to ensure that food of sufficient nutritional content can be made available.
- Individuals, their relatives or advocates should enquire about a prospective home's commitment to nutritional standards and should ask how much money per resident per week is spent on food ingredients.
- Those providing community meals need to take into account the needs and wishes of older people from black and ethnic minorities who do not have access to an appropriate lunch club.
- Lunch clubs should be developed for older people in any setting where it is already the custom for older people to gather.

Chapter 3 How a good diet can contribute to the health of older people

The ageing process affects people at different rates. A good diet and physical activity help to minimise potential health problems and accelerate recovery from episodes of illness.

As activity lessens, calorie requirements fall. However, if insufficient food is eaten, the level of nutrients in the diet can become dangerously low, leading to a vicious circle of muscle loss, even less activity, and even lower appetite.

Mouth problems and swallowing difficulties may also lead to low food intake. The importance of regular care of the teeth and mouth is stressed.

There are more underweight than overweight older people and, in old age, being underweight poses far greater risks to health than being overweight.

Poor nutrition can contribute to a number of health problems including: constipation and other digestive disorders; anaemia; diabetes mellitus; muscle and bone disorders including osteoporosis, osteomalacia and osteoarthritis; overweight; and coronary heart disease and stroke. Poor diet may also contribute to other health problems such as declining mental health, changes to the nervous system and the immune system, cataract and some cancers.

In addition to the nutritional guidelines given in Chapter 5, the Working Group makes the following recommendations:

- Older people should be encouraged to undertake regular physical activity, such as walking, as this strengthens and builds up muscle and bone, and increases calorie requirements, which increases appetite. Even chair-bound people should be encouraged to do regular leg and arm movements.
- Facilities should be provided for regular dental check-ups. This means taking people to the dental surgery, either from their own homes or from residential homes, or having community dentists visit the home.
- Architects designing accommodation for older people should be encouraged to take account of the need for residents to have regular exposure to sunlight, which is a source of vitamin D. Features could include windows that allow UV light to pass through the glass, sheltered alcoves on the south side of

buildings, and well-paved paths with hand rails and no steps.

- Older people living in residential and nursing homes who rarely go outside are likely to need vitamin D supplements and should consume a diet which provides sufficient calcium. Advice on supplements should be taken from a GP.

Chapter 4 Nutritional requirements of older people

This chapter discusses the intake levels for food energy and nutrients and concludes that:

- The Dietary Reference Values prepared by COMA (the Committee on the Medical Aspects of Food Policy) in 1991 should be used as the basis for the nutritional guidelines for food prepared for older people.

Chapter 5 Nutritional guidelines for food prepared for older people

The Dietary Reference Values are translated into nutritional guidelines for food prepared for older people in residential care accommodation and for community meals.

The Working Group recommends that:

- The average day's food, over a one-week period, for people living in residential care accommodation, should meet the COMA report's Estimated Average Requirement for energy and the Reference Nutrient Intakes for selected nutrients. Quantified nutritional guidelines for food prepared for older people in residential or nursing homes are given in Table 2 on page 41.

In relation to community meals, the Working Group recommends that:

- The average community meal should provide a minimum of 33% of the Dietary Reference Values prepared by COMA in 1991, except for energy and certain key nutrients, which should be provided at higher levels.
- In view of the common occurrence of undernutrition in housebound older people living in their own homes, providers should increase the energy, calcium, iron and zinc content of community meals to 40% of the Dietary Reference Values, and the folate and vitamin C content to 50%. Quantified nutritional guidelines for community meals are given in Table 3 on page 44.
- Research is needed to find out how much of the meal is eaten by those who receive community meals, and how the service can best meet the needs of its users. Alternative methods of providing food – such as smaller meals and snacks which together comprise the nutrients more usually associated with a conventional meal – also need to be evaluated.

Chapter 6 Examples of menus which meet the nutritional guidelines

This chapter gives examples of menus both for meals prepared for older people in residential care accommodation and for community meals, to demonstrate that it is possible to meet the nutritional guidelines proposed in Chapter 5, easily and cost-effectively.

Chapter 7 Nutritional assessments

The importance of nutritional assessment is discussed.

The Working Group makes the following recommendations:

- Vulnerable older people living in the community should have a nutritional assessment, and the results should help inform the design of the person's care package. The assessment could be carried out by a member of the care management team or the primary health care team.
- All older people entering residential care accommodation should have their food and fluid needs assessed in the first week after admission, and should be monitored regularly thereafter.
- All residential and nursing homes should have weighing scales, preferably sitting scales, for monthly weight checks. The scales should be checked regularly.
- The weight of each resident or patient should be recorded in the person's care plan at least once a month.
- Care managers and service providers need to ensure that routine reassessments are made. All people found to be at risk in the initial screening should be reassessed at frequent intervals. Thereafter, reassessments will be necessary with changing circumstances.

Chapter 8 Exciting the appetite

The importance of appetite should be given a high profile. It is no good producing nutritious meals unless they are eaten.

The Working Group makes the following recommendations:

- Older people living in residential care accommodation or receiving community meals should be offered a variety and some choice of food.
- Records of the food preferences of each person should be kept.
- Every effort should be made to make the eating environment as attractive and as culturally appropriate as possible.
- In residential care accommodation, residents should be encouraged to invite guests in either for a simple meal, or for tea or coffee.
- Residents should be encouraged to go on trips and outings outside the residential care home. This may stimulate appetite by providing exercise, fresh air and a change of food choice.

- Snacks should be provided in between more formal mealtimes or, in the case of community meals, be delivered with the main meal, thereby ensuring that, if they wish, older people can eat a little at a time, but more frequently.
- Advice should be sought from an occupational therapist or speech and language therapist, for those who may need special aids or help with eating or drinking.
- Physical activity routines, even of a very modest nature, should be established for all older people living in residential care accommodation.
- Staff or volunteers at lunch clubs should encourage physical activity among older people, either by providing information or by organising simple activities at the club.

Chapter 1

Why nutritional guidelines are needed

The number of older people in the UK is rising rapidly, due to a surge in the birth rate after the First World War combined with a much reduced rate of infant mortality and far better health care since the introduction of the National Health Service.

Life expectancy has now risen to over 75 years for men and over 80 years for women, and continues to rise, although the rate of increase is more gradual than that seen over the first 70 years of the last century.[1] However, while life expectancy has increased, years of disability-free life has not. The total prevalence of serious disability among the population aged over 65 years is estimated at 16%.[2] A quarter of over-80-year-olds living at home and 70% of over-80-year-olds in residential care report serious long-standing disability.[2]

These factors have combined to create a rapidly growing care industry of residential care accommodation – including both residential homes and nursing homes – and an increased demand for care in people's own homes. The Community Care Act which came into force in 1993 had, as one of its main objectives, to enable people to stay in their own homes for as long as possible. This has been accompanied by a decrease in the proportion of older people in residential and nursing care over the past 10 years, particularly among the very old, with 5% fewer of those aged over 85 now in residential or nursing care. The absolute numbers of older people in residential care, however, is increasing with the ageing population in the UK. In 2001 there were 1.1 million people aged 85 and older in the UK – three times as many as in 1961.[3] Projections from recent census data suggest that, over the next 30 years, the number of people aged 65 and over will exceed the numbers aged under 16 by 2014, and those in the over-85 age group will more than double. This increasingly ageing population means that the demand for long-term residential care accommodation will remain strong. There will also be an increasing demand for home-based care, including both the delivery of meals and support with eating well for dependent people in their own homes.

The body starts to age from about the age of 20. Many people reach 'a ripe old age' still alert and taking great enjoyment from life. The rate at which people age and become frail or disabled is influenced by their genetic make-up. However, many outside influences – such as involvement in the local community or special interest group, hobbies, the family or social circle – all play an important part in maintaining physical and mental resilience and enjoyment of life.[4]

This report focuses on the daily influence of diet and activity on older people. Food and eating bring shape to a day and facilitate social interaction, as well as providing essential energy and nutrients. Much of the evidence collated in the first edition of this report was taken from the 1992 Department of Health Committee on Medical Aspects of Food Policy (COMA) report on *The Nutrition of Elderly People*.[5] This report summarised research evidence at that time and made recommendations on how older people can maintain adequate nutritional status. While new data

Food and eating bring shape to a day and facilitate social interaction, as well as providing essential energy and nutrients.

have been reported in many areas of nutrition and health since then, including a National Diet and Nutrition Survey of people aged 65 years and over,[6, 7] a further review of the nutrition of older people has not been completed, and therefore the recommendations of the COMA report on *The Nutrition of Elderly People* are still reproduced in this second edition (see Appendix 1).

When this report was first published in 1995, there were no clear guidelines on food and nutrition for people in residential care. The Trust identified a need for practical guidelines on nutrition for use by those who are responsible for catering for older people either in residential care accommodation or by the provision of community meals, including meals delivered to the home and meals served at lunch clubs and day centres. The Trust brought together an Expert Working Group to produce this report (see page 3 for a list of members of the Expert Working Group) and is pleased to find almost 10 years later that the recommendations made then have been widely incorporated into guidance in other publications.

The Caroline Walker Trust is delighted that several recent policy reviews and recommendations have included food and nutrition and aim to improve the health and well-being of older people in the UK. The National Service Framework (NSF) for Older People, launched in 2001, relates particularly to hospital and primary care initiatives.[8] Of most significance to the residential care sector are the National Minimum Standards for Care Homes for Older People[9] which came into force in 2002, and the Scottish National Care Standards: Care Homes for Older People,[10] also operational from 2002. Both sets of standards provide clear guidelines relating to food choice and food service as well as a requirement for nutritional assessment of residents. A summary of the standards for England and Wales which relate to food and nutrition is given in Appendix 2. Scottish nursing home care standards go further in their requirement that all nursing homes demonstrate that their menus meet specified quantified nutritional guidelines – a requirement which is particularly welcomed by the Caroline Walker Trust.[11]

The nutritional standard of food in residential care accommodation is crucial to the well-being of residents and patients.

The recognition that good nutrition and good food are essential for both the current and future health and well-being of older people in residential care is very welcome but the need for clear, scientifically accurate and practically useful advice on how to implement these recommendations remains essential. There is still much to be done to encourage and support residential and nursing homes to fulfil these new guidelines and to effectively encourage an increasingly frail, elderly population group to eat well. The nutritional contribution of community meals and meals served in lunch clubs and day centres will become ever more important as increasing numbers of frail, older people remain in their own homes.

The aims of this updated report remain the same as those of the first edition:

- To provide clear, referenced, background information showing the relationship between good nutrition and health among older people.
- To look at the current nutritional intake of older people and highlight potential inadequacies.
- To provide practical guidelines to enable caterers, manager/matrons, cooks/chefs, residential care managers and managers of services providing meals at home, to develop suitable menus to achieve a good nutritional balance in the food they provide and to show how to develop this information into practical action.
- To act as a resource document for those working for better standards of nutrition both for people in long-term residential or nursing care and for those in receipt of community meals.

The Working Group recognises the severe financial pressures on service providers. It regards the provision of community meals as a vital component of community care. The nutritional standard of food in residential care accommodation is crucial to the well-being of residents and patients. The Working Group hopes that the nutritional guidelines contained in this report become minimum standards, and that cost considerations do not override the need for adequate nutritional content in the planning and preparation of food for older people. It recommends that local authorities should adopt the nutritional guidelines in this report and should insist on them being maintained in residential and nursing homes with which they contract for long-term care, and in the provision of community meals.

Recommendations

- The nutritional guidelines in this report (see Tables 2 and 3 on pages 41 and 44) should become minimum standards for food prepared for older people in residential care accommodation and for community meals. Cost considerations should not override the need for adequate nutritional content in the planning and preparation of food for older people.
- Local authorities should adopt these nutritional guidelines and insist on them being maintained in residential and nursing homes with which they contract for long-term care, and in the provision of community meals.

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Chapter 2

Food prepared for older people: who provides it, and who eats it?

This chapter gives background information on food prepared for older people in residential homes and nursing homes, and on community meals. In this report, the term 'community meals' includes meals delivered to people's homes, meals provided for people living in sheltered accommodation, and meals served in lunch clubs.

Food prepared for older people in residential and nursing homes

Who lives in care accommodation?

There are approximately 9.3 million people aged over 65 years in the UK (2001 census figures),[1] of whom 4.4 million are aged over 75 years and 1.1 million are aged over 85 years. In 2001, 341,200 older people lived in residential care accommodation and a further 186,800 people in nursing homes – in 24,100 registered homes and 5,700 nursing homes, clinics and private hospitals.[2] About a quarter of people over 85 years of age live in a residential or nursing home or a long-stay hospital.[3] The number of older people in the UK, particularly the over-85s, is set to rise dramatically as people live longer, and it is estimated that numbers will go on increasing rapidly, peaking at over 3 million over-85-year-olds by the year 2056.[3]

In 2001, 92% of all homes and 85% of places in residential care homes were provided by the independent sector.[2] After a rise in the number of places in residential care accommodation in the 1990s, between 2000 and 2001 there were decreases in the number of homes and the number of places of around 700 (3%) and 4,700 (1%) respectively. This particularly affected the South East where 200 homes and 1,000 places have been lost.[2]

More recent figures for 2001-02 suggest that the number of places available continues to fall as both the number of new care homes developed slows and the demand for places from local authorities declines. This is due both to an increased attempt by local authorities to keep older people in their own homes and to a reduction in the number of residents eligible with preserved rights to income support. Between November 2000 and November 2001 the number of care home residents funded by either local authorities or income support fell by 8,000.[3] The biggest increase in provision has been in independent sector places for people with mental health problems, with 15,000 new places created between 1996 and 2001.[4]

The net effect of these changes means that those in residential and nursing care are increasingly frail and vulnerable, and unable to live independently in their own homes even with substantial support. Data from the Health Survey for England published in 2000 reported that three-quarters of all residents in private and voluntary care accommodation are women. It also reports that 69% of men and 70% of women in residential care are reported to have serious or multiple disabilities.[5] In care homes the most commonly reported type of serious disability is locomotor disability, affecting 65% of older people. Just over a half of residents reported personal care disability and almost a quarter reported communication and hearing disability. The Health Survey for England also reported that older people in residential accommodation are more likely to have a long-standing illness, to have consulted a GP in the past two weeks or to have experienced a major accident in the past six months compared with those

of a similar age living in their own homes. It is difficult to estimate the level of mental illness among residential care home residents, but the Health Survey for England reported that while about 18% of residents had scores in cognitive function tests which suggested difficulties, a further 40% were incapable of completing the interview, suggesting that about half of all residents may have some form of dementia. There are currently 750,000 people in the UK diagnosed with dementia, and 1 in 5 people aged over 80 will develop the disease.[6]

The older, more frail and more disabled population of older people now in residential care means that the majority are highly dependent, with many requiring maximum care. There is evidence that many older people living in residential and nursing care are clinically undernourished, with data from the Health Survey for England suggesting that up to 20% of people in residential homes are malnourished compared with 1 in 7 elderly people in Britain overall.[5]

There are several reasons for this:

- Older people often enter residential care after a period of poverty, social isolation, personal and psychological problems and difficulty in preparing their own meals.
- Illness – which can increase the need for calories but does not increase appetite – and the effects of medication often play a role.
- Some older people may have difficulties in chewing and swallowing, and insufficient support may be available to help those with eating difficulties to eat well.
- Some residents may not like the food that has been prepared for them.
- Older people with dementia may have a number of difficulties related to physical, physiological and emotional/cognitive disease-related changes which impact on their ability to eat well.[7]

It is recognised that improving nutritional status among residents requires a multi-disciplinary approach.

Catering regulations

The catering in residential care homes is undertaken either by the home itself, by the local authority catering services or by a contract caterer. The National Minimum Standards for Care Homes for Older People[8] which came into force in 2002 provide new standards for all aspects of care, including issues around food and drink, and it is stated that residents *"should receive a wholesome, appealing balanced diet in pleasing surroundings at times convenient to them"*. Guidance on how this can be achieved is given in nine individual standards outlined in Appendix 2. (This Caroline Walker Trust report is included in the bibliography of the National Minimum Standards document as a source of guidance.) While the acknowledgement of the importance of good food in residential care homes in the standards is welcomed, the regulations still do not define the nutritional content of meals needed to sustain and improve the health of residents. The Working Group which produced the first edition of this Caroline Walker Trust report believed that the quantitative nutritional guidelines it recommended should be adopted by all social services departments and health authorities as the basis for registration and inspection of homes, and this remains the case in this second edition.

It is recognised that many residential care homes have made enormous strides in improving the food and nutrition of residents, and many homes use this report and the *CORA Menu Planner* software developed to aid the implementation of the nutritional recommendations (see page 46). However, it is recognised that improving nutritional status among residents requires a multi-disciplinary approach, with input from community dietitians and community speech and language therapists as well as increased staff training for residential home workers in supporting good nutrition.

It has been reported that for older people food and nutrition remain a priority among the factors they associate with good personal care, and people aged 85 and over and those with disabilities ranked food and nutrition as the most important aspect of their personal care.[9]

Catering costs

Little new data about the spending on food in residential and nursing homes has been published since the first draft of this report. While the total cost of providing residential care is a subject of much debate and controversy, the majority of costs are for staff and buildings, with estimates for food usually included with all other non-staffing costs. In the previous report, based on the Working Group's own research, it was suggested that in 1994 it would be difficult to provide food of sufficient nutritional content if less than £15 per resident was spent on food ingredients. Allowing for increased food costs, it would be prudent to increase that estimate to a minimum of £18 per resident per week (at 2004 prices). It should also be acknowledged, however, that the costs of improving nutrition involve more than just the cost of the food, since encouraging eating well also requires staff time and training.

The Working Group recommends that individuals, their relatives or advocates should enquire about a prospective home's commitment to nutritional standards and should ask how much money per resident per week is spent on food ingredients.

Community meals

Meals delivered to people's homes

It is estimated that 5% of elderly people in their own homes cannot cook a main meal, and that 1 in 12 people receive community meals, and 1 in 4 receive home help.[10] Others are referred to lunch clubs or have help from family and friends. In 2001, 195,000 older people received community meals (often called 'meals-on-wheels') in their own homes at an average cost of £13.50 per person per week.[11] Community meals are available to older people who cannot shop for, cook or provide a hot main meal for themselves. They are organised by local authorities through their own catering resources, from private contractors and from the WRVS, which delivers 9 million meals a year. Clients are referred to the appropriate community meals scheme by social services through doctors, district nurses, health visitors, sheltered housing managers and social workers, following an assessment to determine how many meals a client is eligible for. This can vary from once or twice a week to every day, with 7-days-a-week services usually reserved for those with no relatives living in the immediate area. Clients pay to cover some of the cost of the meal, which usually consists of a main course and a pudding. The price paid varies in each area but is generally around £2.10 per meal.[12] The delivery of community meals varies depending on both the contract with the provider and the wishes of the client. Traditionally a hot meal is delivered daily at lunchtime, but increasingly frozen meals are delivered weekly or every two weeks for regeneration daily by the client in a microwave.

The community meals service is an important means of encouraging people to remain independent and in their own homes for as long as possible.

The importance of home care services has increased as the number of vulnerable older people remaining in their own homes increases, and there is a need for research to evaluate how changes in service provision for community meals is catering for the needs of this vulnerable group.

Meals provided for people in sheltered accommodation

Sheltered accommodation usually takes the form of self-contained flats or bungalows with a warden on call for emergencies. There are about 500,000 sheltered accommodation units in England alone and about 5% of older households live in sheltered accommodation.[13] Very sheltered housing schemes with accommodation and services similar to sheltered accommodation but which also offer two cooked meals a day (lunch and tea) are being established around the UK. Residents are able to eat their two main meals in a communal eating area and prepare additional food and drinks in their own accommodation.

Current legislation requires older people themselves to bear much of the cost of services in sheltered accommodation and many are prepared to do so in return for the mix of independence and security that this type of housing provides. There are little recent data on food intake among older people in this type of accommodation, but earlier studies have shown that poor nutrition was widespread. In a two-year study of older people living in sheltered accommodation in Scotland, almost all the tenants surveyed were deficient in some vitamins and 41% were below the acceptable weight for their height.[14] Women were at greater risk than men and 22% of residents could not easily prepare their own meals. Those who attended lunch clubs generally had fewer nutritional deficiencies. It is likely that older people on low incomes are at greater risk of undernutrition and all those involved in supporting older people in the community should be alert to this. Residents in very sheltered accommodation have been found to have widely varying dietary intakes both from the food eaten in their own flats and from the meals provided for them. The communal meals may provide the majority of the daily food eaten for very vulnerable residents.[15]

Cooking and catering arrangements

People living in sheltered accommodation may have their own facilities for cooking and preparing food. The amount of help they get with cooking or preparing their food depends on the facilities built into the sheltered accommodation complex and on the role of the warden. Some complexes have communal eating areas, and some have kitchens where food can be prepared for communal eating. Not all complexes have wardens who are allowed to or are prepared to provide such a service.

Residents also have access to the services offered to other people living in their own homes. For example, they may have meals delivered to them once or twice a week or more frequently. Some complexes have communal or individual freezers and microwave ovens, allowing for frozen meals to be delivered in bulk. Lunch clubs may be provided, or at least organised, by the warden in conjunction with a local religious or voluntary organisation or social services department (see below).

