A healthy diet is one that is rich in fruit and vegetables and cereals, and low in fat, salt and sugar. Improving health and reducing health inequalities is now a key government priority.

Recognising the links between diet, nutrition and preventable disease such as heart disease and some cancers, Our National Health, Scotland's NHS action plan, supported by Eating for Health: A Diet Action Plan for Scotland, sets out a multi-agency, multi-sectoral approach to improve Scotland's diet. It outlines plans to work with the food industry, including caterers, to improve the overall balance of the diet with respect to fruit and vegetables, salt, fat and sugar.

This booklet represents an important resource to achieve this goal. It provides guidelines and practical tips and a sound basis for improving health through provision of healthy catering in restaurants, workplaces, schools and hospitals.

CATERING FOR HEALTH

A guide for teaching healthier catering practices

Working together to support healthier eating in Scotland

Ref: FSA/0572/0606

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FOREWORD

It gives me enormous pleasure to write this foreword not only as a Board Member of the Food Standards Agency, a working chef and an NVQ assessor of Food Preparation and Cooking, but also as a consumer. Like me, many consumers now think they should have the choice to eat healthily when they eat out, whether this is on a regular basis, for example at school or work, or as an increasingly frequent treat. Caterers can potentially make a tremendous contribution to improving the nation’s health by providing healthier food choices wherever their work takes them. By becoming familiar with nutrition recommendations and wholeheartedly adopting them, caterers can really help drive up nutritional standards.

This guide reflects a strong working partnership between government and a non-government organisation. The Food Standards Agency and the Scottish Executive are grateful to the British Nutrition Foundation for creating a guide that is concise and practical to implement. Simple tips for healthier catering and adaptations of Practical Cookery recipes bring advice alive to chef lecturers and their students alike. The myths and facts of healthy eating are clearly presented and backed up with sound evidence which is easily understood.

The guide sets out the fundamentals of nutrition without the baffling science and terminology often associated with such a subject. As trainers we should feel comfortable about adopting the principles in this guide and using the advice it provides to enthuse and motivate the next culinary generation. Indeed I expect that a number of current Head Chefs and Lecturers will be surprised themselves by the positive implications of some of the practical suggestions put forward in the guide for improved customer relations and in turn profits! As a consumer I welcome the support of the Food Standards Agency and the Scottish Executive for the long over due production of these guidelines. I believe that they will make a real difference to the attitude of a whole new generation of catering students towards catering for health and I warmly recommend them to you.

Robert Rees
Food Standards Agency Board Member

“Caterers have a crucial role to play in encouraging healthier eating. They can do this by ensuring that the food they offer is ‘healthy’ in terms of ingredients, preparation and cooking methods, and by ensuring that the food they serve is attractive, interesting and tasty”.

Scottish Consumer Council

“We want to encourage and enable the Scottish people to adopt a better and healthier balance in their diet”.

A healthy diet contains lots of foods rich in starch and fibre such as bread, potatoes, pasta and other cereals, as well as plenty of fruit and vegetables. It also includes moderate amounts of meat, fish and alternatives (e.g. pulses) and milk and dairy foods. Foods high in fat should only be eaten in small amounts and foods containing sugar should not be eaten too frequently. More and more consumers are looking for healthier options when they eat out, as the links between diet and health are becoming increasingly recognised.

Providing catering students with the knowledge and skills to be able to offer a healthier menu will enable them to take advantage of an increasing market opportunity, while helping them to promote good health.

Catering students do not need to know about the complex theory of nutrition in order to learn how to prepare healthier food. But they do need to be aware of current healthy eating guidelines and be able to apply them easily within their working environment. Many food preparation lecturers recognise this need and are keen to teach ‘healthier’ methods of food preparation.

This guide is a source of information and practical ideas for chef lecturers and others, to enable them to incorporate healthier catering practices into different areas of the Scottish Vocational Qualifications (SVQ) for the catering sector, or alternative catering or cookery courses. It has been produced in consultation with chef lecturers and caterers in order to ensure that the approach is realistic and practical.

Students should be aware of changes that can be made in all aspects of food preparation and cooking. Changes in menu planning and food purchasing through to serving and presentation can be effective without compromising taste or appearance.

This guide provides accurate, clear and practical information about how healthier catering practices can be implemented in all aspects of catering and within a wide range of working environments.

It aims to support chef lecturers to encourage their students to:

1.1 Why is this guide important?

- Leading a healthy lifestyle, which means eating a healthy diet and taking regular exercise, is actively encouraged for us all.
- A healthy diet contains lots of foods rich in starch and fibre such as bread, potatoes, pasta and other cereals, as well as plenty of fruit and vegetables. It also includes moderate amounts of meat, fish and alternatives (e.g. pulses) and milk and dairy foods. Foods high in fat should only be eaten in small amounts and foods containing sugar should not be eaten too frequently.
- More and more consumers are looking for healthier options when they eat out, as the links between diet and health are becoming increasingly recognised.
- Providing catering students with the knowledge and skills to be able to offer a healthier menu will enable them to take advantage of an increasing market opportunity, while helping them to promote good health.

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It aims to support chef lecturers to encourage their students to:

- be aware of the importance of food in the maintenance of health and overall well-being
- recognise the potential benefits for both caterers and customers from providing a choice of healthier options
- learn about ingredient selection (e.g. lower fat alternatives) and methods of food production (e.g. grilling, steaming, poaching, stir-frying) and processing that can produce healthier options
- demonstrate and apply appropriate and relevant skills and knowledge when planning, preparing and serving healthier foods.
**HEALTH ON EVERY CATERER’S AGENDA**

### 1.2 Using the guide

**Health on every caterer’s agenda** - describes the commercial advantages of offering healthier choices, from the point of view of the caterer and the catering supplier and the benefits of increased choice for the health of the consumer. This section covers the importance of what we eat and how this can influence the risk of developing diseases, such as heart disease and cancer.

**Incorporating healthier practices into all aspects of catering** - applies healthy catering principles to all aspects of food preparation including:

- menu planning
- choice and purchasing of ingredients
- cooking methods
- service methods.

A section is also included on how best to market healthier options.

Practical examples of recipe modification demonstrate how small changes can have a considerable effect on the nutritional quality of a meal. These examples can also be used for tasting or cost-comparison exercises. The latter could be used to teach numeracy skills within the SVQ syllabus.

**Planning menus to suit all** - most of this guide provides information about catering for free-living and active people, with no special dietary requirements, but this section gives some advice about catering for people with special dietary needs. In the context of menu planning, specific issues of importance in different sectors of the catering industry (e.g. hospitals, schools, workplaces) are highlighted and the differing requirements and preferences of some sectors of the population (including children, older people, vegetarians, ethnic minority groups and those with special dietary needs) are considered. This section also provides important information about food allergies.

**Fact or fiction?** - provides the answers to common questions about diet and health. In so doing, it attempts to dispel many of the misconceptions held both by caterers and the general public.

**Further help and information** - gives useful sources of information, including references and websites, for those wishing to expand on a particular topic.

**Appendix** - finally, a number of tables are included in an appendix, many of which are in a photocopiable form for use as teaching aids. Enlarged copies of some of the graphs and figures that appear in the main text are also provided.

### 2.1 Healthier meals: a commercial opportunity

Consumers are confronted almost daily with information about diet, nutrition and health in newspapers and magazines, on the radio and television. They are becoming increasingly aware of, and interested in, the relationship between what they eat and their health. Food manufacturers and retailers have seized the opportunity to market ‘healthy options’ and sales are growing rapidly.

A substantial proportion of meals are eaten away from the home or as ‘take-aways’ and this number is increasing.

Many customers are now looking for healthier options within menus, particularly if they eat out every day. A recent study indicated that 97% of consumers think that they should have the choice to eat healthily when they are eating outside the home. More than half (52%) believe it is the responsibility of the caterer to provide this choice.

### In a study of over 2000 restaurant and pub customers:

- a third would like to be offered lower fat milks with beverages and to have the choice of adding butter to vegetables and potatoes themselves rather than having it already added
- 83% would prefer their French fries served unsalted, so they can choose whether to add salt or not
- 95% want to see an alternative to chips on the menu
- more than half (56%) wish to see more grilled alternatives to breaded deep fried items
- over a third (37%) want to see more lower fat desserts on offer.