Meals served in lunch clubs

Lunch clubs are places where older or disabled people living in their own homes can go to have a meal prepared for them and served in the company of other people. They are organised by a range of voluntary organisations, black, ethnic and religious groups and statutory authorities – both through social

services departments and through local health authorities.

It is difficult to collect statistics on the total number of lunch clubs in the UK or on the number of people who use them. In 2003, the WRVS estimated that it ran 1,000 social clubs in the UK, providing meals or refreshments for approximately 40,000 club members. Data from the General Household Survey of people aged over 65 years in 1998-99 reported that 11% of older people living alone visited lunch clubs compared with only 2% of those who lived with others.[10]

Black and ethnic lunch clubs make an important contribution to the well-being of older people from these groups. However, such lunch clubs are only provided where there are enough people locally to justify special arrangements. Those providing community meals need to take into account the needs and wishes of those older people from black and ethnic minorities who do not have access to an appropriate lunch club.

The importance of lunch clubs to the overall diet of older people (as well as the social benefits to be derived from going out and being with others) has been recognised for decades. While some older people may choose to eat alone, for others eating meals alone makes eating seem more like an obligation than a pleasurable activity, and can result in a lack of interest in food.

Lunch clubs should be developed in any appropriate setting. For example, one company allows their pensioners and guests to use the company's subsidised canteens, thereby providing an invaluable service to the local community at a negligible increase in overhead cost. The Working Group suggests that large employers consider this as part of their contribution to their local communities. In addition, food retailers, who already subsidise transport to their supermarkets or superstores which already have catering facilities, could consider setting up subsidised lunch clubs.

Recommendations

- Residential and nursing homes applying for registration should be required to meet the nutritional guidelines for food prepared for older people as part of the registration process. Monitoring of the nutritional standard of meals should be carried out regularly, and homes which do not meet the guidelines should receive appropriate advice and help to meet the standards, or forfeit registration.
- In residential care accommodation, at least £18 per resident per week (2004 prices) should be spent on food ingredients to ensure that food of sufficient nutritional content can be made available.
- Individuals, their relatives or advocates should enquire about a prospective home's commitment to nutritional standards and should ask how much money per resident per week is spent on food ingredients.
- Those providing community meals need to take into account the needs and wishes of older people from black and ethnic minorities who do not have access to an appropriate lunch club.
- Lunch clubs should be developed for older people in any setting where it is already the custom for older people to gather.

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Chapter 3

How a good diet can contribute to the health of older people

How the body changes with ageing

Many people remain well as they get older, but they undergo:

- changes in organ systems, and
- changes in body composition and in metabolism.[1, 2]

These changes happen at very different rates in different people. Older people may also have more frequent episodes of ill health and take longer to recuperate from illnesses. To help minimise potential health problems, a good diet and physical activity are essential.

Changes in organ systems

Disorders affecting the digestive system, heart and circulation, endocrine system, kidneys, brain and nervous system become increasingly common. In some older people, the immune system begins to function less well. The senses of sight, hearing, taste and smell may also deteriorate.

Changes in body composition and metabolism

As people get older, they are usually less active and therefore use up fewer calories.[1, 3-5] Muscle fibres may get weaker, and bone loss accelerates.[6] Old people tend to lose muscle and their proportion of body fat increases.[7] As they use up less energy, so they have less need and drive to eat calories. Energy expenditure decreases progressively with age, even if the person does not have any illness.[1]

It is quite normal for people – of any age – to eat less food if their calorie requirements fall. However, at very low levels of calorie intake, as less food is eaten, there is a greater possibility that the level of intakes of some nutrients in the diet will become dangerously low. This can lead to muscle loss, weakness and a further decrease in activity generally, which further exacerbates bone and muscle loss. Weak muscle power can make some older people feel unsteady on their feet, and fear of falling may deter them from trying to be more active.

Malnutrition

Malnutrition includes both undernutrition and overnutrition. The main cause for concern among older people in the UK is that they are not eating enough to maintain good nutrition. Among the population of older people in residential care there are many more underweight people than there are overweight or obese people, and in old age being underweight poses a far greater risk to health than being overweight.[8]

The most recent information on the nutritional status of older people in Britain was reported in the National Diet and Nutrition Survey (NDNS) of people aged 65 years and over in 1998.[9] In this survey, 3% of men and 6% of women living at home were underweight, while comparable figures for those in residential care were 16% and 15% respectively. It is suggested, however, that risk of undernutrition is still not adequately identified in older people[10] and that undernutrition is often associated with hospitalisation and poor health status.[10-12] The level of undernutrition among older people with dementia in residential care is likely to be even higher, with estimates that as many as 50% of older people with dementia have inadequate energy intakes.[13]

Undernutrition is related to increased mortality, increased risk of fracture, increased risk of infections and increased risk of specific nutrient deficiencies leading to a variety of health-related conditions that can greatly affect the quality of life.[8] Disease can also exert a potent influence on malnutrition as medical conditions can reduce food intake and impair digestion and absorption of nutrients as well as affect how the body metabolises and utilises them.[14]

The causes of undernutrition in older people in residential care are often multi-factorial: low income, living

alone, limited mobility, and lack of facilities and social network can lead to undernutrition before admission, and this is often exacerbated by depression, bereavement and confusion.[15] Factors that have been associated with undernutrition in care situations include: lack of palatability of food and inflexible timing of meals,[16] lack of assistance with eating or loss of independence in eating,[17] lack of acceptability of food provided to ethnic minorities,[18] and lack of awareness of the need for assessment and documentation of older people at risk of undernutrition.[19]

In old age being underweight poses a far greater risk to health than being overweight.

Common health problems that can be improved by diet

Malnutrition can contribute to a number of health problems including:

- constipation and other digestive disorders
- anaemia
- diabetes mellitus
- muscle and bone disorders, including osteoporosis, osteomalacia and osteoarthritis
- mouth problems
- swallowing difficulties
- overweight, and
- coronary heart disease and stroke.

Further details on these, and on how diet can help, are given below.

Constipation and other digestive disorders

Constipation plagues and perplexes many older people. One in five people in Britain have problems associated with constipation which impair their quality of life, particularly if their mobility is affected.[20] Constipation is most common in those who are very old and frail and therefore likely to be living in residential care.[21] Most at risk are those who do not get sufficient exercise, those confined to bed and those who have severe difficulties in moving and getting about.

Recent evidence suggests that nursing home residents are three times more likely to receive a laxative to treat constipation than older people living at home.[22] Chronic use of laxatives is discouraged, however, as over-use can lead to dehydration and mineral imbalance, particularly potassium deficiency. There is also an association between calorie intake and the consumption of a smaller number of meals and an increased risk of constipation[23] suggesting that there is a potential for constipation whenever overall food consumption declines.

Constipation may be caused by inadequate fluid intake, inadequate fibre intake, low mobility and sometimes as a side effect of medication. Chronic disease, changes in food habits and psychological distress also contribute to constipation.[24]

Low fibre intake has been shown to be associated with older people who have chewing difficulties due to having no teeth or poorly fitting dentures.[25]

What can help

An adequate intake of fluid is essential in preventing constipation – 1,500ml is recommended, equivalent to 8-10 teacups a day.[26] Adequate intake of fibre and increased physical activity can also help to prevent constipation.[27] Sources of fibre are whole grain cereals (found for example in wholemeal bread), whole grain breakfast cereals, pulses (peas, beans and lentils), fresh and dried fruit, vegetables and salads. For people who have difficulty chewing, fruits, vegetables and pulses can be puréed and added to dishes (see also *Mouth problems* on page 24). Higher fibre white bread may be more acceptable to older people who are unaccustomed to or dislike wholemeal bread.

Increasing the fibre intake of older people, particularly those with small appetites, should always be done slowly and cautiously and in conjunction with increased fluid.

Older people with gastrointestinal problems should have regular meals and snacks, and good nutrition can be part of the management plan for diverticulitis. Those with bowel or malabsorption disorders are likely to need expert advice from a doctor or dietitian.

Raw wheat bran should never be added to the diet. Although raw wheat bran is high in fibre, it contains phytates, which interfere with the absorption of important nutrients such as calcium and iron.

Anaemia

There are several different causes of anaemia. It might be caused by insufficient dietary iron, especially if little meat is eaten. It can also be caused by folate deficiency. In older people folate deficiency anaemia is usually the result of undernutrition, particularly among those who live alone, are depressed, drink too much alcohol or have dementia. Pernicious anaemia is a disorder where vitamin B12 is not absorbed from food and this condition is treated with injections. However, anaemia in older people may also be a sign of internal disease which has caused small repeated losses of blood. A dietary cause should only be diagnosed after excluding such diseases.[28] Anaemia often progresses slowly and increasing paleness and tiredness are often left untreated. Anaemia is also associated with breathlessness on exertion and palpitations and people with anaemia may be more prone to infections due to changes in immune function.[29] In a large American study, low serum iron status was also shown to be a predictor of death from all causes,

particularly coronary heart disease among men and women over 70 years.[30] Iron status in older people has also been shown to be positively associated with intakes of vitamin C, protein, iron, fibre and alcohol.[31]

What can help

To help prevent anaemia, people should be encouraged to eat iron-rich foods such as liver, kidney, red meat, oily fish, pulses and nuts (including nuts which have been ground and used in cooking). Foods, particularly fruit and vegetables, a drink rich in vitamin C and moderate amounts of alcohol taken at the same meal will help iron absorption. Older people should also be encouraged to eat folate-rich foods such as green leafy vegetables and salads, oranges and other citrus fruits, liver, fortified bread and breakfast cereals and yeast extract. Yeast extract provides a significant amount of folate even if small quantities are eaten. (See Appendix 3 for other sources of iron and folate.)

Iron preparations should only be given if prescribed by a medical practitioner.

High doses of folic acid supplements (more than 1mg daily) should be avoided unless prescribed by a medical practitioner.

Diabetes mellitus

It is estimated that between 7% and 10% of elderly people in residential and nursing care have diabetes, but this may increase to as many as 25% in some areas.[32]

Dietary treatment of diabetes has long been seen as the cornerstone of management of this illness and can help to prevent complications.[33] The restrictions on carbohydrate which used to be recommended are no longer advised. Diets for diabetics should follow the healthy eating advice for the general population – more fruits and vegetables, less fat, especially saturated fat, less sugar and more fibre. This will allow plenty of scope for a full range of attractive food.

What can help

Advice for residential and nursing home care staff on the management of diabetes among residents is given in the Diabetes UK publication *Guidelines of Practice for Residents with Diabetes in Care Homes*,[32] which can be found on their website www.diabetes.org.uk

Muscle and bone disorders

Sixty-five per cent of older people in residential and nursing care have disabilities which hinder moving and getting about.[34] These disabilities are usually caused by disorders such as osteoarthritis, osteoporosis, osteomalacia (the adult form of rickets) and stroke. Loss of muscle strength and reduced bone density contribute to falls and fractures. The current rate of over 200,000 fractures a year, the majority of which occur in older people, costs the NHS over £940 million a year. Fracture rates increase with age and there is an increase in age-specific fracture risk related to vitamin D insufficiency.[35] Low body weight is a major risk factor for hip fracture among frail, older women.[36]

Physical activity is extremely important for maintaining bone strength. It can also improve muscle strength thus helping to prevent falls which can cause fractures.

Vitamin D is essential for maintaining bone and muscle integrity. The main source of vitamin D for most people is that formed in the skin by the action of summer sunlight between April and October. However, exposure to the sun is limited for many older people in residential and nursing care and the ability to convert vitamin D to its active form is impaired with ageing. As few foods contain vitamin D, there may be very little vitamin D in an older person's diet.

The specific value of calcium supplements for bone health in old age is debated,[35] but it is sensible to ensure that older people have an adequate calcium intake.

What can help

Physical activity

It is important to encourage older people to undertake regular physical activity, such as walking, as this strengthens and builds up muscle and bone and increases calorie requirements, which in turn increases appetite. Increased activity is associated with reduced levels of osteoporotic fracture[37] and reduced mortality from all causes[38] as well as giving psychological benefits which increase the sense of well-being and encourage the maintenance of activities of daily living.[39] Many older people in residential care may find even a 10-minute walk beyond their functional ability and in such circumstances it is more appropriate to encourage specific activities to help to improve mobility and muscular strength particularly to prevent falls.[40] Even chair-bound people should be encouraged to do regular leg and arm movements. Staff in residential care accommodation can help residents to do things for themselves rather than doing the jobs for them. People who have suffered injuries or who have been ill should be encouraged to regain mobility as they recover. Resources to help staff encourage activity in residential care can be found on page 76.

Vitamin D and calcium

It is now suggested that it is impossible for most older people to get enough vitamin D from the diet alone and that older people in residential and nursing homes who rarely go out should receive vitamin D supplements.[35] Advice on supplementation should be taken from a medical practitioner. Increasing intakes of vitamin D and calcium in residential care and in the community has been shown to reduce fracture rates.[41, 42] Vitamin D supplements can also be used to treat osteomalacia.

Measures to give older people more access to summer sunlight should, however, be encouraged and architects designing accommodation for older people should be encouraged to take account of the

need for residents to have regular exposure to sunlight. Features could include the use of glass in windows which allows UV light to pass through, sheltered alcoves on the south side of buildings, and well-paved paths with hand rails and no steps.

Ensure adequate calcium intakes by encouraging intakes of dairy products such as milk, cheese and yoghurt and other good sources of calcium such as green vegetables, tinned fish (eaten with the bones) and cereal products. Good sources of nutrients are shown in Appendix 3.

Mouth problems

It has been shown that the presence, number and distribution of natural teeth are related to the ability to eat certain foods, and that having difficulty with chewing affects the nutrient intakes of older people.[43,44] There is evidence that people who cannot chew or bite comfortably are less likely to consume high fibre foods such as bread, fruit and vegetables, thereby risking reducing their intake of essential nutrients such as fibre, iron and vitamin C.[43] Chewing ability is highly correlated with number of teeth. Edentulous people (those with no natural teeth who usually rely on complete dentures) are more affected than dentate people and the goal for oral health for older people is to have at least 20 teeth: 10 in the top jaw and 10 in the lower jaw, free from pain and discomfort. If older people have false teeth these should be comfortable and well fitting, should look good and should allow the bearer to bite and chew all types of food. Dentures may become loose if there is substantial weight loss.

People with xerostomia (dry mouth), which affects about 20% of older people,[44] also have difficulties eating certain foods.[45, 46] Mouth ulcers and thrush can also cause mouth pain and can be treated with anti-fungal mouthwash.

What can help

Oral health should be promoted at all ages by eating sugary foods less often (see *Non-milk extrinsic sugars* in chapter 4), using a fluoride toothpaste or a fluoride mouth rinse, and by stopping smoking. Tooth cleaning can be improved by using a small-headed toothbrush which is easy to manipulate. Older people who cannot brush their own teeth should be helped to do so every day.

Older people should have a full dental check-up when they first enter residential accommodation and at least every three years thereafter. Facilities are needed to take the person to the dental surgery when appropriate. Alternatively, community dentists could bring their equipment to the home for routine check-ups. Older people should demand attention for dental pain.

Special attention should be given to sensitivity and discomfort of the teeth and mouth as these conditions can restrict choice of food and lead to loss of social confidence.[47]

Replacement of missing teeth should be limited to front teeth and pre-molars to enhance chewing and self-esteem. Badly fitting dentures should be relined rather than replaced with new ones, which old people may find it difficult to adapt to. Useful information on dental care can be found in the Relatives Association publication *Dental Care for Older People in Homes*.[47]

Swallowing difficulties

After a stroke many older people experience delayed or diminished swallowing reflex and this may also occur in older people with dementia, with cancers of the head or neck, or where there are diseases such as Parkinson's disease or multiple sclerosis. Swallowing difficulties may make eating or drinking more difficult. Lack of co-ordination in chewing and swallowing can result in choking, which can be a very frightening experience. It is important that all staff working with older people should be trained in what to do if someone chokes. Information and advice on what to do if someone chokes can be found in *Eating Well for Older People with Dementia* (see page 2). Swallowing difficulties always need professional assessment and food and drink intakes can often be improved when suitable modifications are made to food and drink consistency.

What can help

Older people who complain of painful eating and swallowing should ask their doctor for advice urgently. The cause can often be found and swallowing disorders are much more easily treated if dealt with quickly. A speech and language therapist will be able to assess problems with swallowing and make suggestions about the appropriate texture of food to offer. It is essential that the older person gets enough calories and nutrient-rich foods. Food that is mashed, liquidised or diluted may not contain enough energy. It may be worth using a prescribable thickening agent to modify texture. Information on altered texture diets and helping people with swallowing difficulties to eat well can be found in *Eating Well for Older People with Dementia* (see page 2).

Overweight

Some over-75-year-olds who are concerned about being overweight may want to lose weight, especially if this would improve their mobility. However, eating less food may result in them getting an inadequate nutrient intake. It is possible to be overweight and still be deficient in certain nutrients. Older people who have been advised by their doctor to lose weight should therefore be given information – either by the doctor or a dietitian – on how to maintain the nutrient content of their diet while reducing calorie intake.

In younger adults, obesity is associated with heart disease, high blood pressure and diabetes. After the age of 75, this relationship is less clearly defined.

What can help

Older people should be encouraged to maintain their weight, unless they are very overweight.

Those who are overweight and who also suffer from arthritis and impaired mobility should be given information – either by their doctor or by a dietitian – on how to lose some weight, as obesity can increase joint pain.

Coronary heart disease and stroke

Forty per cent of all deaths among over-65-year-olds are caused by coronary heart disease or stroke. Any strategies for limiting these major health problems will reduce disability among older people and increase life expectancy. Risk of cardiovascular disease rises incrementally with increasing levels of blood pressure and cholesterol concentration,[48] and reducing blood pressure and cholesterol concentrations in older people could have a substantial effect on reducing cardiovascular disease. Reducing the amount of saturated fat and the amount of salt in the diet have been shown to greatly affect cardiovascular risk in a large number of studies.[49, 50] Evidence also shows that increasing fruit and vegetable intakes by 1-2 portions a day may decrease cardiovascular risk[51] and increasing intakes of oily fish has also been shown to reduce cardiovascular death.[52]

It would therefore be prudent to encourage older people to eat a diet rich in fruits and vegetables, lean meat and fish, and to reduce intakes of saturated fats in fatty meats, full-fat dairy products, cakes and biscuits. There will, however, be some very old, very frail or ill older people who have small appetites and who need to be encouraged to eat whatever foods they can. High salt intakes should be discouraged, but it is acknowledged that as people get older their sense of taste diminishes and they may want more salt to flavour foods.

What can help

Older people should be encouraged to eat more fruit, vegetables and fish and more starchy foods such as bread. Older people who are thin should be encouraged to eat whatever foods they can, but older people with a good appetite should limit their intakes of saturated fats from fatty meat, full-fat dairy foods and cakes and biscuits.

Where possible herbs, spices, lemon juice, mustard, onion and celery should be used to flavour foods rather than just salt.

Recovery from illness and surgery

Older people's recovery from illness and the incidence of post-operative complications depend on their nutritional status.[53] The relationship between undernutrition and prolonged hospital stay has been demonstrated and there have been many reports outlining the particular problems patients have in obtaining adequate nutrition while in hospital.[12, 54] Many older people need to undergo surgery and good nutrition has been shown to play an important part in the prevention of complications such as infection and to assist in the healing process.[14]

What can help

Older people who are going into hospital should be encouraged to eat and drink well in preparation for surgery. They may wish to consider how they can be supported by family, friends or carers to maintain their nutritional status while in hospital.

Following surgery, appetites of older people may take time to recover and nutritionally dense meals should be provided. This can be either through enriching the energy content of meals served by adding cream, butter and sugar to foods, or through the careful use of energy and protein supplements. The hospital doctor or GP may prescribe supplements post-operatively, but these should not be seen as long-term substitutes for meals. Supplements should be used in addition to enriched meals.

Special attention should be paid to the energy requirements of older people who have had an amputation.

Other health problems

There is still debate about whether diet can be considered causative in other health problems in older people such as mental health and nervous system decline or cataracts, but there is increasing evidence for the role of diet in the prevention of some cancers and in maintaining the immune system. For many diseases there is not sufficient evidence to make highly specific recommendations for prevention, but there is overwhelming evidence that particular dietary patterns do seem to relate to healthy aging.[55]

Mental health

The causes of dementia or depression in older people are complex and malnutrition may contribute, especially where there is a deficiency of B vitamins. Malnutrition may itself result from lack of interest or difficulties in preparing and eating food, creating a 'vicious cycle' of malnutrition and decline. Inadequate energy intake has been found in as many as 50% of people with dementia in nursing care, residential care or hospital,[55, 56] and older people with dementia are more likely to be deficient in certain vitamins and minerals than other older people.[57] Some studies have found that, compared with other older people, those with dementia are more likely to have low levels of folate, zinc, vitamin B12 and iron.[58, 59] The importance of good nutrition for older people with dementia has been recognised, and detailed practical advice on how individuals can be encouraged to eat well can be found in *Eating Well for Older People with Dementia* (see page 2).

The nervous system

The nervous system which controls movement and feeling depends on a

satisfactory nutritional state, especially with regard to adequate B vitamins. Extreme circumstances leading to conditions such as beri-beri are most unlikely, but lesser degrees of deficiency may play a part in unsteadiness of movement.

Cataract

Cataract may be related to undernutrition and it has been suggested that good nutrition can protect against cataracts.[60] Higher intakes of some nutrients including protein, vitamin A, carotenoids, vitamin C, niacin, thiamin and riboflavin during adulthood have been suggested as being protective against cataract in a number of studies[61, 62] but not consistently. Other nutrients such as selenium, zinc, calcium and folic acid have also been suggested as potentially preventative, but some studies have shown that other non-dietary factors are confounding relationships between diet and cataract development. Further research is required to identify preventative strategies in this area.

Cancers

About 25% of deaths of people aged 75-84, and 14% of deaths of people over 85, are caused by cancers.[63] The relationship between nutrition and the development of cancer is complex, but there is considerable evidence that particular elements in the diet may promote or retard the growth of specific cancerous tumours.[64] The dietary advice for the prevention of cancer includes choosing a diet rich in plant-based foods, eating plenty of vegetables and fruits and choosing foods low in salt and fat. In addition, maintaining a healthy body weight, drinking alcohol in moderation and ensuring foods are stored and prepared safely are important preventative strategies.[65]

Good nutrition plays an important role in the care of people with cancer. Specialist advice from a dietitian is recommended.

The immune system

The body's ability to fight infection and disease through its immune system probably diminishes with age. This is likely to be one reason for the greater frequency of illnesses in older people.[29] However, not all older people are affected and degeneration of the immune system is not inevitable.[66] Maintaining good nutritional status will contribute to keeping healthy body defences as people get older. Research shows that improving the nutritional status of older people greatly enhances their ability to fight off infection.[67, 68]

The effect of drugs on nutrition

Many older people take a number of different drugs, both over-the-counter drugs and those prescribed by medical practitioners. The use of drugs may influence appetite, food intake and body weight. Some drugs can cause loss of appetite and some cause adverse responses to food, such as nausea, dry mouth or loss of taste. Some drugs may also alter bowel function causing constipation or diarrhoea, and if drugs cause drowsiness this can cause older people to miss meals and snacks.

The effect of nutrition on the action of drugs

It is also important to recognise that poor nutritional status can impair drug metabolism and older people who are dehydrated or have had recent weight loss may experience greater side effects.[53]

It can be helpful to ask for regular drugs reviews for older people in residential care and to be alert to side effects when new drugs are prescribed.[69]

Recommendations

In addition to the nutritional guidelines given in Chapter 5, the Working Group makes the following recommendations:

- Older people should be encouraged to undertake regular physical activity, such as walking, as this strengthens and builds up muscle and bone, and increases calorie requirements, which in turn increases appetite. Even chair-bound people should be encouraged to do regular leg and arm movements.
- Facilities should be provided for regular dental check-ups. This means taking people to the dental surgery, either from their own homes or from residential homes, or having community dentists visit the home.
- Architects designing accommodation for older people should be encouraged to take account of the need for residents to have regular exposure to sunlight, which is a source of vitamin D. Features could include windows which allow UV light to pass through the glass, sheltered alcoves on the south side of buildings, and well-paved paths with hand rails and no steps.
- Older people living in residential and nursing homes who rarely go outside are likely to need vitamin D supplements and should consume a diet which provides sufficient calcium. Advice on supplements should be taken from a GP.

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Chapter 4

Nutritional requirements of older people

Among older people, low weight, a small appetite and low food intakes are more common and cause more problems than overweight. Many older people have problems with eating and chewing, as a result of badly fitting dentures or lost teeth. They also have a higher risk of poor absorption of nutrients. Those who are on medication may have less appetite than normal. (See Chapters 2 and 3.) As a result, many older people in the UK have low intakes of energy, many minerals and vitamins, and fibre.

The question 'What are desirable intakes of energy and nutrients for older people?' has been a subject of debate for some time.

In 1991 the Department of Health published a report on the Dietary Reference Values (DRVs) for Food Energy and Nutrients for the population of the UK,[1] prepared by the Committee on Medical Aspects of Food Policy (COMA). (Dietary Reference Values are quantified nutritional guidelines for energy and various nutrients, separately stated for women and men. For a fuller explanation, see box below.) The DRVs were examined by the COMA Working Group on the Nutrition of Elderly People and were endorsed in their report on *The Nutrition of Elderly People*.[2] The Caroline Walker Trust Expert Working Group has therefore used the DRVs as the basis of this report.

The main COMA recommendations for older people are given in the left-hand columns on pages 30-37, followed by a summary of the basis for those recommendations. The complete COMA recommendations are given in Appendix 1.

DIETARY REFERENCE VALUES (DRVs)

Dietary Reference Values (or DRVs) are quantified nutritional guidelines for energy and nutrients. They apply to groups of people; they are not intended for assessing individual diets. The COMA report gives three figures for requirements for most nutrients:

Reference Nutrient Intake (RNI)
The amount of a nutrient which is sufficient to meet the dietary requirements for about 97% of the people in a group. Intakes above this amount will almost certainly be adequate.

Estimated Average Requirement (EAR)
The amount which satisfies 50% of people in a group.

Lowest Reference Nutrient Intake (LRNI)
The amount of the nutrient which is sufficient for about the 3% of people in a population who have the lowest needs. Anyone regularly eating less than the LRNI may be at risk of deficiency.

Table 1
Nutritional requirements of older people

The text in black in the left-hand columns on pages 30-37 shows the recommendations of the COMA report on *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom*.[1]

Reference Nutrient Intake = The amount of a nutrient which is sufficient to meet the dietary requirements for about 97% of the people in a group. Intakes above this amount will almost certainly be adequate.

Estimated Average Requirement = The amount which satisfies 50% of people in a group.

COMA RECOMMENDATIONS

Energy (calories)

Estimated Average Requirement

WOMEN aged 75 and over: 1,810kcal (7.61MJ*) a day

MEN aged 75 and over: 2,100kcal (8.77MJ*) a day

The 1992 COMA report on *The Nutrition of Elderly People*[2] emphasised the need for monitoring the energy (calorie intake) of older people. Those older people who are relatively inactive require fewer calories because they use less energy. However, although the energy requirements of such people may be lower, their requirements for other nutrients will not have changed and may well have increased. Their diet therefore should be one of quality rather than quantity.

On the other hand, some older people, especially those who have long-standing chronic illness such as heart disease or lung disease and those suffering from dementia or other related disorders, have increased energy requirements. These people are more likely to be living in residential homes and therefore present a particular challenge to caterers, because they not only have an increased energy requirement but in many cases also have poor appetites. In such cases, nutrient-dense foods (foods which contain a concentration of nutrients) may be suitable, for example fortified milk puddings, or milky drinks.

Housebound older people have energy intakes up to one-third lower than those of free-living older people.[3] When calorie intakes are reduced below 1,200kcals it is difficult to achieve a diet that is sufficient in all nutrients.

Fat

The contribution of fat to the diet

35% of food energy

WOMEN aged 75 and over: 70g a day

MEN aged 75 and over: 82g a day

Fat provides the most concentrated form of energy (calories). Saturated fats are mainly derived from animal sources, and are found for example in meat, butter and cheese. Unsaturated fats are mainly from plant and fish sources, and are found for example in some margarines and oils.

It is recommended that fat should contribute about 35% of the food energy in the diet. For many people this means reducing the amount of fat they now eat. It is also recommended that the types of fat should be varied so that no more than 11% of food energy comes from saturated fats. Reducing the risk of heart disease by moderating fat intake is also a worthwhile goal for older people.

The proportion of fat in the diet must be tailored to meet the needs of the individual. For thin older people who need additional energy but who have a poor appetite, fat may both add flavour to food and provide an additional useful source of calories.

Sources of fat
Sources of fat include fats and oil added to food when cooking or frying; butter, margarine and low-fat spreads; and the fat incorporated in many manufactured foods such as biscuits, cakes, pastry and chocolate. Fatty meats and whole milk are also sources of fat.

* Megajoules and kilocalories are both measurements of energy.

kcal = kilocalories
1 kcal = 1 Calorie

MJ = megajoules
1 MJ = approx. 239kcal

COMA RECOMMENDATIONS

Carbohydrates

The contribution of carbohydrates to the diet

50% of food energy

The term carbohydrates includes both starches and sugars. COMA recommends that, for the population as a whole, carbohydrates should provide about 50% of food energy: 39% from starch and intrinsic and milk sugars (the sugar in fruit, vegetables and milk), and only about 11% from non-milk extrinsic sugars (eg table sugar and sugar added to foods).

Starch and intrinsic and milk sugars

The contribution of starch and intrinsic and milk sugars to the diet

39% of food energy

WOMEN aged 75 and over: 188g a day

MEN aged 75 and over: 218g a day

Starchy foods are a good source of calories and can also provide important nutrients, such as fibre and some B vitamins. Many people need to reduce their fat intake and COMA recommends that eating more starchy foods should restore the resulting loss in calories. However, for frail people who have difficulty in eating large amounts of food, it is not always appropriate to reduce fat intake (see page 30), or to eat large quantities of starchy foods, which may make the diet bulky and less nutrient-dense.

Sources of starch
Sources of starch include bread, pitta bread, chapatis, potatoes, pasta, rice, breakfast cereals, yams and plantains.

Sources of intrinsic and milk sugars
Fruit and vegetables that contain sugars; and milk.

Non-milk extrinsic sugars
(NME sugars)

The contribution of NME sugars to the diet

11% of food energy

WOMEN aged 75 and over: 53g a day

MEN aged 75 and over: 62g a day

In the past sugars have often been referred to as 'added sugars' or 'natural sugars'. As the interpretation of these two terms often led to a great deal of confusion and misleading information on the health consequences, COMA tried to remedy this by defining the different groups of sugars to identify their effects on health, particularly dental health.

Non-milk extrinsic sugars, or 'NME sugars', are sugars which have been extracted from the root, stem or fruit of a plant and are no longer incorporated into the cellular structure of food. NME sugars include table sugar, sugar added to recipes, and honey, and are found in foods such as confectionery, cakes, biscuits, soft drinks and fruit juices.

The general population has been advised to reduce their intake of NME sugars. This advice has been made on the basis of the relationship between frequency of sugar intakes and dental decay. Older people who do not have teeth are not at risk of dental decay but, as more older people retain their own teeth, dental decay is an increasingly important issue in this age group.

Sugar provides calories but contains no nutrients. Older people require a diet that maintains a high nutrient intake, and eating a large amount of food rich in NME sugars may depress their appetite for a more varied and nutrient-rich diet. The advice given in the COMA report on *The Nutrition of Elderly People*[2] therefore is that older people should keep their consumption of sugars in line with the recommendations for the rest of the population.

Sources of NME sugars
Sources of NME sugars include table sugar, honey, confectionery, cakes, biscuits, soft drinks and fruit juices.

COMA RECOMMENDATIONS

Fibre
(Non-starch polysaccharides, or NSP)

Dietary Reference Value

18g a day

Fibre is important in the prevention of constipation. The quality of life for many older people is impaired by the symptoms of constipation. A high fibre diet can prevent over-use of laxatives.

An adequate fluid intake (1½ litres of non-alcoholic fluid each day) aids the action of fibre and can thus help prevent or alleviate constipation. Increasing the intake of fruits, including dried fruit, vegetables and pulses will increase the amount of fibre consumed.

Although raw wheat bran is high in fibre, it contains phytates which interfere with the absorption of important nutrients such as calcium and iron. Raw wheat bran should therefore not be added to the diet of older people.

Sources of fibre
Sources of dietary fibre include: wholemeal bread, wholemeal biscuits, whole grain breakfast cereals, pulses (peas, beans and lentils), fruit and vegetables. These foods provide useful sources of other nutrients too.

Protein

Reference Nutrient Intake

WOMEN:
46.5g a day

MEN:
53.3g a day

Protein is needed for building and for repairing body tissues. As people get older, worn out tissue and injured tissue are replaced more slowly, and wounds heal more slowly and are more vulnerable to infection. The diet of older people should provide adequate protein. This is most easily derived from animal sources but can also be obtained by combining different vegetable sources of protein such as pulses and cereals.

There is still debate about the amounts of protein older people can absorb and use successfully.[4] The COMA recommendations therefore set a balance between providing sufficient protein for repair of tissue and not overburdening the kidneys.

Some older people, especially those with infections or bedsores or those who are less mobile, may require a higher level of protein,[5-7] but advice should always be sought from a dietitian or doctor if it is thought that extra protein is required.

People with known severe kidney failure sometimes need to be on a low protein diet.

Sources of protein
Sources of protein include: meat, poultry and fish; pulses such as peas, beans and lentils; eggs and cheese. Milk can also be a useful source. Several protein supplements are available in ready-to-drink or powdered form.

COMA RECOMMENDATIONS

B vitamins
(thiamin, riboflavin, niacin)

Reference Nutrient Intake

WOMEN:

Thiamin	**0.8mg a day**
Riboflavin	**1.1mg a day**
Niacin	**12mg a day**

(women aged 50 and over)

MEN:

Thiamin	**0.9mg a day**
Riboflavin	**1.3mg a day**
Niacin	**16mg a day**

(men aged 50 and over)

The body needs the B vitamins – thiamin, riboflavin and niacin – to be able to utilise the energy in the diet. B vitamins are particularly important for the brain and nervous system. There is a possibility that lack of the B vitamins may contribute to confusion in older people.

Data from the National Diet and Nutrition Survey of people aged 65 years and over showed that 40% of older people both in residential care and in the community had low biochemical status for riboflavin, and 10%-15% of both groups had low thiamin status.[8] Older people in residential care were also more likely to have lower intakes of B vitamins. It is therefore important to ensure that older people have a varied diet and include good sources of riboflavin and thiamin in their diet every day.

People who have a history of alcohol abuse or are presently abusing alcohol may need more than the recommended minimum amount given on the left.

Sources of B vitamins

Sources of thiamin and niacin include bread and other foods made with flour (such as bread, pasta and biscuits), breakfast cereals, pork (including bacon and ham), kidney, liver, potatoes, yeast extract and fish.

Sources of riboflavin include milk and milk products (such as yoghurt), poultry, meat, oily fish such as herring, mackerel, canned sardines, tuna and salmon, and eggs. For more details on sources of B vitamins, see Appendix 3.

Folate

Reference Nutrient Intake

200 micrograms a day

Folate deficiency leads to a particular type of anaemia known as megaloblastic anaemia. Folate is essential for many vital metabolic processes.

Low folate status has been shown in 40% of older people in residential care and very low intakes of folate have been observed in about 5% of this group.[8] People with dementia have particularly low levels of folate and this has been partly attributed to a lower consumption of fruits and vegetables.[9]

People who are taking certain drugs or who are drinking excessive amounts of alcohol may also be at risk of folate deficiency, as are some people with bowel diseases such as coeliac disease.

It is possible for older people to achieve an adequate intake of folate quite easily provided they eat a varied diet with plenty of vegetables. However, folate is destroyed by prolonged heating – for example by overcooking food or by heating and keeping it for long periods – and particular care should be taken preparing vegetables for mealtimes. Folate supplements may be needed, but should be given under medical supervision.

Sources of folate

Sources of folate include Brussels sprouts and other green leafy vegetables and salads, oranges and other citrus fruits, fortified bread, fortified breakfast cereals, liver, and yeast extract. Yeast extract provides a significant amount of folate even if only small quantities are eaten. For more details on sources of folate see Appendix 3.

COMA RECOMMENDATIONS

Vitamin C

Reference Nutrient Intake

40mg a day

Vitamin C has an important role in preventing disease and maintaining good health. Low vitamin C intakes are associated with susceptibility to pressure sores[10] and infection.[11] Vitamin C can also help the absorption of dietary iron, and intakes of vitamin C have been positively associated with iron status in older people.[12]

Data from the National Diet and Nutrition Survey[8] suggested that 40% of older people in residential care had low vitamin C status and intakes of vitamin C decrease with age and energy intake, suggesting that particular care should be taken to maintain vitamin C intakes among older frailer residents who have small appetites.

The use of drinks fortified with vitamin C offers a practical alternative source. If included daily in the diet, these could ensure an adequate vitamin C intake for older people.

Preparing vegetables long before they are cooked can lead to loss of vitamin C. Prolonged cooking or storage of fruit and vegetables can also lead to substantial loss of vitamin C content, so it is wise to cook these foods for as short a time as possible, and not to keep them hot for too long. This practice is not always used in the provision of meals in residential care accommodation and community meals, so a change in practice may be required.

Sources of vitamin C
Fruit and fruit juices, potatoes and other vegetables are all sources of vitamin C. Some drinks are fortified with vitamin C – for example blackcurrant and orange squashes and juice drinks. For more details on sources of vitamin C see Appendix 3.

Vitamin A
(retinol equivalents)

Reference Nutrient Intake

WOMEN:
600 micrograms a day

MEN:
700 micrograms a day

Vitamin A comes in two forms: retinol, which is found only in animal products, and carotene – the yellow or orange pigment found in fruit and vegetables – which can be converted to retinol by the body. If a food contains both retinol and carotene, the total vitamin A content is expressed as units of retinol equivalents.

Vitamin A is often thought of as the 'anti-infection' vitamin as it plays an important role in maintaining the immune system.

Sources of vitamin A
Sources of retinol are liver, and fat spreads such as margarine. As very few foods provide vitamin A naturally in the diet, all margarines in the UK are by law fortified with vitamin A (and vitamin D). Many low-fat spreads are also fortified, so it is worth checking the labels.

Carotene is found in leafy green vegetables, carrots, orange-fleshed sweet potato, and fruits such as apricots, canned or fresh peaches, plums, prunes, mangoes and papayas. For more details on sources of vitamin A see Appendix 3.

COMA RECOMMENDATIONS

Vitamin D

Reference Nutrient Intake

10 micrograms a day*

* to be supplied either through the diet or as a supplement

Vitamin D is needed for healthy bones and to maintain muscle strength. Lack of vitamin D contributes to bone disorders leading to bone fractures, including hip fractures, and bone pains.

The action of summer sunlight on skin can produce enough vitamin D to meet the needs of most adults in the UK. However, older people are more likely to stay indoors and, if outside, they may be fully covered with thick clothes. Furthermore, the skin is less able to make vitamin D as people age, and the kidneys are less able to convert vitamin D into its active form.

COMA recommends a daily intake of 10 micrograms of vitamin D. For older people in residential care who rarely go outside it is likely that supplements of vitamin D will be needed as it is impossible for most people to get sufficient vitamin D from the diet alone.[13] Advice on vitamin D supplementation should be taken from a GP.

Osteomalacia is the adult form of rickets. It is a painful bone disorder in adults resulting from low vitamin D and it may still be something to look out for in Asian communities and housebound older people. Osteomalacia can be prevented by an adequate vitamin D intake. Poor vitamin D status may also contribute to the development of osteoporosis.

Sources of vitamin D
Dietary sources of vitamin D include oily fish such as mackerel, herring, tuna, salmon and pilchards. Margarine and several breakfast cereals have this vitamin added. Extra vitamin D can be given as tablets taken regularly or in an injection given once every few months, under medical supervision. Too much vitamin D can be harmful. For more details on sources of vitamin D see Appendix 3.

Calcium

Reference Nutrient Intake

700mg a day

One of the most common disorders among older people, especially older women, is osteoporosis – the loss of minerals which causes thinning and weakening of the bones. Taking additional calcium in old age can help to increase bone mass in some older people.[13] It is prudent to maintain a good daily calcium intake as well as ensuring that vitamin D status is adequate as this is needed for the body to absorb calcium.

Recent evidence has also pointed out the importance of physical activity to older people as a protection against osteoporosis (see page 23).

Sources of calcium
Sources of calcium include: milk and foods made with milk, such as yoghurt, cheese, milky drinks, custards and milk puddings; and foods made with white or brown flour such as bread, pasta and biscuits. Other sources are canned pilchards, sardines, and salmon (if the soft bones of the fish are also eaten). For more details on sources of calcium see Appendix 3.

COMA RECOMMENDATIONS

Iron

Reference Nutrient Intake

8.7mg a day

Iron is an essential part of haemoglobin, which carries oxygen in the red blood cells. A deficiency in iron will cause anaemia.

Iron status among older people in residential care was measured in the National Diet and Nutrition Survey[8] and it was found that 52% of men and 39% of women had low haemoglobin levels and about 10% of older people in residential care had low serum ferritin levels. Intakes of iron were low for a substantial proportion of older people in residential care with only 6% of iron provided from 'haem' or animal sources (the form of iron absorbed best by the body – see below).

In older people the gut may not be as effective at absorbing iron as in younger people and therefore the iron needs to be in a form that is readily absorbed. The iron in meat, offal and oily fish is the most readily absorbed. The iron in cereals, pulses and vegetables tends to be more difficult to absorb, but absorption is enhanced if vitamin C is present at the meal. Evidence suggests that iron status in older people is positively enhanced by alcohol, vitamin C, protein and fibre in the diet.[12] A varied diet containing meat, poultry, fish, vegetables and fruit and moderate intakes of alcohol may make a positive contribution to the iron status of older people. While tannins in tea and phytic acid in cereal grains have been shown to affect iron absorption from non-haem sources in the intestine, tea-drinking and fibre intake were not shown to correlate with low iron status in the National Diet and Nutrition Survey.[12]

Sources of iron
Sources of iron include liver, kidney, red meat, oily fish, pulses and nuts (including nuts which have been ground for use in cooking). Iron preparations should only be given if prescribed by a medical practitioner. For more details on sources of iron see Appendix 3.

Zinc

Reference Nutrient Intake

WOMEN: 7mg a day
MEN: 9.5mg a day

Zinc plays a major role in the functioning of every organ in the body. It is needed for normal metabolism of protein, fat and carbohydrate and is associated with the hormone insulin which regulates the body's energy. Zinc is also involved in the immune system, the use of vitamin A and in wound healing. Average intakes of zinc among older people in the UK have been found to be below the Reference Nutrient Intake[8] and older people with lower blood measures of zinc have been shown to be at greater risk of undernutrition.[14]

Sources of zinc
Sources of zinc include liver, kidney, lean meat, corned beef, whole grain cereals, canned sardines, nuts, eggs, milk and pulses. For more details on sources of zinc see Appendix 3.

COMA RECOMMENDATIONS

Potassium

Reference Nutrient Intake

350mg a day

Lack of potassium is probably more common in older people than is generally realised. In the National Diet and Nutrition Survey, average intakes of potassium among people in residential care were below the Reference Nutrient Intake, and two-thirds of older people in residential care had very low intakes of potassium (below the Lower Reference Nutrient Intake).[8]

Low potassium intake leads to depression, muscular weakness, mental confusion, and loss of appetite. One of the major causes of potassium loss among older people is the use of drugs to control either blood pressure or oedema (fluid retention). Patients taking these drugs should be regularly monitored by blood tests. This is important to ensure that they do not become short of potassium.

Sources of potassium
Sources of potassium include fruit (especially bananas and all dried fruits), coffee (both instant coffee and ground coffee beans), fruit juices, potatoes and other vegetables. For more details on sources of potassium, see Appendix 3.

RECOMMENDATIONS

Sodium

Not more than 2,400mg sodium (6g salt) a day

The most common form of sodium in the diet is salt (sodium chloride). Sodium is also found in taste-enhancers such as monosodium glutamate, in sodium bicarbonate, and in sodium nitrate (a preservative found in bacon).

The recent report of the Scientific Advisory Committee on Nutrition (SACN) on salt and health[15] recommends that people of all ages should reduce their salt intake to help prevent high blood pressure, strokes and coronary heart disease. Older people are no exception to this advice. The average intake of salt in the UK is 9g a day and the advice is to reduce this to 6g a day. In the National Diet and Nutrition Survey salt was usually added at table by half of men and a third of women in residential care. Reducing habitual salting of foods already salted in cooking may need to be considered.

However, any severe reduction in salt should be made only on the basis of medical advice. Low intakes of salt in the diet can lead to sodium depletion, especially in those over the age of 85, the majority of whom are on salt-losing water tablets. Low intake of salt can lead to confused mental states. Also, low salt diets tend to be very bland and may well depress an already poor appetite.

If salty foods are being restricted, it is important to ensure that the food is still tasty and appetising. Imaginative use of herbs, spices, lemon juice, mustard, onion and celery to flavour food can help reduce the amount of salt needed.

Sources of sodium
Sources of sodium include table salt and cooking salt, processed meats (such as ham and bacon), cheeses and salted smoked foods, and many manufactured foods, especially soups and sauces. For more information on foods that are high in salt, see Appendix 3.

RECOMMENDATIONS

Fluids

1.5 litres a day
(just over 2 1/2 pints, or about 8 teacups)

A regular and adequate intake of fluids is extremely important for older people. It helps prevent dehydration, which can lead to confused states; helps to prevent and alleviate the symptoms of constipation; and helps to 'flush the system', carrying away toxins.

Older people should aim to drink about eight cups of non-alcoholic fluid a day.[16] Tea and coffee are sociable and relatively cheap drinks. Milky drinks are easy to digest and an excellent source of nutrients, especially calcium. Fruit juices contain vitamin C. Fruit squashes could also be used to increase total fluid intake.

Many older people have a fading sense of thirst and therefore forget to drink. Also, some may be frightened to drink because of fear of incontinence. These people need individual consideration, perhaps with a timetable of which times suit best for their drinks: for example not just before bedtime.

For people with renal failure there may be specific limits to fluid intake.

Alcohol

Some older people drink to excess, but this is rare for those in residential care accommodation. The Royal College of Psychiatrists acknowledges that "a drink or two may revive a jaded appetite".[17] In residential homes and nursing homes, having the opportunity to meet and have a drink before a meal will often help people socialise, which in itself can stimulate the appetite. Moderate alcohol intakes have also been shown to enhance iron status in older people.[12]

Alcohol has a dehydrating effect, so older people who drink alcohol should be advised to drink extra fluid to compensate. Excessive alcohol intake is associated with undernutrition and deficiencies of some vitamins and minerals, particularly thiamin, folate and vitamin C.[18] Sources of advice on alcohol abuse can be found in Appendix 6. Less healthy older people should be advised to drink alcohol sparingly or not at all.

References

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Chapter 5

Nutritional guidelines for food prepared for older people

This chapter provides nutritional guidelines for food prepared for older people, recommended by the Caroline Walker Trust Expert Working Group. It looks first at food prepared for people living in residential and nursing homes, and then at community meals.

The Working Group recognises that simply providing food that meets these guidelines will not necessarily mean that older people consume the necessary nutrients. It is important to create the right sort of environment for eating, and to provide food which tastes good, looks good and is well presented, in order to increase the likelihood that the older person will eat the complete meal. Portion sizes are also important: serving portions that are too large may be offputting, while portions that are too small may leave the older person still feeling hungry afterwards. These issues are discussed in more detail in Chapter 8.

In many cases cost can be the main consideration when providing food, and caterers are often expected to meet low cost targets which may well result in the nutritional content being compromised. It is vital, therefore, that cost considerations should not override the need for adequate nutritional content in the planning and preparation of food for older people.

Food prepared for people in residential and nursing homes

People living in residential and nursing homes have, in many cases, 100% of their food provided by the home. Evidence suggests that there is cause for concern about the nutritional status of people who live in residential care, particularly those who are very old.[1] The Working Group therefore recommends that the average day's food over a one-week period for people in residential and nursing homes should meet the COMA report's[2] Estimated Average Requirement for energy and Reference Nutrient Intakes for selected nutrients. (See page 29 for an explanation of these terms.) A summary of these guidelines is given in Table 2 on the next page.

Regular monitoring to ensure that residents are well nourished is an important part of the nutritional programme. Older people's nutritional requirements may change from time to time depending on their state of health, so their dietary intake may need to change to reflect this. Some simple and reliable methods of assessing nutritional well-being are given in Chapter 7 and in Appendix 5.

In order to meet the nutritional guidelines set out on the next page, the Working Group recommends that adequate financial provision is made to ensure that residents' meals are of sufficient nutrient quality.

Some example one-week menus for older people living in residential care accommodation, which meet these nutritional guidelines, are given in Chapter 6.

Notes on Table 2

Sodium
The Reference Nutrient Intake for sodium (1,600mg a day) indicates the amount needed physiologically by most of the population. Most of the sodium in the diet comes from salt and most diets provide salt intakes greatly in excess of this figure. The current recommendation for salt intakes for all adults is 6g a day[3] and the current daily intake by adults is approximately 9g. Caterers in residential care accommodation should attempt to reduce the use of highly salted foods and salt in cooking, as a contribution to reducing current intakes.

Vitamin D
It is impossible for most older adults to obtain the full daily requirement of 10 micrograms of vitamin D from the diet alone. It is likely that older adults in residential accommodation who rarely go outside will need vitamin D supplements.[4] They should seek medical advice about this (see page 35).

Table 2
Nutritional guidelines for food prepared for older people in residential or nursing homes

These guidelines provide figures for the recommended nutrient content of an average day's food for an older person over a one-week period.

EAR = Estimated Average Requirement
DRV = Dietary Reference Value
RNI = Reference Nutrient Intake
For an explanation of these terms see page 29.

See also the notes on *Sodium* and *Vitamin D* at the bottom of page 40.

These nutritional guidelines have been prepared by The Caroline Walker Trust Expert Working Group, and are based on the COMA report on *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom*.[2]

ENERGY (calories)		EAR	WOMEN aged 75 and over: 1,810kcal (7.6MJ) MEN aged 75 and over: 2,100kcal (8.8MJ)
FAT			35% of food energy WOMEN aged 75 and over: 70g MEN aged 75 and over: 82g
STARCH AND INTRINSIC AND MILK SUGARS			39% of food energy WOMEN aged 75 and over: 188g MEN aged 75 and over: 218g
NME SUGARS			11% of food energy WOMEN aged 75 and over: 53g MEN aged 75 and over: 62g
FIBRE (non-starch polysaccharides, or NSP)		DRV	18g
PROTEIN		RNI	WOMEN: 46.5g MEN: 53.3g
B VITAMINS	Thiamin	RNI	WOMEN: 0.8mg MEN: 0.9mg
	Riboflavin	RNI	WOMEN 1.1mg MEN 1.3mg
	Niacin	RNI	WOMEN: 12mg MEN: 16mg
FOLATE		RNI	200 micrograms
VITAMIN C		RNI	40mg
VITAMIN A (retinol equivalents)		RNI	WOMEN: 600 micrograms MEN: 700 micrograms
CALCIUM		RNI	700mg
IRON		RNI	8.7mg
ZINC		RNI	WOMEN: 7mg MEN: 9.5mg
POTASSIUM		RNI	350mg
SODIUM			Not more than 2,400mg sodium (6g salt)

Community meals

In this report the term 'community meals' includes:

- meals delivered to people's homes
- meals provided for those living in sheltered accommodation
- meals served in lunch clubs.

The number of community meals served to an individual each week varies from one meal to seven meals a week. Most meals provided at lunch clubs or delivered to people's homes are the 'main meal of the day'. In many local authorities the nutritional content of community meals is based either on the guidelines of the Advisory Body for Social Service Catering (now the National Association of Care Catering: NACC)[5] or on the nutritional guidelines for community meals for older people published by the Caroline Walker Trust Working Group in the first edition of this report. The rationale for the Caroline Walker Trust guidelines published in this report is explained below.

Conventionally a main meal would be expected to provide 33% of the Estimated Average Requirement for energy and 33% of the Reference Nutrient Intakes for other nutrients. Among vulnerable housebound older people, however, community meals are likely to need to provide a greater proportion of nutrients,[1] especially if these meals are not provided every day. In order to ensure that community meals make a significant contribution to the nutritional needs of those vulnerable older people who are likely to be the recipients of these meals, the Working Group recommends that the proportion of requirements be increased from 33% to 40% for energy, calcium, iron and zinc, and to 50% for folate and vitamin C. This should enable community meals to deliver as much nutritional benefit as possible, while keeping meals attractive. This may be best achieved among those with smaller appetites by providing a meal and a snack. A summary of these guidelines is given in Table 3 on page 44.

It has been suggested that increasing the nutritional content of community meals will place an additional financial burden on a service which is already financially stretched. However, although increasing the nutritional content of the meal might increase the cost of the food, there would be only a minor increase in the costs of overheads of preparation, packaging and delivery, which represent a substantial proportion of the total cost of providing the meals.

Changes in the provision of community meals in some areas has led to the use of less frequent (often fortnightly) frozen meal deliveries to older people for regeneration in microwaves. The evaluation of the effectiveness of meal provision in this way needs to be investigated as a matter of urgency. Research is needed to find out how much of the meal is eaten by those receiving community meals and how the service can best meet the needs of its users. For some older people the person who delivers the community meal will be the only person they will see that day. Community meals providers can therefore act as the 'eyes and ears' of social services and can report back any individual problems. The wider implications of recent changes to meal service also need to be investigated.

Alternative methods of providing food – such as smaller meals and snacks which together comprise the nutrients more usually associated with a main meal – also need to be evaluated. Suggestions as to how the community meals delivery service can be usefully extended are given on page 50.

For those residents living in very sheltered housing accommodation who are provided with two meals a day, which may form the majority of their nutrient intake, it would be prudent for each meal to fufil the recommendations given here for a community meal. This would ensure that these residents receive at least 80% of average energy needs and 100% of the current Reference Nutrient Intake for folate and vitamin C from the food provided.

Most older people who receive community meals get only two or three such meals a week. It is therefore recommended that, for energy and for the five nutrients listed below, an average community meal should provide more than just 33% of the recommendation for an average day's food. This will enable the community meal to deliver as much nutritional benefit as possible and still remain attractive and appetising.

ENERGY

Not less than 40% of the Estimated Average Requirement

The importance of maintaining an adequate energy intake has been stressed by the COMA Working Group on the Nutrition of the Elderly. The 'thin, frail, old lady' is usually an undernourished person whose smallness represents several years of progressive weight loss. Such a person has no reserves for future episodes of ill health. People who are ill need more calories, and extra care needs to be taken both before and after illness to ensure that increased nutritional needs are met.[6] Since being ill is often one of the criteria for receiving community meals at home, this group may require more calories than their sedentary lifestyles may at first indicate. Increasing the calorie intake of a community meal would also enable more nutrients to be provided and help to compensate for the days when no community meal is provided and lower energy intakes are likely.

FOLATE

Not less than 50% of the Reference Nutrient Intake

Folate deficiency is associated with a particular form of anaemia and both the intakes of folate and folate status have been found to be low in some older people both in residential care and living in their own homes.[1] Low folate status is also more common among older people with dementia, many of whom live in their own

homes and receive community meals. The amount of folate recommended to be provided by a community meal has increased since the first edition of this report (from 40% to 50% of the Reference Nutrient Intake) to reflect continuing evidence of low folate status among vulnerable older people.

VITAMIN C

Not less than 50% of the Reference Nutrient Intake

Low vitamin C intakes have been reported both among older people in residential care and among those living in their own homes.[1] Sufficient vitamin C with meals is also important to aid iron absorption.

CALCIUM

Not less than 40% of the Reference Nutrient Intake

Low intakes of calcium among some older people living in their own homes have been reported[1] and therefore it would seem prudent to ensure that the community meal provided sufficient calcium to offer some protection against low intakes.

IRON

Not less than 40% of the Reference Nutrient Intake

Low iron status has been reported both among people in residential care and among those living in their own homes, and low iron status increases with increasing age.[1] Since the majority of people receiving community meals will be both very old and frail and at increased risk of low iron status, community meals should aim to offer at least 40% of the daily Reference Nutrient Intake for iron. Ensuring sufficient vitamin C with meals is also important.

Older people are vulnerable to iron deficiencies for three main reasons. Firstly, they tend to have a reduced intake of iron-rich foods. Secondly, in some older people the gut may absorb nutrients less efficiently. Thirdly, some older people may consume smaller amounts of vitamin C rich foods which can help iron to be absorbed.

ZINC

Not less than 40% of the Reference Nutrient Intake

Average intakes of zinc among older people have been shown to be lower than the Reference Nutrient Intake. Zinc plays an important role in maintaining the immune system and in wound healing and low intakes may be contributory to other chronic diseases and undernutrition in older people.

Table 3
Nutritional guidelines for community meals for older people

These guidelines provide figures for the recommended nutrient content of community meals for an older person over a one- or two-week period.

EAR = Estimated Average Requirement
DRV = Dietary Reference Value
RNI = Reference Nutrient Intake
For an explanation of these terms see page 29.

See also the notes on *Sodium* and *Vitamin D* at the bottom of page 45.

These nutritional guidelines have been prepared by The Caroline Walker Trust Expert Working Group, and are based on the COMA report on *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom*.[2]

ENERGY (calories)	Not less than **40%** of EAR	WOMEN aged 75 and over: 724kcal (3MJ) MEN aged 75 and over: 840kcal (3.5MJ)
FAT		35% of food energy WOMEN aged 75 and over: 28g MEN aged 75 and over: 33g
STARCH AND INTRINSIC AND MILK SUGARS		39% of food energy WOMEN aged 75 and over: 75g MEN aged 75 and over: 87g
NME SUGARS		11% of food energy WOMEN aged 75 and over: 21g MEN aged 75 and over: 24g
FIBRE (Non-starch polysaccharides, or NSP)	Not less than 33% of DRV	6g
PROTEIN	Not less than 33% of RNI	WOMEN: 15g MEN: 18g
B VITAMINS		
Thiamin	Not less than 33% of RNI	0.3mg
Riboflavin	Not less than 33% of RNI	0.4mg
Niacin	Not less than 33% of RNI	WOMEN: 4mg MEN: 5mg
FOLATE	Not less than **50%** of RNI	100 micrograms
VITAMIN C	Not less than **50%** of RNI	20mg
VITAMIN A (retinol equivalents)	Not less than 33% of RNI	WOMEN: 200 micrograms MEN: 230 micrograms
CALCIUM	Not less than **40%** of RNI	280mg
IRON	Not less than **40%** of RNI	3.5mg
ZINC	Not less than **40%** of RNI	WOMEN: 2.8mg MEN: 3.8mg
POTASSIUM	Not less than 33% of RNI	115mg
SODIUM	Not more than **40%** of the recommended maximum intake of 2,400mg sodium a day (6g salt a day)	960mg sodium (equivalent to 2.4g salt)

Recommendations

- The average day's food, over a one-week period, for people living in residential care accommodation, should meet the COMA report's Estimated Average Requirement for energy and the Reference Nutrient Intakes for selected nutrients. Quantified nutritional guidelines for food prepared for older people in residential or nursing homes are given in Table 2 on page 41.

In relation to community meals, the Working Group recommends that:

- The average community meal should provide a minimum of 33% of the Dietary Reference Values prepared by COMA in 1991, except for energy and certain key nutrients, which should be provided at higher levels.
- In view of the common occurrence of undernutrition in housebound older people living in their own homes, providers should increase the energy, calcium, iron and zinc content of community meals to 40% of the Dietary Reference Values, and the folate and vitamin C content to 50%. Quantified nutritional guidelines for community meals are given in Table 3 on page 44.
- Research is needed to find out how much of the meal is eaten by those who receive community meals, and how the service can best meet the needs of its users. Alternative methods of providing food – such as smaller meals and snacks which together comprise the nutrients more usually associated with a conventional meal – also need to be evaluated.

Notes on Table 3

Sodium
The Reference Nutrient Intake for sodium (1,600mg a day) indicates the amount needed physiologically by most of the population. Most of the sodium in the diet comes from salt and most diets provide salt intakes greatly in excess of this figure. The current recommendation for salt intakes for all adults is 6g a day[3] and the current daily intake by adults is approximately 9g. Caterers in residential care accommodation should attempt to reduce the use of highly salted foods and salt in cooking, as a contribution to reducing current intakes.

Vitamin D
It is impossible for most older adults to obtain the full daily requirement of 10 micrograms of vitamin D from the diet alone. It is likely that older adults in residential accommodation who rarely go outside will need vitamin D supplements.[4] They should seek medical advice about this (see page 35).

References

1 Finch S, Doyle W, Lowe C, Bates CJ et al. 1998. *National Diet and Nutrition Survey: People Aged 65 Years and Over. Volume 1: Report of the Diet and Nutrition Survey.* London: The Stationery Office.

2 Department of Health. 1991. *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom. Report of the Panel on Dietary Reference Values of the Committee on Medical Aspects of Food Policy.* London: HMSO.

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5 National Association of Care Catering. 2003. *A Recommended Standard for Community Meals.* See www.carecatering.org.uk

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Chapter 6

Examples of menus which meet the nutritional guidelines

This chapter demonstrates that it is not difficult to produce uncomplicated menus which meet the nutritional guidelines given in Chapter 5.

Table 4 on pages 47-48 gives some example one-week menus for older people living in residential or nursing homes. Table 5 on page 49 gives some example menus for community meals.

These menus may not be suitable for some older people from black and ethnic minorities, and different menus may need to be designed. When devising menus, it is important not to generalise, but rather to ask clients about their preferences. The community meals given in Table 6 are very general examples to show that Asian or Afro-Caribbean meals can meet the nutritional guidelines.

Excellent resources on Afro-Caribbean foods and menus suitable for use in care homes have been produced by the Relatives and Residents Association African Caribbean Elders Project. Details of these can be found on page 76.

When planning and preparing meals, it is important that fruit and vegetables are not stored or cooked for too long, as this leads to loss of vitamin C. Older people who have difficulty eating whole fruit and vegetables can have them stewed, puréed or made into soups. Try and ensure that older people have at least five portions of a wide variety of fruits and vegetables every day.

In order to stimulate an interest in food, it is important to avoid over-repetition of menus. Popular meals can of course be provided at frequent intervals, but the 'shepherd's pie every Wednesday' syndrome should be avoided. A five-week menu cycle, which is changed every three months or so, offers scope for variety and choice. This pattern is already used in many residential and nursing homes.

Many older people enjoy meat dishes, but future generations will need a much broader menu, including vegetarian meals, pasta dishes and curries.

Menu planning software

Following the publication of the first edition of this report, the Caroline Walker Trust developed the *CORA Menu Planner* computer program[1] which helps residential and nursing homes to plan nutritionally balanced menus for groups of older people. The menu planner can analyse the nutritional value of a weekly menu and displays the findings on an easy-to-read bar chart.

The program contains a recipe library database of over 800 dishes, snacks and drinks, complete with a nutritional analysis of each item and recipes where appropriate. Some recipes for ethnic foods are also included. Additional dishes can also be added if a nutritional analysis can be provided. The program provides a blank weekly menu planner and the menu can be easily built up by choosing foods and drinks from the database to make 7-day menus for one to eight complete weeks. You can then assess how the nutritional content of your menus compares with the guidelines in this report. If your menus are too high or too low in particular nutrients, the program can identify alternative dishes which will help you meet the nutritional guidelines. It will also help you look at the frequency of dishes served, to avoid repetitive menus.

The *CORA Menu Planner* is a valuable tool for residential and nursing homes as it allows you to easily plan and prepare interesting and nutritionally balanced menus. It is also a useful tool to help staff understand more about food and nutrients and to provide all those involved in food provision with a better understanding of how eating well can be achieved.

The *CORA Menu Planner* can be obtained from The Caroline Walker Trust at a cost of £50 (see page 2).

Table 4
Example menus for older people living in residential or nursing homes

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
BREAKFAST	Prunes Porridge or high fibre cereal with milk Toast (white or wholemeal) with butter/polyunsaturated margarine and marmalade or jam Tea or coffee with milk*						
MID-MORNING	Tea or coffee with milk and digestive biscuit						
LUNCH	Fruit juice Steak and kidney pie Mixed vegetables Cauliflower Mashed potato Trifle Water	Fruit juice Chicken fricassee Carrots Broccoli Mashed potato Apple pie and custard Water	Fruit juice Roast pork and apple sauce Cabbage Sweetcorn Roast potatoes Rhubarb crumble and custard Water	Fruit juice Braised liver Swede Sprouts Mashed potato Lemon meringue pie Water	Fruit juice Fried haddock Peas Chipped potatoes Bread and butter pudding Water	Fruit juice Lancashire hot pot Green beans Cauliflower Mashed potato Plum tart and custard Water	Fruit juice Roast beef and Yorkshire pudding Cabbage Carrots Roast potatoes Rice pudding and jam Water
MID-AFTERNOON	Tea or coffee with milk Toasted teacake with butter or poly-unsaturated margarine	Tea or coffee with milk Fruit scone with butter or poly-unsaturated margarine	Tea or coffee with milk Jam sponge	Tea or coffee with milk Plain scone with butter or poly-unsaturated margarine and jam	Tea or coffee with milk Shortbread	Tea or coffee with milk Pancake with butter or poly-unsaturated margarine and jam	Tea or coffee with milk Madeira cake
EVENING MEAL	Kedgeree Canned peas Instant dessert Fresh apple Water or fruit juice	Scrambled egg Toast and butter Chocolate eclair Banana Water or fruit juice	Fish cakes and tomato Cherry pie Fresh orange Water or fruit juice	Cheese and tomato quiche Spaghetti hoops Arctic roll Fresh apple Water or fruit juice	Tomato soup Roast beef sandwich Lemon sorbet Fresh orange Water or fruit juice	Macaroni cheese with sliced ham Canned peaches and ice cream Banana Water or fruit juice	Chicken soup Egg and cress sandwich Creme caramel Fresh apple Water or fruit juice
BEDTIME	Milky drink: Horlicks, Ovaltine, hot chocolate, milky tea or milk shake						

NB Residents should be offered additional drinks after meals: 8 cups of fluid a day are recommended.

This sample menu uses options from the *CORA Menu Planner*.[1]

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
BREAKFAST	Choice of porridge or high fibre cereals (eg wheat bisks, bran flakes, muesli, shredded wheat) Fresh citrus juice or cranberry juice Scrambled eggs, or baked beans, or grilled bacon, or grilled kipper, or grilled tomatoes with toast Tea or coffee						
MID-MORNING	Choice of fresh fruit slices (apple, pear, banana, orange, melon etc, as in season) Tea or coffee						
LUNCH	Chicken casserole New potatoes Broccoli Banana flan Water or fruit juice	Baked spiced gammon Parsley sauce Mashed potato Peas Stewed pears and fromage frais Water or fruit juice	Kidney turbigo Braised rice Celery Green beans Queen of puddings and custard Water or fruit juice	Haricot of lamb Croquette potatoes Carrots Apricot condé Water or fruit juice	Fish cakes Homemade oven chips Mange-touts Cheese cake Water or fruit juice	Pasta baked with mushrooms and cheese Mixed salad Ice cream and chocolate sauce Water or fruit juice	Roast lamb Gravy Baked sliced potatoes Courgettes Swede Lemon meringue pie Water or fruit juice
MID-AFTERNOON	Tea or coffee Choice of: apple and cinnamon cake, banana tea bread, date and raisin tea bread, farmhouse sultana cake, fruit scones with butter, sticky prune cake or lemon cake						
EVENING MEAL	Carrot soup Welsh rarebit Tinned mandarins with crème fraîche Water or fruit juice	Cream of celery soup Corned beef and tomato sandwich Banana Water or fruit juice	Lentil soup Smoked mackerel pâté and toast Fruit yoghurt Water or fruit juice	Tomato soup Tuna mayonnaise sandwich Fresh orange Water or fruit juice	Leek and parsley soup Poached egg on toast Gooseberry fool Water or fruit juice	Mushroom soup Chicken sandwich Rosy pears Water or fruit juice	Vegetable soup Cheese and ham flan Mixed bean salad Butterscotch mousse Water or fruit juice
BEDTIME	Milky drink: Horlicks, Ovaltine, hot chocolate, milky tea or milk shake						

NB Residents should be offered additional drinks after meals: 8 cups of fluid a day are recommended.

Table 5
Example menus for community meals for older people

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
LUNCH	Fruit juice Steak and kidney pie Mixed vegetables Cauliflower Mashed potato Trifle	Fruit juice Chicken fricassee Carrots Broccoli Mashed potato Apple pie and custard	Fruit juice Roast pork and apple sauce Cabbage Sweetcorn Roast potatoes Rhubarb crumble and custard	Fruit juice Braised liver Swede Sprouts Mashed potato Lemon meringue pie	Fruit juice Fried haddock Peas Chipped potatoes Bread and butter pudding	Fruit juice Lancashire hot pot Green beans Cauliflower Mashed potato Plum tart and custard	Fruit juice Roast beef and Yorkshire pudding Cabbage Carrots Roast potatoes Rice pudding and jam
MID-AFTERNOON	Tea or coffee with milk Toasted teacake	Tea or coffee with milk Fruit scone	Tea or coffee with milk Jam sponge	Tea or coffee with milk Plain scone with jam	Tea or coffee with milk Shortbread	Tea or coffee with milk Pancake with jam	Tea or coffee with milk Madeira cake

NB A drink of water or fruit juice should be offered with the main meal.

The Working Group recommends that the average nutrient content of community meals served over a one- or two-week period should meet the nutritional guidelines shown on page 44. Individual meals do not have to meet the guidelines in every respect, as long as the average meal does meet them.

Table 6
Examples of community meals suitable for older people from Asian and Afro-Caribbean backgrounds*

	South Asian vegetarian meal	South Asian non-vegetarian meal	Afro-Caribbean meal	Afro-Caribbean vegetarian meal	Middle Eastern meal	Asian meal	Asian vegetarian meal
LUNCH	Red lentil dhal Spinach and chick pea curry Yoghurt raita Side salad Rice or chapati without fat Banana	Chicken curry Rice or chapati without fat Yoghurt raita Side salad Grapes	Rice and peas Jamaican fricaseed chicken Sweet potato Side salad Semolina pudding	Corn chowder Fried yam cakes Dumplings Creamed spinach Tinned pineapple and cream	Shammi (lamb) kebabs Spicy pilau rice Tabbouleh Green salad Halva	Indonesian fish curry Rice Stir-fried vegetables Banana fritters	Sweet and sour vegetables Rice Fried tofu Rice pudding
AFTERNOON SNACK	Tea or coffee with: spiced bread pudding, carrot cake, frosted coconut cake, honey cake, malted fruit loaf, orange and cinnamon cake or gingerbread.						

NB A drink of water or fruit juice should be offered with the main meal.

* The menus in Table 6 are just examples for particular groups of people. The Working Group recognises that menus have to be adapted to suit different cooking styles and tastes. The Working Group recommends that the average nutrient content of community meals served over a one- or two-week period should meet the nutritional guidelines shown on page 44. Individual meals do not have to meet the guidelines in every respect, as long as the average meal does meet them.

Delivering information and advice with the community meals service

Local authorities should consider ways of extending the community meals delivery service to provide greater support to vulnerable older people living in their own homes.

- Information could be provided on snacks and easy-to-prepare meals. Some useful leaflets are produced by NAGE (see page 75).
- Information on shopping services, local food deliveries, food co-ops, community cafés and other initiatives could be provided.
- Older people could be encouraged to keep a 'food store' of cans or frozen foods which can be used to meet unexpected needs, for example if the person is ill. Checking food stores to ensure foods are not out of date is also important.
- Those delivering community meals are in the unique position of being able to offer advice and support on other key areas related to the health and well-being of older people, for example: encouraging physical activity, advising on keeping warm, encouraging maintenance of social interests through lunch clubs, community centres or books on wheels services.
- Local authorities should also consider basic training on nutrition for those who deliver community meals so that they can offer good advice and be alert to signs of nutritional deterioration among vulnerable older people.

Reference

1 The Caroline Walker Trust. *CORA Menu Planner.* London: DGAA Homelife. Available from The Caroline Walker Trust (www.cwt.org.uk).

Chapter 7

Nutritional assessments

This chapter provides guidelines on:

- how to identify older people – living either in residential care accommodation or in the community – who might be at risk of malnutrition and in need of some form of intervention, and
- how to assess whether food provision for vulnerable older people is adequate and appropriate.

Malnutrition is rarely diagnosed in older people living at home and undoubtedly this cause of ill health, debility and depression is often missed. Risk of undernutrition is reported to be related to having a long-standing illness, being more than 85 years old, having recently been hospitalised, or living in residential care.[1] The clinical signs of malnutrition, however, may appear only very late, often as a sudden illness such as pneumonia, or as a fracture. Before then, there could have been long periods of poor diet and low food consumption. This emphasises the need to identify speedily those older people who are vulnerable and to treat them before they become malnourished. It is possible to prevent malnutrition if the circumstances likely to lead to poor eating and drinking are recognised and if appropriate community services are there to help.

A considerable amount of work on nutritional assessment of older people has been done since the first edition of this report was published. Nutritional screening on admission and on a periodic basis, and weight measurement, are now regulatory in care homes (see Appendix 2).

A clinically validated tool to identify older people who are malnourished, called the *Malnutrition Universal Screening Tool (MUST)*,[2] has been developed and evaluated. This tool is suitable for use in the community and in residential care. It is recommended by The Caroline Walker Trust and has also been endorsed by the Registered Nursing Home Association. Any assessment method should be easy and quick to use and easy to interpret, and those carrying out the assessments need training. This chapter provides some guidelines on the use of the MUST tool for identifying malnutrition and also gives details of a simple food-based nutritional assessment, and assessment of the adequacy of food provision.

How to identify older people who might be at risk of malnutrition

The MUST tool

The most important way to identify older people who might be at risk of malnutrition – for older people living either in residential care accommodation or in the community – is by regular weighing, and by observing and reporting changes in weight. The MUST tool can detect both overnutrition (overweight and obesity) and undernutrition. It primarily uses measurements of weight and height, and weight change.

Measuring weight

Accurate and reliable weighing scales are essential for accurate weight measurements. The Caroline Walker Trust Expert Working Group recommends that all residential care establishments should have weighing scales – preferably sitting scales – for carrying out monthly weight checks. The scales should be regularly checked (calibrated) to make sure that they give an accurate reading. Weight can be measured in either imperial measurements (stones and pounds) or metric measurements (kilograms).

Measuring height

To measure height effectively requires a stadiometer (a height-measuring tool that is either placed against a wall or is free-standing). Measurements can be taken in imperial measurements (feet and inches) or metric measurements (metres and centimetres).

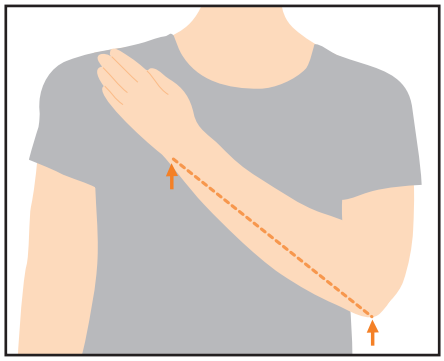
However, it can be difficult to get accurate height measurements for older people, especially those who are unable to stand. If you are unable to get a standing height measurement, it is possible to estimate height from the length of the arm between the wrist and the elbow (called the ulna length). See Figure 1 below. While this method allows some estimation of height to be made, the estimations may be less appropriate for very elderly people and people of different ethnic backgrounds and should always be used cautiously for the prediction of BMI (body mass index).

Sometimes, however, it may be difficult to get either of these measurements – for example if someone is unable to stand or straighten their arm. If the measurement cannot be easily made in either of these ways, then an estimate can be made from the mid upper arm circumference, as shown in Figure 2.

It is important to remember that poor estimation of height and weight can lead to misleading figures for BMI in older people, which may misclassify some older people who are at risk of malnutrition. Where it is difficult to obtain height and weight data, more important indicators of risk may be weight loss, illness and leaving food on plates at mealtimes. Difficulties in height and weight measurement should always be flagged up on a resident's care plan and more frequent observations made of eating and drinking patterns and any weight loss observed.

Figure 1
Estimating height from ulna length

Measure between the point of the elbow (olecranon process) and the midpoint of the prominent bone of the wrist (styloid process) (left side if possible).



HEIGHT (m)	Men (<65 years)	1.94	1.93	1.91	1.89	1.87	1.85	1.84	1.82	1.80	1.78	1.76	1.75	1.73	1.71
	Men (>65 years)	1.87	1.86	1.84	1.82	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.67
	Ulna length (cm)	32.0	31.5	31.0	30.5	30.0	29.5	28.5	28.0	27.5	27.0	26.5	26.5	26.0	25.5
HEIGHT (m)	Women (<65 years)	1.84	1.83	1.81	1.80	1.79	1.77	1.76	1.75	1.73	1.72	1.70	1.69	1.68	1.66
	Women (>65 years)	1.84	1.83	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.66	1.65	1.63
HEIGHT (m)	Men (<65 years)	1.69	1.67	1.66	1.64	1.62	1.60	1.58	1.57	1.55	1.53	1.51	1.49	1.48	1.46
	Men (>65 years)	1.65	1.63	1.62	1.60	1.59	1.57	1.56	1.54	1.52	1.51	1.49	1.48	1.46	1.45
	Ulna length (cm)	25.0	24.5	24.0	23.5	23.0	22.5	22.0	21.5	21.0	20.5	20.0	19.5	19.0	18.5
HEIGHT (m)	Women (<65 years)	1.65	1.63	1.62	1.61	1.59	1.58	1.56	1.55	1.54	1.52	1.51	1.50	1.48	1.47
	Women (>65 years)	1.61	1.60	1.58	1.56	1.55	1.53	1.52	1.50	1.48	1.47	1.45	1.44	1.42	1.40

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Figure 2
Measuring from mid upper arm circumference

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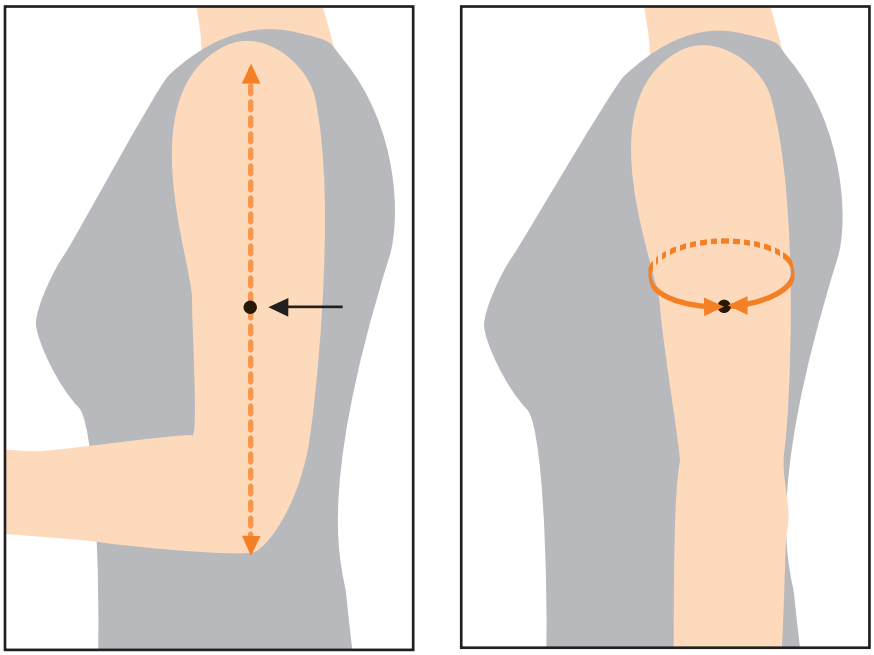


The subject's left arm should be bent at the elbow at a 90° angle, with the upper arm held parallel to the side of the body. Measure the distance between the bony protrusion on the shoulder (acromion) and the point of the elbow (olecranon process). Mark the mid-point.

Ask the subject to let arm hang loose and measure around the upper arm at the mid-point, making sure that the tape measure is snug but not tight.

Using the MUST tool

The five steps of the MUST tool are shown in detail in Figure 3 on page 54.

Step 1
Measuring height and weight to get a BMI score

The height and weight measurements are used to estimate a BMI score using the chart shown in Figure 4.

Step 2
Noting the percentage unplanned weight loss

Unplanned weight loss is a key indicator of malnutrition. Table 7 (on page 56) helps to assess weight loss through a simple scoring method. Either imperial or metric measurements can be used. Thinner people are at risk with even a small amount of weight loss. Older people who are overweight or obese can also be at risk of malnutrition if they have significant unplanned weight loss.

Step 3
Establish acute disease effect score

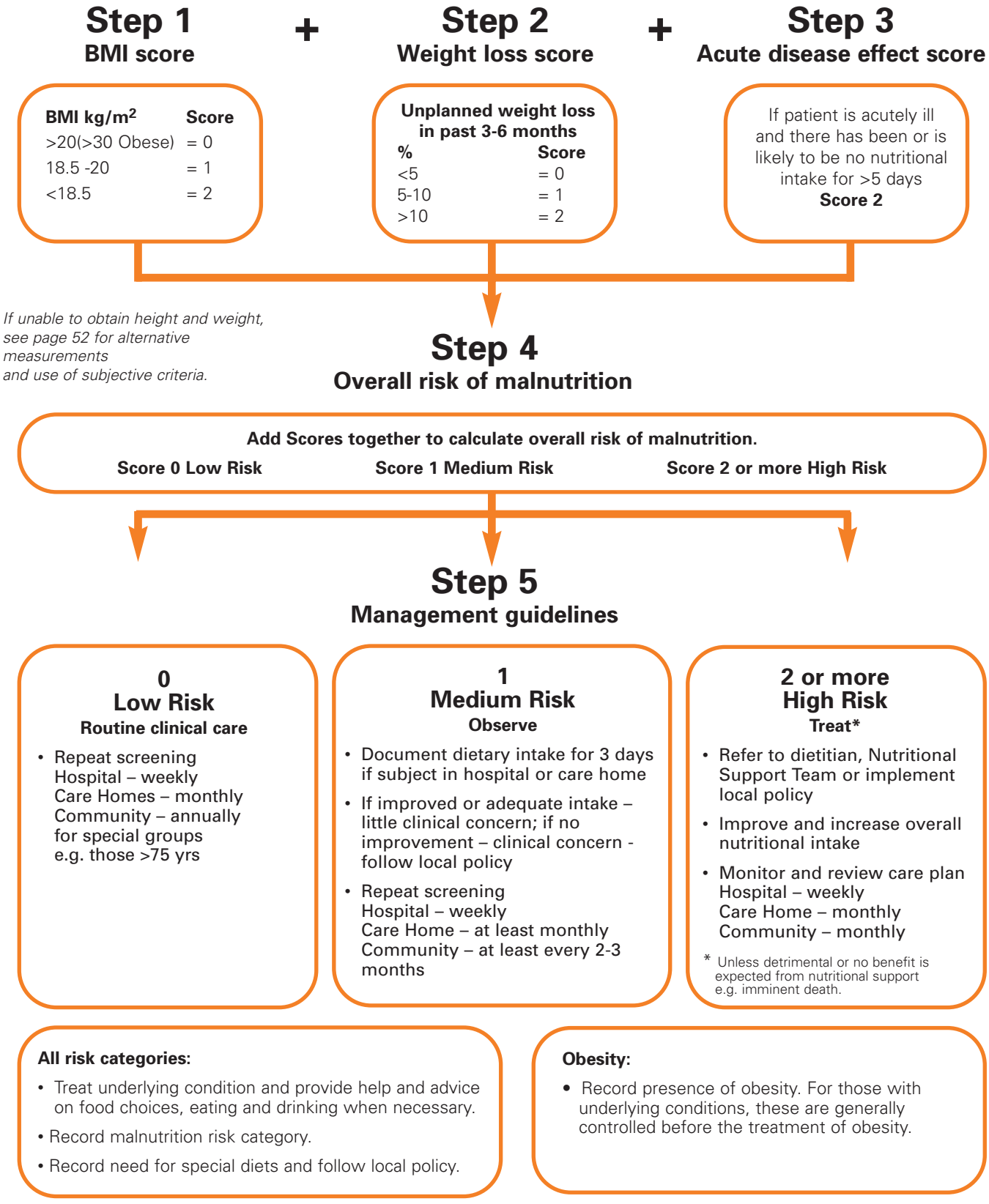
If an older person is very ill and has not eaten for more than five days, or if they are waiting for treatment which requires them to spend several days without food, then they are at risk of malnutrition. Older people who have had surgery and who cannot eat for five days or more following their treatment are also at risk.

Steps 1-3 of the MUST tool allow a risk score to be identified using the simple steps outlined (see Figure 3 on page 54). The MUST tool also offers management guidelines for each risk group to ensure that the appropriate response is made to any malnutrition risk.

For further explanation of MUST and additional information on how to interpret information for people who have amputations or plaster casts for example, contact the Malnutrition Advisory Group of the British Association of Parenteral and Enteral Nutrition (BAPEN) (www.bapen.org.uk). To obtain a MUST Starter Pack, contact BAPEN on 01527 457850.

Figure 3
The Malnutrition Universal Screening Tool (MUST)

The *Malnutrition Universal Screening Tool* (MUST) is a five-step screening tool to identify adults who are malnourished, at risk of malnutrition (undernutrition), or obese. It is for use in hospitals, in the community and other care settings and can be used by all care workers.



Re-assess subjects identified as at risk as they move through care settings.
See *The 'MUST' Explanatory Booklet* for further details and *The 'MUST' Report* for supporting evidence.

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Figure 4
BMI score (and BMI)

This chart shows the BMI scores to be used in the *Malnutrition Universal Screening Tool* (MUST).[2]

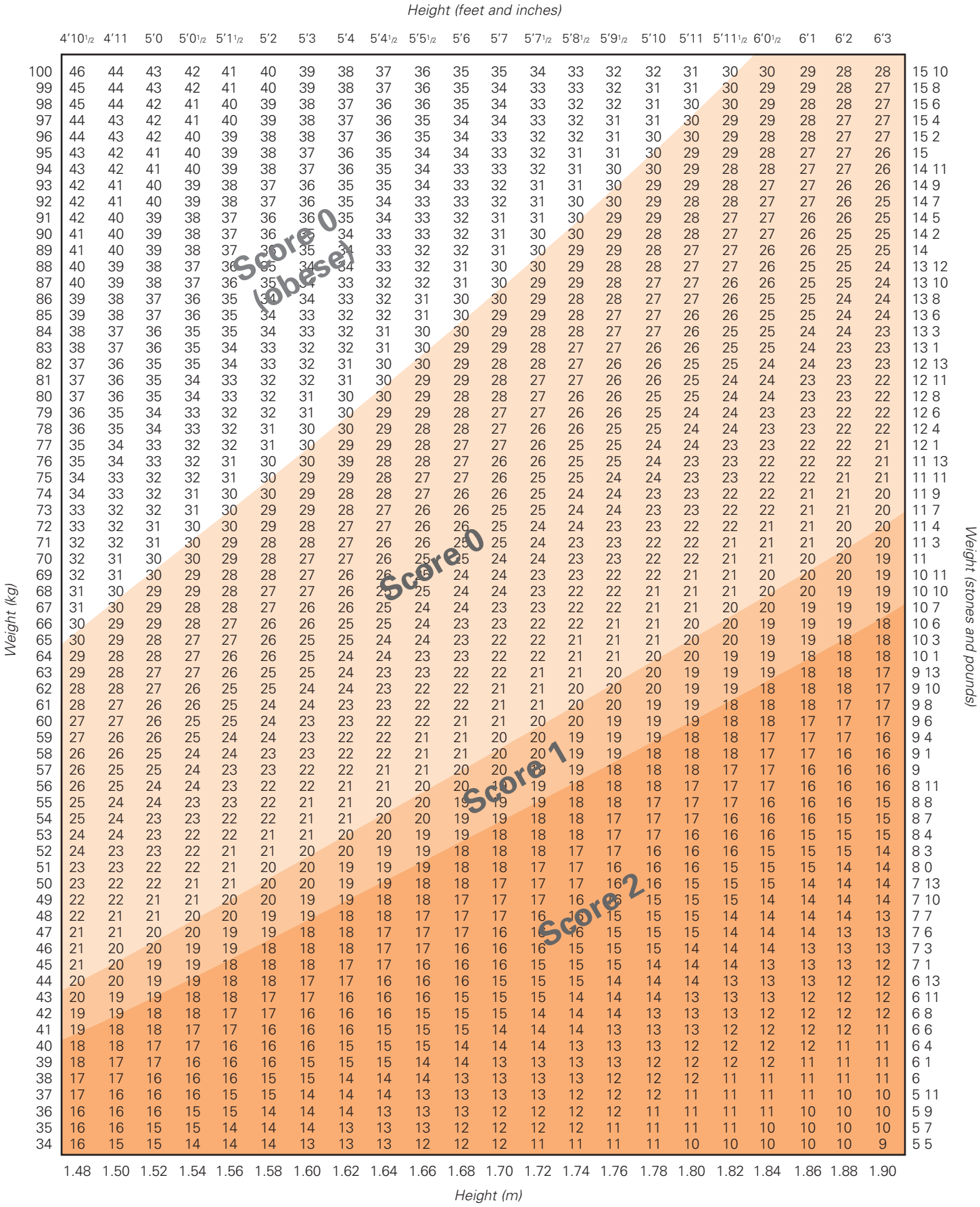

Table 7
Weight loss score

This chart shows the weight loss scores to be used in the *Malnutrition Universal Screening Tool* (MUST).[2]

Weight before weight loss (kg)

	Score 0 Wt Loss <5%	Score 1 Wt Loss 5-10%	Score 2 Wt Loss >10%
34 kg	<1.70	1.70 – 3.40	>3.40
36 kg	<1.80	1.80 – 3.60	>3.60
38 kg	<1.90	1.90 – 3.80	>3.80
40 kg	<2.00	2.00 – 4.00	>4.00
42 kg	<2.10	2.10 – 4.20	>4.20
44 kg	<2.20	2.20 – 4.40	>4.40
46 kg	<2.30	2.30 – 4.60	>4.60
48 kg	<2.40	2.40 – 4.80	>4.80
50 kg	<2.50	2.50 – 5.00	>5.00
52 kg	<2.60	2.60 – 5.20	>5.20
54 kg	<2.70	2.70 – 5.40	>5.40
56 kg	<2.80	2.80 – 5.60	>5.60
58 kg	<2.90	2.90 – 5.80	>5.80
60 kg	<3.00	3.00 – 6.00	>6.00
62 kg	<3.10	3.10 – 6.20	>6.20
64 kg	<3.20	3.20 – 6.40	>6.40
66 kg	<3.30	3.30 – 6.60	>6.60
68 kg	<3.40	3.40 – 6.80	>6.80
70 kg	<3.50	3.50 – 7.00	>7.00
72 kg	<3.60	3.60 – 7.20	>7.20
74 kg	<3.70	3.70 – 7.40	>7.40
76 kg	<3.80	3.80 – 7.60	>7.60
78 kg	<3.90	3.90 – 7.80	>7.80
80 kg	<4.00	4.00 – 8.00	>8.00
82 kg	<4.10	4.10 – 8.20	>8.20
84 kg	<4.20	4.20 – 8.40	>8.40
86 kg	<4.30	4.30 – 8.60	>8.60
88 kg	<4.40	4.40 – 8.80	>8.80
90 kg	<4.50	4.50 – 9.00	>9.00
92 kg	<4.60	4.60 – 9.20	>9.20
94 kg	<4.70	4.70 – 9.40	>9.40
96 kg	<4.80	4.80 – 9.60	>9.60
98 kg	<4.90	4.90 – 9.80	>9.80
100 kg	<5.00	5.00 – 10.00	>10.00
102 kg	<5.10	5.10 – 10.20	>10.20
104 kg	<5.20	5.20 – 10.40	>10.40
106 kg	<5.30	5.30 – 10.60	>10.60
108 kg	<5.40	5.40 – 10.80	>10.80
110 kg	<5.50	5.50 – 11.00	>11.00
112 kg	<5.60	5.60 – 11.20	>11.20
114 kg	<5.70	5.70 – 11.40	>11.40
116 kg	<5.80	5.80 – 11.60	>11.60
118 kg	<5.90	5.90 – 11.80	>11.80
120 kg	<6.00	6.00 – 12.00	>12.00
122 kg	<6.10	6.10 – 12.20	>12.20
124 kg	<6.20	6.20 – 12.40	>12.40
126 kg	<6.30	6.30 – 12.60	>12.60

Weight before weight loss (st lb)

	Score 0 Wt Loss <5%	Score 1 Wt Loss 5-10%	Score 2 Wt Loss >10%
5st 4lb	<4lb	4lb – 7lb	>7lb
5st 7lb	<4lb	4lb – 8lb	>8lb
5st 11lb	<4lb	4lb – 8lb	>8lb
6st	<4lb	4lb – 8lb	>8lb
6st 4lb	<4lb	4lb – 9lb	>9lb
6st 7lb	<5lb	5lb – 9lb	>9lb
6st 11lb	<5lb	5lb – 10lb	>10lb
7st	<5lb	5lb – 10lb	>10lb
7st 4lb	<5lb	5lb – 10lb	>10lb
7st 7lb	<5lb	5lb – 11lb	>11lb
7st 11lb	<5lb	5lb – 11lb	>11lb
8st	<6lb	6lb – 11lb	>11lb
8st 4lb	<6lb	6lb – 12lb	>12lb
8st 7lb	<6lb	6lb – 12lb	>12lb
8st 11lb	<6lb	6lb – 12lb	>12lb
9st	<6lb	6lb – 13lb	>13lb
9st 4lb	<7lb	7lb – 13lb	>13lb
9st 7lb	<7lb	7lb – 13lb	>13lb
9st 11lb	<7lb	7lb – 1st 0lb	>1st 0lb
10st	<7lb	7lb – 1st 0lb	>1st 0lb
10st 4lb	<7lb	7lb – 1st 0lb	>1st 0lb
10st 7lb	<7lb	7lb – 1st 1lb	>1st 1lb
10st 11lb	<8lb	8lb – 1st 1lb	>1st 1lb
11st	<8lb	8lb – 1st 1lb	>1st 1lb
11st 4lb	<8lb	8lb – 1st 2lb	>1st 2lb
11st 7lb	<8lb	8lb – 1st 2lb	>1st 2lb
11st 11lb	<8lb	8lb – 1st 3lb	>1st 3lb
12st	<8lb	8lb – 1st 3lb	>1st 3lb
12st 4lb	<9lb	9lb – 1st 3lb	>1st 3lb
12st 7lb	<9lb	9lb – 1st 4lb	>1st 4lb
12st 11lb	<9lb	9lb – 1st 4lb	>1st 4lb
13st	<9lb	9lb – 1st 4lb	>1st 4lb
13st 4lb	<9lb	9lb – 1st 5lb	>1st 5lb
13st 7lb	<9lb	9lb – 1st 5lb	>1st 5lb
13st 11lb	<10lb	10lb – 1st 5lb	>1st 5lb
14st	<10lb	10lb – 1st 6lb	>1st 6lb
14st 4lb	<10lb	10lb – 1st 6lb	>1st 6lb
14st 7lb	<10lb	10lb – 1st 6lb	>1st 6lb
14st 11lb	<10lb	10lb – 1st 7lb	>1st 7lb
15st	<11lb	11lb – 1st 7lb	>1st 7lb
15st 4lb	<11lb	11lb – 1st 7lb	>1st 7lb
15st 7lb	<11lb	11lb – 1st 8lb	>1st 8lb
15st 11lb	<11lb	11lb – 1st 8lb	>1st 8lb
16st	<11lb	11lb – 1st 8lb	>1st 8lb
16st 4lb	<11lb	11lb – 1st 9lb	>1st 9lb
16st 7lb	<12lb	12lb – 1st 9lb	>1st 9lb

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Assessing new residents

Many older people are already suffering from malnutrition when they enter residential care accommodation. It is therefore important to carry out an assessment of all new residents and to make sure that they are eating and drinking well in their first weeks.

The Care Homes for Older People National Minimum Standards (see Appendix 2) requires a full needs assessment on admission which includes details of the weight, diet and dietary preferences and oral health of each individual. Any unexplained swallowing disorder or other eating problems should be assessed by an appropriate health advisor such as a speech and language therapist, doctor or dentist.

In the early days in the home there should be regular checks to look at the resident's food and beverage likes and dislikes, food and drink wastage and access to second helpings. Extra time should be allowed for slow eaters. New residents may be depressed and uninterested, and helping friendships to develop can bring improvements in eating and drinking.

Residential and nursing care staff and care management staff should also watch out for the following warning signals:

- changes in eating habits, for example whether a person is eating or drinking more or less than usual
- food or drinks left over at mealtimes and at between-meal snacks
- loss of independence in eating
- difficulties with swallowing
- visible signs, for example loose or tight clothing which can be a sign of weight loss or gain
- verbal signals, for example if an older person says "I've got no energy" or "I just can't get round to doing things."

Assessing nutritional status among older people in the community

Appendix 5 outlines two sample nutritional assessment methods which have been developed for use in the community to identify older people who may be at nutritional risk. They look more specifically at factors related to changes in food and drink consumption and relate these to other lifestyle risk factors which are known to contribute to malnutrition.

The Single Assessment Process (SAP) for older people in the community, introduced in the National Service Framework for Older People,[4] came into force in 2004. Its purpose is to ensure that older people receive appropriate, effective and timely responses to their health and social care needs, and evaluation of food and drink intake is part of the assessment process. Further details of the SAP can be found on the Department of Health website www.dh.gov.uk

Assessing food provision

It is also important to assess whether food and drink provision for vulnerable older people is adequate and appropriate.

Better standards of food can be ensured if:

- **Social Services Departments** reject suppliers or caterers who do not meet the nutritional guidelines, food safety standards, and standards for client acceptability (as judged by taste, smell and presentation of food).
- **The suppliers and caterers** set their own high production standards.
- **The person delivering or serving the meals** reports any unfavourable reactions to the food.
- **Environmental health officers** visit residential and nursing homes to ensure that the food hygiene regulations are observed.
- **Consumers** should also comment on the acceptability of meals, but they may have low expectations, or be reluctant to complain.[3] In residential care accommodation, one good way of finding out about residents' opinions is through the residents' committee.
- **Heads of homes** and **inspectors from the National Care Standards Commission** and **the Scottish Care Commission** should use the regulatory framework now in place to encourage and support homes to fulfil the national minimum standards for meals and mealtimes.

The checklist on the next page may also be useful for all those providing prepared food for older people.

Checklist to assess the quality of food and equipment

This checklist can be used by those planning and providing food for older people in residential care accommodation.

Photocopy the checklist and use the space on the right to note any action you could take to make improvements.

		ACTION
Mealtimes	Is everyone offered three full meals a day (one of which is cooked) at intervals of not more than 5 hours? Is the interval between the evening snack and breakfast no more than 12 hours? Are mealtimes flexible to meet the needs of all residents? Do all residents have information about the choice of meals available to them?	
Appearance and texture of food	Does the food look attractive and appealing? Is there an interesting combination of textures, flavour and colours? Do puréed meals look attractive and appealing?	
Aroma	Does the food smell appetising? Do unpleasant smells interfere with eating?	
Temperature	Is the food served at the correct temperature even for slow eaters?	
Cultural and religious requirements	Is the food acceptable and in keeping with the cultural and religious food requirements of individual residents? Is food available for special occasions for all religious and cultural groups?	
Special diets	Are special therapeutic diets as advised by health care and dietetic staff provided where necessary?	
Presentation and help with eating	Are staff ready to offer assistance in eating where necessary, discreetly, sensitively and individually? Are residents encouraged to eat independently even if they find using a knife and fork difficult? Are mealtimes unhurried, with everyone given sufficient time to eat?	
Drinks	Are cups filled too full, resulting in spillage by older people with a tremor? Are hot and cold drinks available at all times? Is the tea reasonably freshly brewed rather than stewed? Are people given drinks in appropriate cups or mugs? Are there small tables in the sitting room where they can put their drinks? Are milk and sugar added to taste for each resident?	
Snacks	Are snacks regularly available at all times and offered regularly?	
Second helpings	Are second helpings on offer without any rush?	
Utensils and equipment	Are the appropriate utensils available? For example, are special utensils provided for people with arthritis? Is a slip mat provided where needed – eg for single-handed eaters?	
Furniture	Does the dining room look inviting? Are people offered the choice of sitting either in a wheelchair or an ordinary chair?	
Room temperature and ambience	Is the temperature in the dining room at a comfortable level? Is the dining room quiet and calm? Are distractions such as radio and television kept to a minimum?	

Useful contacts

All those involved in providing food for older people – for example manager/matrons of residential homes and nursing homes, providers of community meals, and catering companies – should have a list of useful local contacts, including:

- the local nutrition and dietetic service
- community meals services, including lunch clubs
- shops offering free delivery of food, and
- where to obtain advice for each of the ethnic and religious groups in relation to food.

For more information on useful contacts, see Appendix 6.

Recommendations

- Vulnerable older people living in the community should have a nutritional assessment, and the results should help inform the design of the person's care package. The assessment could be carried out by a member of the care management team or the primary health care team.
- All older people entering residential care accommodation should have their food and fluid needs assessed in the first week after admission, and these should be monitored regularly thereafter.
- All residential and nursing homes should have weighing scales, preferably sitting scales, for monthly weight checks. The scales should be checked regularly.
- The weight of each resident or patient should be recorded in the person's care plan at least once a month.
- Care managers and service providers need to ensure that routine reassessments are made. All people found to be at risk in the initial screening should be reassessed at frequent intervals. Thereafter, reassessments will be necessary with changing circumstances.

References

1 Margetts BM, Thompson RE, Elia M, Jackson AA. 2003. Prevalence of risk of undernutrition is associated with poor health status in older people in the UK. *European Journal of Clinical Nutrition;* 57: 69-74.

2 British Association for Parenteral and Enteral Nutrition (BAPEN). 2003. *Malnutrition Universal Screening Tool (MUST).* Materials can be downloaded from the BAPEN website www.bapen.org.uk or can be ordered from BAPEN on 01527 457850.

3 Davies L. 1992. *Opportunities for Better Health in the Elderly through Mass Catering.* EUR/NUT 120. World Health Organization Regional Office Europe.

4 Department of Health. 2001. *National Service Framework for Older People.* London: The Stationery Office. Available from: www.dh.gov.uk

Chapter 8

Exciting the appetite

Even if the nutritional content of a meal is appropriate, it is of no value unless it is eaten. Making the meal look good and taste good, and encouraging the older person to want to eat, are just as important. This chapter gives some ideas on how to do this.

Providing variety and choice

All those in residential care accommodation and all those who receive community meals should be offered variety and some choice of food. The right to exercise choice – particularly with regard to food – is part of guidance and regulation for care homes[1] and is an underlying principle for all aspects of care of older people.[2] The particular likes and dislikes of all residents, or recipients of community meals, should be ascertained, respected and met wherever possible. This is particularly important where there may be ethnic, religious and cultural requirements. Records of such preferences should be kept for everyone – preferably in the kitchen. Wherever possible, residents should be encouraged to contribute their own recipes.

Timing and frequency of meals

Since many older people have small appetites, it is important not to overface people with too much food at a time, but to provide frequent opportunities for eating. Too large helpings, apart from being wasteful, may even deter an older person from eating at all.

It is essential to provide nutritious snacks in between more formal mealtimes: for example, at mid-morning, mid-afternoon and a milky drink in the late evening. Hot drinks should be available during the night.

It is also important to allow for the proper spacing of meals. Breakfast should be available at a time acceptable to residents, for example 7.30am - 9.00am. Suppers should be as late as possible in the evening but early enough to leave time for a snack before bedtime. Regulations now state that meals should not be spaced more than 5 hours apart and that no more than 12 hours should elapse between the last food at night and breakfast the following morning.[1] Ensuring appropriate spacing between meals may require residential and nursing homes to review care and catering staff rotas and shift patterns.

There should be proper and attractive ways of keeping the food warm for those who take a long time to eat. Mealtimes must not be rushed – everyone should have enough time to eat. Allowing enough time for people to eat, and offering all older frail people encouragement to eat, may help to correct problems of undernutrition.[3]

Food presentation

In residential care accommodation and at lunch clubs

The atmosphere created in the dining room or lunch club, the presentation of tray meals, the way the food looks on the plate, and the attitude of the staff may all influence whether or not the food gets eaten.

The eating place should be culturally appropriate, attractive, warm, well-lit and with comfortable chairs. Where appropriate, flowers, tablecloths and napkins could be used to create a pleasant environment. The ultimate goal is to provide a home from home where people are happy. Dining companions should be compatible wherever possible. Wheelchair users should be transferred to dining room chairs if they wish, unless the physiotherapist has advised against this. Those who want to eat their

food in places other than the dining room should be allowed to do so, but they should be encouraged to have one meal a day in the dining room.

People who need help from care staff to be able to eat and drink should be asked about their preferences and should also benefit from well presented food. Staff should sit down and be prepared to spend time with them. If it is essential to purée food, the different items of food should be puréed separately and served attractively on an appropriate dish or plate.

In residential care accommodation it helps if the care staff both serve and clear away the food, as this provides valuable information about the food that residents are not eating.

Cups and cutlery should not be too heavy. Knives should be sharp or serrated to make it easier for cutting meat. Aids to encourage independence in eating and drinking should be introduced discreetly. Appropriate advice about aids can be found either from a local occupational therapy department or from the Disabled Living Foundation (see Appendix 6.)

In general then, the following features of food presentation will encourage older people to eat their food:

- ensuring that it is culturally appropriate and similar to what they would eat in their own home environment
- the proper and hygienic use of cutlery and crockery
- a kindly and dignified service
- providing food that is appetising in amount, colour, freshness, taste and smell
- arranging the food attractively on the plate, and with appropriate garnishes
- providing appropriate drinks to accompany the food.

Community meals

The community meals delivered to people at home should be in packages which look good as well as providing proper insulation at the right temperature. Packaging should be easy to open, disposable and suitable for transporting food. *A Recommended Standard for Community Meals*,[4] published by the National Association of Care Catering in 2003, provides information for caterers on the nutritional aspects of catering for older people and disabled people in their own homes.

The meal should be delivered with enthusiasm and interest. The delivery should be part of the social interaction which stimulates appetite. Also, those delivering food should be encouraged to report back on any visible changes in the well-being of the client (see Chapter 7).

Social occasions

Food plays an important part in social life and activity. It can be used to mark welcomes and farewells, celebrations, birthdays and other special days. Building on such occasions can help encourage eating, release memories, and stimulate conversation among older people.

In residential care accommodation, residents should be encouraged to invite guests in either for a simple meal or just for tea or coffee and biscuits. The Residents Committee in a residential care home can find out what trips and outings residents would enjoy. Outings, however local, which encourage some physical activity, exposure to sunlight and fresh air or a change of food choice can all encourage better eating by residents.

Physical activity

One of the most consistent findings of all research into the nutrition of older people is that they eat less while at the same time, and at least partly because, they *do* less.[5] If older people could be encouraged to be more physically active, their energy requirements and their appetite would increase. Physical activity has many other health benefits including reduction in the risk of coronary heart disease and stroke, the prevention or control of high blood pressure, the prevention of osteoporosis, improvement in joint mobility and strength, a reduction in accidental falls, and reducing the risk of diabetes.[6, 7] There is also ample evidence of the psychological and social benefits of physical activity for older people including a reduction in depression and improvements in mental alertness and sleep quality.[8]

Evidence suggests that current fitness levels among older people are low. The National Fitness Survey found that only a very limited number of older people take enough exercise to maintain their functional independence.[9] In those aged 65-74, 30% of men and 56% women had thigh muscle strength below that required to stand up from a chair unaided; and 45% of men and 79% of women were not fit enough to sustain continuous walking at a normal pace. Many older people do not have the flexibility or muscle strength to perform normal everyday tasks such as hair-washing and climbing the stairs, and women are typically less strong than men of the same age and more likely to have increased disability because of their reduced fitness.[9]

It is, however, possible to reverse age-related and activity-related decline relatively quickly. Among people over 75 years, 15 years' rejuvenation of muscle strength (27%) can be regained in three months through strength training with one supervised class a week and some home exercises.[10] Frail older people with multiple disabilities and illnesses can derive benefits from regular physical activity and, among those who are immobile, regular movement of the legs and arms can help to prevent severe constipation, swelling of the legs, pressure sores and deep vein thrombosis.[11] Even previously sedentary older people can begin exercising at an advanced age.[12]

High intensity resistance exercise training is a feasible and effective

way of counteracting muscle weakness and physical frailty in older people.[13] The development of yoga designed especially for older people in a residential setting – even the chair-bound – is to be commended.[14] Other exercises such as T'ai Chi and home-based exercise programmes involving balance, strength and walking exercises have also shown positive results among older people.[7,15]

Advice about appropriate exercise routines for older people may be found at the local leisure centre or fitness centre or through the local Age Concern. It is not necessary to create sophisticated programmes. Encouraging everyone who can, to walk to their meals, or serving coffee and tea in another room, can provide a little light and regular exercise. Fresh air is an excellent appetite stimulant.

Resources to encourage activity among older people can be found on page 76.

Recommendations

- Older people living in residential care accommodation or receiving community meals should be offered variety and some choice of food.
- Records of the food preferences of each person should be kept.
- Every effort should be made to make the eating environment as attractive and as culturally appropriate as possible.
- In residential care accommodation, residents should be encouraged to invite guests in either for a simple meal, or for tea or coffee.
- Residents should be encouraged to go on trips and outings outside the residential care home. This may stimulate appetite by providing exercise, fresh air and a change of food choice.
- Snacks should be provided in between more formal mealtimes or, in the case of community meals, be delivered with the main meal, thereby ensuring that, if they wish, older people can eat a little at a time, but more frequently.
- Advice should be sought from an occupational therapist or speech and language therapist, for those who may need special aids or help with eating or drinking.
- Physical activity routines, even of a very modest nature, should be established for all older people living in residential care accommodation.
- Staff or volunteers at lunch clubs should encourage physical activity among older people, either by providing information or by organising simple activities at the club.

References

1 Department of Health. 2002. *Care Homes for Older People: National Minimum Standards.* London: The Stationery Office. Available from: www.dh.gov.uk

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Appendix 1
Recommendations of the COMA report on *The Nutrition of Elderly People*

Recommendations to maintain good nutritional status in elderly people[1]

1 The [COMA] Working Group endorsed the recommendations for people aged over 50 years in the Government publication *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom*.

2 Recommendations for dietary energy intakes of elderly people should tend to the generous, except for those who are obese.

3 Elderly people should derive their dietary intakes from a diet containing a variety of nutrient dense foods.

4 An active life style, with prompt resumption after episodes of intercurrent illness, is recommended as contributing in several ways to good health.

5 Steps should be taken to increase the awareness by health professionals of the importance of both overweight and underweight in elderly people.

6 For the majority of elderly people, the same recommendations concerning the dietary intake of non-milk extrinsic sugars apply as for the younger adult population.

7 Intakes of non-starch-polysaccharides comparable to those recommended for the general population are advised for most elderly people. Foods with high phytate content, especially raw bran, should be avoided or used sparingly.

8 The statutory fortification of yellow fats other than butter with vitamin A and D should continue, and manufacturers are encouraged to fortify other fat spreads voluntarily.

9 Elderly people should be encouraged to increase their dietary intakes of vitamin C.

10 Adequate intakes of vitamin C need to be ensured for elderly people who are dependent on institutional catering.

11 Elderly people, in common with those of all ages, should be advised to eat more fresh vegetables, fruit, and whole grain cereals.

12 Elderly people should be encouraged to adopt diets which moderate their plasma cholesterol levels.

13 There should be encouragement of elderly people to consume oily fish and to maintain physical activity in order to reduce the risk of thrombosis.

14 The [COMA] Working Group endorsed the WHO recommendation that 6g/d sodium chloride would be a reasonable average intake for the elderly population in the UK, and recommends that the present average dietary salt intakes be reduced to meet this level.

15 The calcium intakes of elderly people in the UK should be monitored.

16 Doorstep deliveries of milk for elderly people should be maintained.

17 All elderly people should be encouraged to expose some skin to sunlight regularly during the months May to September.

18 If adequate exposure to sunlight is not possible, vitamin D supplementation should be considered especially during the winter and early spring.

19 Health professionals should be made aware of the impact of nutritional status on the development of and recovery from illness.

20 Health professionals should be aware of the often inadequate food intake of elderly people in institutions.

21 Assessment of nutritional status should be a routine aspect of history taking and clinical examination when an elderly person is admitted to hospital.

Reference

1 Department of Health. 1992. *The Nutrition of Elderly People. Report on Health and Social Subjects No. 43. Report of the Working Group on the Nutrition of Elderly People of the Committee on Medical Aspects of Food Policy.* London: HMSO.

Appendix 2
Care Homes for Older People: National Minimum Standards

The following standards which relate to food and nutrition came into force in 2002.[1] The wording of the standards is taken directly from the published document which is available at www.dh.gov.uk/ncsc. Explanations of terms used below (eg 'registered person') can be found in that document.

These standards apply to England and Wales. Similar care standards for Scotland are outlined at www.scotland.gov.uk/publications. Similar standards for Northern Ireland are expected in 2005.

1 Needs assessment

- New service users are admitted only on the basis of a full assessment undertaken by people trained to do so, and to which the prospective service user, his/her representative (if any) and relevant professionals have been party.
- For individuals referred through Care Management arrangements, the registered person obtains a summary of the Care Management (health and social services) assessment and a copy of the care plan produced for care management purposes.
- For individuals who are self-funding and without a Care Management assessment/Care Plan, the registered person carries out a needs assessment covering:
  - Personal care and physical well-being
  - Diet and weight, including dietary preferences
  - Sight, hearing and communication
  - Oral health
  - Foot care
  - Mobility and dexterity
  - History of falls
  - Continence
  - Medication usage
  - Mental state and cognition
  - Social interests, hobbies, religious and cultural needs
  - Personal safety and risk
  - Carer and family involvement and other social contacts/ relationships

2 Health care

- Nutritional screening is undertaken on admission and subsequently on a periodic basis, a record maintained of nutrition, including weight gain or loss, and appropriate action taken.
- Opportunities are given for appropriate exercise and physical activity; appropriate interventions are carried out for service users identified as at risk of falling.
- Care staff maintain the personal and oral hygiene of each service user and wherever possible, support the service user's own capacity for self-care.

3 Meals and mealtimes

- The registered person ensures that service users receive a varied, appealing, wholesome and nutritious diet, which is suited to individual assessed and recorded requirements, and that meals are taken in a congenial setting and at flexible times.
- Each service user is offered three full meals each day (at least one of which must be cooked) at intervals of not more than five hours.
- Hot and cold drinks and snacks are available at all times and offered regularly. A snack meal should be offered in the evening and the interval between this and breakfast the following morning should be no more than 12 hours.
- Food, including liquefied meals, is presented in a manner which is attractive and appealing in terms of texture, flavour and appearance, in order to maintain appetite and nutrition.
- Special therapeutic diets/feeds are provided when advised by health care and dietetic staff, including adequate provision of calcium and vitamin D.
- Religious or cultural dietary needs are catered for as agreed at admission and recorded in the care plan and food for special occasions is available.
- The registered person ensures that there is a menu (changed regularly) offering a choice of meals in written or other formats to suit the capacities of all service users, which is given, read or explained to service users.
- The registered person ensures that mealtimes are unhurried with service users given sufficient time to eat.
- Staff are ready to offer assistance in eating where necessary, discreetly, sensitively and individually, while independent eating is encouraged for as long as possible.

4 Staff complement

- Staffing numbers and skill mix of qualified/unqualified staff are appropriate to the assessed needs of the service users, the size, layout and purpose of the home, at all times.
- Domestic staff are employed in sufficient numbers to ensure that standards relating to food, meals and nutrition are fully met, and that the home is maintained in a clean and hygienic state, free from dirt and unpleasant odours.

Reference

1 Department of Health. 2002. *Care Homes for Older People: National Minimum Standards.* London: The Stationery Office. Available from: www.dh.gov.uk

Appendix 3
Good sources of nutrients

This table shows a number of foods and drinks which are important sources of certain vitamins and minerals. These are based on average servings.

	EXCELLENT	GOOD	USEFUL
B VITAMINS			
Thiamin	liver liver pâté pork, bacon and ham fortified breakfast cereals malted drinks	wholemeal bread yeast extract oatcakes currant buns nuts potatoes	lean meat chicken and other poultry eggs white or brown bread semi-sweet biscuits
Riboflavin	liver kidney	milk malted drinks fortified breakfast cereals almonds	lean meat or poultry bacon mackerel, tuna, salmon sardines, pilchards cheese yoghurt eggs
Niacin	fortified breakfast cereals canned salmon, tuna pilchards chicken	lean meat sausages kidneys herrings sardines	wholemeal bread peanut butter yeast extract bacon liver sausage
FOLATE	most fortified breakfast cereals, eg cornflakes, branflakes, crisped rice liver spinach	yeast extract cabbage spinach Brussels sprouts broccoli peas orange melon kidney	wholemeal bread/flour wheat bisks cauliflower beef runner beans tomatoes parsnip potatoes green leafy salads ackee peanuts
VITAMIN C	blackcurrants orange (and orange juice) strawberries canned guava spring greens green and red peppers (raw)	broccoli cabbage cauliflower spinach tomato Brussels sprouts watercress kiwi fruit mango grapefruit	potatoes green beans peas satsumas eating apples nectarines peaches raspberries blackberries

	EXCELLENT	GOOD	USEFUL
VITAMIN A	liver liver sausage/pâté carrots spinach sweet potatoes watercress red peppers mango canteloupe melon dried apricots	nectarine peach blackcurrants fresh/canned apricots watercress tomatoes cabbage (dark) broccoli Brussels sprouts runner beans broad beans margarine butter cheese kidney	canned salmon herrings egg honeydew melon prunes orange sweetcorn peas whole milk
VITAMIN D	fortified breakfast cereals herrings pilchards sardines tuna canned salmon egg	liver (other than chicken liver) liver sausage/pâté margarine	chicken liver
CALCIUM	spinach sardines cheese tofu	pilchards yoghurt milk (all types) soya drink fortified with calcium cheese spread	canned salmon muesli white bread/flour peas, beans, lentils dried fruit orange egg yolk
IRON	fortified breakfast cereals pig liver kidney chicken liver liver sausage/pâté	wholemeal bread/flour wheat bisks beef beefburger corned beef lamb sardines pilchards soya beans chick peas lentils spinach broccoli spring greens dried apricots raisins	white bread baked beans broad beans black-eyed peas blackcurrants salmon tuna herrings sausage chicken and other poultry egg tofu

	EXCELLENT	GOOD	USEFUL
ZINC	liver kidney lean meat corned beef	bacon ham poultry canned sardines shrimps and prawns tofu whole grain breakfast cereals, eg puffed wheat, branflakes, wheat bisks nuts	sausages cold cooked meats canned tuna or pilchards eggs milk cheese beans and lentils brown or wholemeal bread plain popcorn sesame seeds
FIBRE (non-starch polysaccharides – NSP)	whole grain / wholewheat breakfast cereals such as bran flakes, wheat bisks, shreddies, shredded wheat, sultana bran wholemeal bread wholemeal pitta bread baked beans chick peas, kidney beans (and most beans) lentils dried apricots dried figs dried prunes	muesli wholemeal pasta brown bread wheatgerm bread rye bread white bread with added fibre baked potato with skin chips sweet potato broad beans fresh and frozen peas sweetcorn broccoli Brussels sprouts okra quorn avocado blackberries dried dates almonds hazelnuts peanuts twiglets	puffed wheat cereal brown rice white pitta bread pizza potatoes yam houmous canned peas cabbage carrots plantain banana mango raisins sunflower seeds potato crisps
POTASSIUM	jacket potatoes chips roast potatoes vegetable soup dried fruit cereals milk bananas tomato juice	parsnips melon orange juice dried fruit coffee Brussels sprouts tomatoes meat bacon sausages fish	fresh fruit canned fruit fresh vegetables canned vegetables bread

	VERY HIGH	MODERATELY HIGH	LOW
SODIUM	canned and packet soups bacon and ham salted savoury snacks smoked sausage, smoked cheese or smoked fish sauces and condiments some ready prepared dishes (Check the label: dishes which contain more than 0.5g sodium per 100g, or more than 1g sodium per portion, are high in sodium.) Some breakfast cereals are high in sodium: look for lower sodium alternatives.	bread cheese fish marmite milk	fresh and frozen meat fresh and frozen chicken fresh fruit, canned fruit, dried fruit fresh and frozen vegetables fruit juices shredded wheat, puffed wheat tea, coffee

Appendix 4
Portion guide

The table below is only a guide. Individual needs must be considered when deciding on appropriate portion sizes.

(C) = cooked **(R) = raw** **(L) = ladle**

'Breakfast foods'

grapefruit segments	4oz	120g
porridge	5oz (L)	150g
fruit juice		100ml
cereal	1oz	30g
prunes	3oz (5 prunes)	90g
butter	1/2 oz	15g
bread	1 1/2 oz	45g
jam/marmalade	2/3 oz	20g
bacon (middle/back)	3oz (R)	90g
black pudding	3oz (R)	90g
scrambled egg	2 eggs	
poached egg	1 egg	

Milk	1 pt	600 ml

Meat/fish/eggs

roast meat	4oz (R) 3oz (C)	120g (R) 90g (C)
chop	4oz (R) 3oz (C)	120g (R) 90g (C)
braised steak	4oz (R) 3oz (C)	120g (R) 90g (C)
liver	4oz (R) 3oz (C)	120g (R) 90g (C)
casseroled meat (eg chicken)	4oz (R) 3oz (C)	120g (R) 90g (C)
tripe	3oz (R)	90g
omelette	2 eggs	
breaded fish	4-5oz (R)	120-150g (R)
poached fish	4-5oz (R)	120-150g (R)
cold meats for salads	3oz (C)	90g (C)

Vegetables

baked beans	2.5oz (C)	80g
broccoli	2.5oz (C)	80g
cabbage	2.5oz (C)	80g
canned tomatoes	2.5oz (R)	80g
carrots	2.5oz (C)	80g
green beans	2.5oz (C)	80g

Potatoes and other starchy foods

creamed potatoes	3oz(C)	90g
boiled potatoes	3oz(C)	90g
roast potatoes	3oz(C)	90g
chipped potatoes	4oz(C)	120g
sauté potatoes	4oz(C)	120g
duchesse potatoes	4oz(C)	120g
rice	4oz (C)	120g
spaghetti/pasta	6oz (C)	160g

Sweets

milk pudding	4oz (L)	120g
sponge	3oz	90g
jelly	4oz	120g
tart	3-4oz	90-120g
trifle	4oz	120g
stewed fruit	3oz	90g
custard sauce	3oz	90g
crumble	3-4oz	90-120g
canned fruit	3oz	90g
ice cream	2 scoops	60g
apple/pear/orange	4oz	120g
banana	3oz	90g

Cheese and biscuits

	1oz cheese + 3 biscuits	30g cheese + 3 biscuits

Sandwiches

cheese	1 1/2 oz	45g
meat	1oz (C)	30g
fish	1 1/2 oz	45g

Cakes and biscuits

1 digestive biscuit	1/2 oz	15g
tea cake	2oz	60g
fruit scone	2oz	60g
jam sponge	1 1/2 -2oz	45-60g
shortbread	1oz	30g
madeira cake	2oz	60g

Appendix 5
Sample nutritional assessment methods for use in the community

This Appendix gives some sample assessment methods for identifying older people living in the community who might be at risk of malnutrition:

- **the Assessment Grid, and**
- **the Nutrition Assessment Checklist.**

See also *The MUST tool* on page 52.

Assessment grid

The *Assessment Grid* on the next page can be used by those most frequently in touch with the older person living in the community: for example, relatives, neighbours, friends, home care workers or medical practitioners. These professionals and lay people might benefit from some training by dietitians on how to make observations and when to make a referral or take other appropriate steps.

The *Assessment Grid* helps to identify known risk factors – circumstances that increase the risk of malnutrition among older people living in the community.[1] These should be evaluated in the light of any observed warning signals – circumstances which, if left unchecked, might cause an 'at risk' person to become malnourished. The main warning signals related to each risk factor are marked by blank circles in the grid.

To use the grid, first tick the risk factor(s) that apply to the individual (for example, 'housebound', 'no regular cooked meals' etc). Older people with four or more risk factors are at considerable risk of malnutrition. If you are worried that a diagnosed medical condition may be affecting the patient's nutritional status, check all the warning signals listed on the grid and report your observations to the medical practitioner.

Having a risk factor does not necessarily mean that an older person is suffering from malnutrition. For example, being housebound is a risk factor, but this does not mean that all housebound people are malnourished. However, older people who are housebound and show signs of any of the warning signals which are marked with a blank circle in the 'housebound' column (eg 'recent unintended weight change ...' or 'physical disability affecting food shopping ...'), are more likely to be malnourished. If the person is also living alone, or has any other risk factor, the blank circles in those columns also need to be observed. For more details on how to use this grid, see the journal article *Warning signals for malnutrition in the elderly.*[2]

An adequate income is no guarantee that an older person is well nourished. Bereavement, mental confusion, physical disability and poor nutritional knowledge can affect both rich and poor alike, and each of these is a warning signal.

Warning signals are interrelated and cumulative, so each one needs to be evaluated in relation to the others. For example, 'food wastage/rejection' may just be a sign of an over-large or unpopular meal, but if there is also depression, lack of sunlight and insufficient food stores at home, there may be good reason to undertake a more detailed assessment so that appropriate action can be taken.

Taking action

- If the older person has had a recent unintended gain or loss of 3kg (7lb) or more, he/she should be referred for a medical assessment, and a management plan put in place.
- Consider what immediate, practical things could be done to prevent nutritional problems from developing. These can be simple and inexpensive, and will depend on the needs and wishes of the individual: for example, help with shopping and preparing food, an occasional accompanied visit to the shops, transport to lunch clubs or day centres, or contacting a local community meals service. Or it could be action not directly food-related: for example help with a walking aid, or specialised kitchen gadgets to help a disabled person become more independent, or bereavement counselling.

This community-based approach does not disregard the more structured care of the social and health services. It is simply a way in which lay people, and professionals, can pass on their observations to those who can assess the need for action, and implement it.

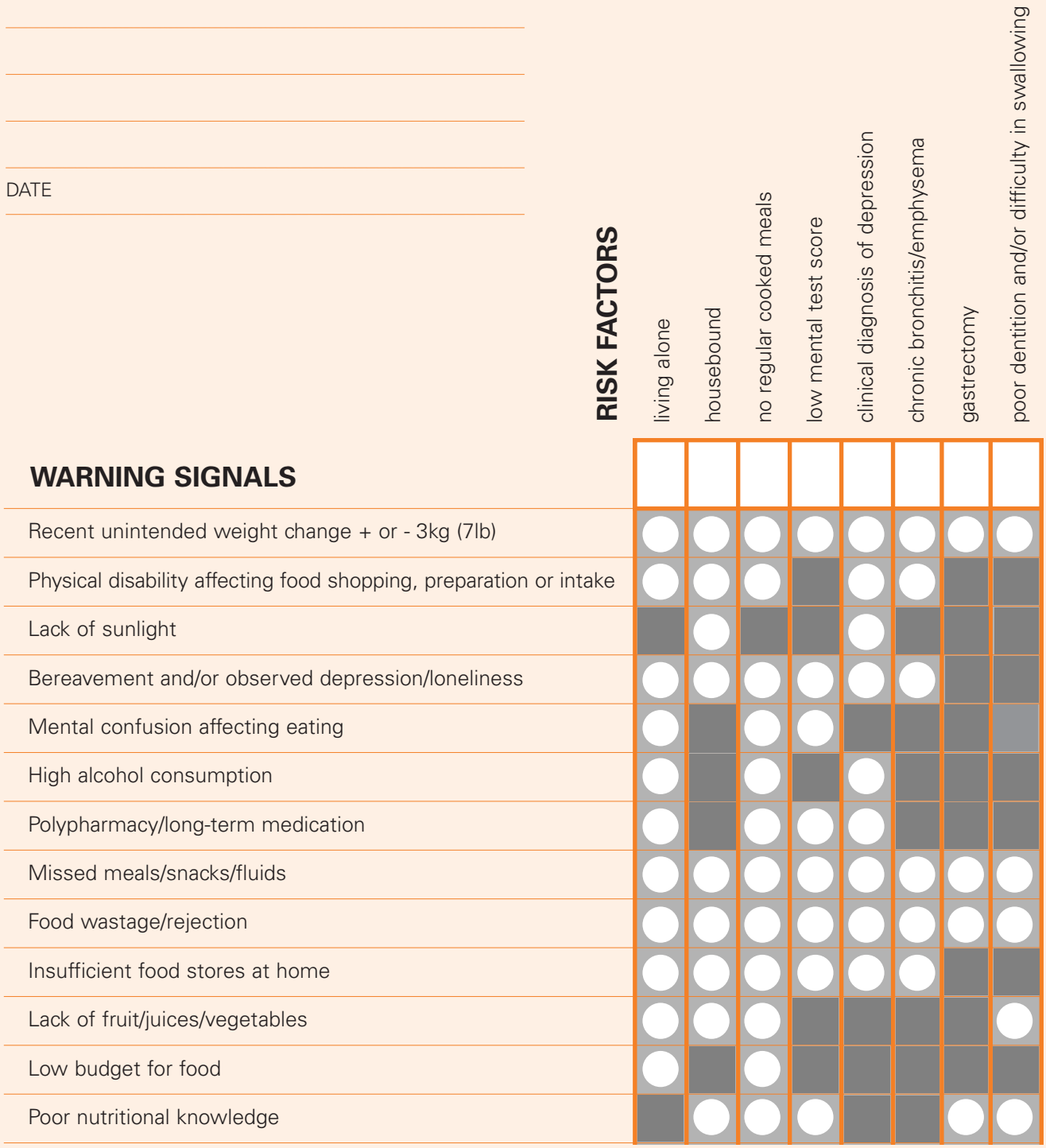
Assessment grid

Relevant risk factors and observed warning signals

NAME

ADDRESS

DATE



Based on a grid produced in: Davies L, Knutson KC. 1991. Warning signals for malnutrition in the elderly. *Journal of the American Dietetic Association;* 91 (11): 1413-1417.

Nutrition Assessment Checklist

The *Nutrition Assessment Checklist* opposite was developed by state registered dietitians to help community care workers (health and social services) to recognise nutrition-related problems among older people living in the community. It is a simple screening tool to identify possible nutrient deficiencies.

It is important to ask the five 'General questions' first. The answers to these questions will influence subsequent advice and action. For example, if the client has had unintended weight loss or gain you would want to ensure that the person has been referred to a doctor for further investigation in parallel to whatever other advice was given.

Next ask the questions in sections 1-4. Circle the score for each answer. If twice as much is eaten, double the score for that question. Add up the score for each section. If the person has a score of under 10 in any section, he/she is at risk of developing, or may have already developed, a deficiency in that nutrient.

Taking action

Practical suggestions on how to counteract deficiencies, and which foods can help, are given in the guidance notes[3] which are available from NAGE (see page 75). See also Chapter 4 of this report. For further information and specific advice, contact your local Nutrition and Dietetic Department (in the telephone directory under the name of your primary care trust).

References

1 DHSS. 1979. *Nutrition and Health in Old Age.* Report on Health and Social Subjects No 16. London: HMSO.

2 Davies L, Knutson KC. 1991. Warning signals for malnutrition in the elderly. *Journal of the American Dietetic Association;* 91 (11): 1413-17.

3 NAGE: *The Nutrition Assessment Checklist: Guidance Notes and Advice.* Birmingham: NAGE (see page 75 for contact details).

Nutrition Assessment Checklist

NAME

ADDRESS

COMPLETED BY

DATE

General questions

1 Do you usually eat

Breakfast	yes ☐	no ☐
Mid-day lunch/dinner	yes ☐	no ☐
Tea/evening meal	yes ☐	no ☐

2 Have you lost or gained much weight (more than 1 stone) in the last year, without trying to?

Gained weight	yes ☐	no ☐
Lost weight	yes ☐	no ☐

3 Are you on a special diet? (eg diabetic, high fibre, reducing)

yes ☐ no ☐

Type

4 Are you taking any food/drink supplements? (eg Complan, Bengers, Build Up)

yes ☐ no ☐

If yes, what?

5 Are you taking any laxatives, vitamin supplements, cod liver oil, iron tablets etc?

yes ☐ no ☐

If yes, what?

Please consider the answers to questions 1 to 5 when using the checklist as they will influence your advice and action.

Guidance notes on how to use this *Nutrition Assessment Checklist* are available from NAGE (address on page 75).

NOTE: As you ask the questions in Sections 1-4, circle the score for each answer. If twice as much is eaten, double the score and if eaten less often than once a week or never, score zero (0). If the score is under 10 in any section please consult the relevant information in the guidance notes.[3]

Section 1 Vitamin C

How often do you eat ...	Weekly	Alternate days	Daily
Citrus fruit, eg oranges	2	5	10
Soft fruit, eg strawberries, blackcurrants (not tinned)	2	5	10
Grapefruit/orange/tomato juice (not tinned)	1	3	6
Vitamin C enriched cordial, eg blackcurrant	1	3	6
Potatoes, including instant	1	3	6
Green veg/tomato/salad	1	2	3
Banana/tinned mandarins	1	2	3

Total

Section 2 Calcium/vitamin D

How often do you eat ...	Weekly	Alternate days	Daily
Half a pint of milk (drinks/cereal)	1	3	6
Sardines/pilchards	2	4	8
Cheese (1oz)	1	2	4
Yoghurt/ice-cream	1	2	3
Milk pudding/custard/evaporated milk	1	2	3

Total

Section 3 Fibre

How often do you eat ...	Weekly	Alternate days	Daily
Wholegrain breakfast cereals	3	4	5
Wholemeal bread/roll (3 slices)	2	3	4
Wholegrain biscuits/crackers/crispbread (3-6)	1	2	3
Pulses including baked beans	1	2	3
Fruit	0	1	2
Vegetables/salad	0	1	2
White bread	0	0	1
Chapati/rice/pasta	0	0	1

Total

It is important to drink at least 8 cups of fluid a day.

Section 4 Iron

How often do you eat ...	Weekly	Alternate days	Daily
Black pudding	4	10	20
Liver, kidney, heart	3	6	12
Liver pâté/sausage/faggots	2	4	8
Red meat, corned beef	2	4	8
Egg	1	2	4
Breakfast cereal	1	2	4
Wholemeal bread – 3 slices	0	1	3
Dark green vegetables	0	1	3
Pulses, eg lentils	0	1	3

Total

Appendix 6
Useful addresses and further reading

Useful addresses

Age Concern
Age Concern England
Astral House
1268 London Road
London SW16 4ER
Phone: 020 8765 7200
Email: ace@ace.org.uk
www.ageconcern.org.uk

Age Concern Cymru (Wales)
1 Cathedral Road
Cardiff CF11 9SD
Phone: 029 2037 1566
Email: enquiries@accymru.org.uk
www.accymru.org.uk

Age Concern Northern Ireland
3 Lower Crescent
Belfast BT7 1NR
Phone: 02890 245729
Email: info@ageconcernni.org
www.ageconcernni.org

Age Concern Scotland
113 Rose Street
Edinburgh EH2 3DT
Phone: 0131 220 3345
Email: enquiries@acscot.org.uk
www.ageconcernscotland.org.uk

Alcohol Concern
Waterbridge House
32-36 Loman Street
London SE1 0EE
Phone: 020 7928 7377
Email:contact@alcoholconcern.org.uk
www.alcoholconcern.org.uk

Alzheimer Scotland – Action on Dementia
22 Drumsheugh Gardens
Edinburgh EH3 7RN
Phone: 0131 243 1453
Email: alzheimer@alzscot.org
www.alzscot.org

Alzheimer's Society
Gordon House
10 Greencoat Place
London SW1P 1PH
Phone: 020 7306 0606
Email: enquiries@alzheimers.org.uk
www.alzheimers.org.uk

Alzheimer's Society
Food for Thought Project
Cromwell House
31 Micklegate
York YO1 6JH
Phone: 01904 633640
Email: foodft@alzheimers.org.uk
www.alzheimers.org.uk

Arthritis Care
18 Stephenson Way
London NW1 2HD
Phone: 020 7380 6500
Helpline: 0808 800 4050
www.arthritiscare.co.uk

British Dental Health Foundation
Smile House
2 East Union Street
Rugby
Warwickshire CV22 6AJ
Phone: 0870 770 4000
Helpline: 0845 063 1188
Email: mail@dentalhealth.org.uk
www.dentalhealth.org.uk

British Dietetic Association
5th floor, Charles House
148/9 Great Charles Street
Queensway
Birmingham B3 3HT
Phone: 0121 200 8080
Email: info@bda.uk.com
www.bda.uk.com

British Geriatrics Society
Marjory Warren House
31 St John's Square
London EC1M 4DN
Phone: 020 7608 1369
Email: info@bgs.org.uk
www.bgs.org.uk

British Heart Foundation
14 Fitzhardinge Street
London W1H 6DH
Phone: 020 7935 0185
Heart Information Line: 08450 70 80 70
(Calls charged at local rate.)
Email: internet@bhf.org.uk
www.bhf.org.uk

Carers UK
20/25 Glasshouse Yard
London EC1A 4JT
Phone: 020 7490 8818
Email: info@ukcarers.org
www.carersonline.org.uk

Citizens Advice Bureaux
Myddelton House
115-123 Pentonville Road
London N1 9LZ
Phone: 0207 833 2181
www.citizensadvice.org.uk

Counsel and Care
Twyman House
16 Bonny Street
London NW1 9PG
Phone: 020 7241 8555
Advice line: 0845 300 7585 (Calls charged at local rate.)
Email: advice@counselandcare.org.uk
www.counselandcare.org.uk

Diabetes UK
10 Parkway
London NW1 7AA
Phone: 020 7424 1000
Helpline: 020 7424 1030
Email: info@diabetes.org.uk
www.diabetes.org.uk

DIAL UK (Disability Information and Advice Line services)
St Catherine's
Tickhill Road
Doncaster DN4 8QN
Phone: 01302 310 123
Email: enquiries@dialuk.org.uk
www.dialuk.org.uk

Disability Wales
Wernddu Court
Caerphilly Business Park
Van Road
Caerphilly CF83 3ED
Phone: 029 2088 7325
Email: info@dwac.demon.co.uk
www.dwac.demon.co.uk

Disabled Living Foundation
380-384 Harrow Road
London W9 2HU
Phone: 020 7289 6111
Helpline: 0845 130 9177 (Calls charged at local rate.)
Email: advice@dlf.org.uk
www.dlf.org.uk

Help the Aged England
207-221 Pentonville Road
London N1 9UZ
Phone: 020 7278 1114
Email: info@helptheaged.org.uk
www.helptheaged.org.uk

Help the Aged Northern Ireland
Ascot House
24-30 Shaftesbury Square
Belfast BT2 7DB
Phone: 02890 230 666
Email: infoni@helptheaged.org.uk
www.helptheaged.org.uk

Help the Aged Scotland
11 Granton Square
Edinburgh EH5 1HX
Phone: 0131 551 6331
Email: infoscot@helptheaged.org.uk
www.helptheaged.org.uk

Help the Aged Wales
12 Cathedral Road
Cardiff CF11 9LJ
Phone: 02920 346 550
Email: infocymru@helptheaged.org.uk
www.helptheaged.org.uk

NAGE (Nutrition Advisory Group for Elderly People)
A group of dietitians who work with older people
c/o the British Dietetic Association
5th floor
Charles House
148/9 Great Charles Street
Queensway
Birmingham B3 3HT
Phone: 0121 200 8080
Email: info@bda.uk.com
www.bda.uk.com

National Association of Care Catering
45 Palace View
Bromley BR1 3EJ
Phone: 020 8460 4477
Email: NACC145@aol.com
www.carecatering.org.uk

National Care Homes Association
45/49 Leather Lane
London EC1N 7TJ
Phone: 020 7831 7090
Email: info@ncha.gb.com
www.ncha.gb.com

National Osteoporosis Society
Camerton
Bath BA2 0PJ
Phone: 01761 471771
Helpline: 0845 450 0230
Email: info@nos.org.uk
www.nos.org.uk

RADAR (Royal Association for Disability and Rehabilitation)
12 City Forum
250 City Road
London EC1V 8AF
Phone: 020 7250 3222
Email: radar@radar.org.uk
www.radar.org.uk

Registered Nursing Home Association
15 Highfield Road
Edgbaston
Birmingham B15 3DU
Phone: 0121 454 2511
Email: info@rnha.co.uk
www.rnha.co.uk

The Relatives and Residents Association
24 The Ivories
6-18 Northampton Street
London N1 2HY
Phone: 020 7359 8148
Adviceline: 020 7359 8136
Email: advice@relres.org
www.relres.org

Royal College of Nursing
20 Cavendish Square
London W1G 0RN
Phone: 020 7409 3333
Email: via website
www.rcn.org.uk

Royal College of Speech and Language Therapists
2 White Hart Yard
London SE1 1NX
Phone: 020 7378 1200
Email: postmaster@rcslt.org
www.rcslt.org

Voluntary Organisations Involved in Caring in the Elderly Sector (VOICES)
c/o the Association of Charity Officers
Unicorn House
Station Close
Potters Bar
Herts EN6 3JW
Phone: 01707 651777
www.aco.uk.net

Women's Royal Voluntary Service (WRVS)
Garden House
Milton Hill
Steventon
Abingdon
Oxfordshire OX13 6AD
Phone: 01235 442900
Email: enquiries@wrvs.org.uk
www.wrvs.org.uk

Further reading and resources

FOOD AND EATING

Eating Matters – A Resource for Improving Dietary Care in Hospitals
Published by the Centre for Health Services Research, University of Newcastle upon Tyne, 21 Claremont, Newcastle upon Tyne NE2 4AA.
Phone: 0191 222 7044

Nutritional care for older people
By June Copeman. Published by Age Concern, London (1999).

Eating Well for Older People with Dementia
Published by VOICES (1998).
Details from the Caroline Walker Trust website www.cwt.org.uk

Food, Drink and Dementia
How to help people with dementia eat well.
By Helen Crawley (2002).
Available from: Dementia Services Development Centre, University of Stirling. Phone: 01786 467740
www.stir.ac.uk/dsdc

Publications by NAGE

(NAGE is the Nutrition Advisory Group for Elderly People of the British Dietetic Association.)
NAGE
British Dietetic Association
5th floor
Charles House
148/9 Great Charles Street
Queensway
Birmingham B3 3HT
Phone: 0121 200 8080
Email: info@bda.uk.com
www.bda.uk.com

Eating through the 90s
Eating Well and Keeping Well with Diabetes
Have You Got a Small Appetite?
Nutrition Assessment Checklist and Guidance Notes
Taking Steps to Tackle Eating Problems

Videos
Fibre Keeps You Fit
Stimulating a Small Appetite
Supermarket Shopping and the Store Cupboard

USEFUL WEBSITES

Information on food and health for older people can be found on the

following websites:
www.food.gov.uk
www.nutrition.org.uk

EXERCISE AND PHYSICAL ACTIVITY

Active for Later Life
By the British Heart Foundation National Centre for Physical Activity and Health.
Published by the British Heart Foundation, London.
A resource for agencies and organisations promoting physical activity with older people.

Alive and Kicking – The Carer's Guide to Exercises for Older People
By J Sobczack (2001).
Published by Age Concern Books England.

Easy Exercises for the Older Person
By MP File and T File (1999).
Published by Springfield Books. Price £4.95.

Keep Moving, Keep Young: Gentle Yoga Exercises for the Elderly
By M Graham (1988).
Published by Unwin, London.

More Active, More Often
A video explaining the practical benefits of setting up regular chair-based movement to music sessions for older people, and advice on how to set up the sessions.
Published by Research Into Ageing, Baird House, 15-17 St Cross Street, London EC1N 8UN.
Phone: 020 7404 6878

You Can Do It! – Exercises for Older People
By Margaret Ruddlesden.
Published by Hawker Publications Ltd, 13 Park House, 140 Battersea Park Road, London SW11 4NB.

CATERING

Catering for Health
Produced by the Food Standards Agency and Department of Health.
Available free from PO Box 369, Hayes, Middlesex UB3 1UT.
Phone: 0845 6060667

Easy Cooking For One or Two and **More Easy Cooking For One or Two**
By Louise Davies.
Published by Penguin Books.

Food in Care
By Diane Sandy.
Published by MacMillan Press (1997).

Good Practice Guide on African Caribbean foods
Published by the Relatives and Residents Association (2002).
Available from the Relatives and Residents Association (details on page 75).

SUPPLIERS OF SPECIAL TABLEWARE

Kapitex Healthcare
Kapitex House
1 Sandbeck Way
Wetherby LS22 7GH
Phone: 01937 580 211

Nottingham Rehab
Ludlow Hill Road
West Bridgford
Nottingham NG2 6HD
Phone: 0115 945 2345

Smith and Nephew Homecraft
Sidings Road
Lowmoor Road Industrial Estate
Kirkby in Ashfield NG17 7JZ
Phone: 01623 721 000

FOOD SAFETY AND HYGIENE

Food Standards Agency publications

The publications below are available from:
Food Standards Agency
PO Box 359
Hayes
Middlesex UB3 1UT
Phone: 0845 606 0667
Minicom (for people with hearing disabilities) 0845 606 0678
Email: foodstandards@eclogistics.co.uk

Food Allergy and Other Unpleasant Reactions to Food PB1696

Food Safety PB0551

The Food Safety Act and You. Booklet summarising the Food Safety Act. PB2507

Keeping Food Cool and Safe PB1649

Ten Tips for Food Safety: Leaflet PB1684; Posters in A4 or A2 sizes

ADVICE AND SUPPORT FOR RELATIVES

The Relatives and Residents Association
24 The Ivories
6-18 Northampton Street
London N1 2HY
Phone: 020 7359 8148
Adviceline: 020 7359 8136

Publications from the Relatives and Residents Association:
Dental Care for Older People in Homes
A Relative's Perspective
Relative Views
Setting up Relatives' Groups in Homes
Good Practice Guide on African Caribbean Foods
Good Practice Guide on Activities and Leisure

COURSES

Eating Well for Older People

and

Eating Well for Older People with Dementia

For details of these courses contact The Caroline Walker Trust.
Phone: 01726 844107

Nourishing the Elderly in Residential Care

For details of one-day courses on *Nourishing the Elderly in Residential Care,* contact the Royal Institute of Public Health and Hygiene, 28 Portland Place, London W1N 4DE.
Phone: 020 7580 2731

COMPUTER SOFTWARE

CORA Menu Planner
A computer program which can analyse the nutritional value of a weekly menu and displays the findings on an easy-to-read bar chart. For more details see page 2 or visit the Caroline Walker Trust website: www.cwt.org.uk

A good diet can help reduce older people's risk of a wide variety of health problems including constipation and other digestive disorders, anaemia, diabetes mellitus, muscle and bone disorders, overweight, and coronary heart disease and stroke. Nutrition also plays an important part in achieving a good recovery from illness and surgery. Adequate nutritional standards of food prepared in residential and nursing accommodation, and of community meals, are therefore crucial to the well-being of older people.

This report, by an Expert Working Group convened by The Caroline Walker Trust, sets out nutritional guidelines both for food prepared for older people in residential and nursing accommodation, and for community meals. Based on current dietary recommendations, the guidelines are intended for caterers, manager/matrons, cooks, chefs, and residential care managers, as well as managers of services providing meals at home.

THE CAROLINE WALKER TRUST

The Caroline Walker Trust
PO Box 61
St Austell PL26 6YL

£15 including postage and packing

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