Implementing healthier catering practices can also save money, e.g. not adding butter to potatoes or increasing the amount of pasta compared to the amount of meat in a lasagne.

An important commercial opportunity exists - providing customers with healthier choices that look and taste good. It is important for the hospitality industry to grasp this market opportunity by offering healthier choices, which customers increasingly want to buy.

### 2.2 Contributing to a healthier nation

Offering a variety of foods, which includes healthy options, can have marketing, financial and competitive advantages; it can also make a substantial contribution to improving the health of the population.
Almost half the working population in the UK regularly eats a meal at work; and so these types of catering establishments make a significant contribution to the nation’s diet.

The amount of energy derived from fat, particularly saturates (the type of fat commonly found in animal-derived foods) (see section 3.3, page 18 and appendix 3 for further details) tends to be higher in food and drink consumed outside the home (see figure above). Given that around one eighth of the average amounts of energy from fat and saturates in our diet comes from food eaten outside the home, healthier catering has a vital role to play in the population’s health.

### 2.3 The link between food and health

An unhealthy diet, which includes too many fatty foods, too much salt and not enough fruit and vegetables, can increase the risk of a range of conditions, including heart disease, stroke, some cancers, high blood pressure, obesity and diabetes mellitus. Too frequent consumption of foods high in sugar increases the risk of tooth decay.

**Currently in Scotland:**

- Over the last 10 years there has been a significant increase in the number of people who are overweight or obese. In 2003, more than 64% of men and 57% of women were either overweight or obese in Scotland. There is also continued concern over the levels of obesity among children in Scotland.
- Overweight and obesity develops when the amount of energy (calories) consumed is too high in relation to levels of physical activity. Being obese increases the risk of a number of diseases, including coronary heart disease, stroke, diabetes and some types of cancers.
- Coronary heart disease (CHD) is one of the leading causes of death in Scotland. In 2004, 10,778 people died from CHD and 18% of these deaths were among people under the age of 75 years. Stroke is another major cause of death and ill-health in Scotland. In 2004, 6,155 people died from stroke. A diet containing too much fat, salt and not enough fruit and vegetables is an important contributing factor to the risk of coronary heart disease and stroke.

A diet high in fat, for example, raises cholesterol levels in the blood, while too much salt is linked to high blood pressure. Having a high blood pressure or blood cholesterol level substantially increases the chances of suffering from these conditions.

- It is estimated that 1 in 3 people in Scotland will develop some form of cancer during their lifetime, and that around 1 in 6 males and 1 in 7 females will develop some form of cancer before the age of 65.
- It is estimated that a poor diet contributes to around a quarter of all cancers. In particular, low consumption of fruit and vegetables is linked with an increased risk of colorectal and stomach cancer (and possibly some other cancers).

Sources:
- www.scotpho.org.uk
- Scottish Health Survey 2003; www.scotland.gov.uk
- Scottish Health Statistics; www.isdscotland.org

**Caterers have a key role in helping the Government achieve these targets.**

In the white paper, Towards a Healthier Scotland, published in 1999, the Government’s main goal is to tackle cancer and heart disease and improve the health of children and young people. One of the main actions outlined to achieve this goal is to tackle lifestyles that lead to illness and early death (e.g. poor diet and lack of exercise).

The Scottish Diet Action Plan sets national targets to be achieved by 2005 including:

- doubling the average consumption of fruit and vegetables
- reducing the proportion of food energy from total fat and saturates by over 5%
- doubling the consumption of oily fish
- reducing average sodium (salt) intake.

In order to achieve these targets consumer choices need to be influenced and to do this healthier choices need to be the easy choices. The Plan recognises that eating out plays an important and increasing part in people’s eating habits and highlights the Government’s intention to work with caterers to improve the overall balance of the diet, including the amount of salt, fat and sugar in food.

Caterers represent a key influence on the nation’s diet.
This section gives practical information on the application of healthier catering practices throughout the food production chain, from menu planning to the serving of food.

It aims to provide the information students need to:
- understand what is meant by ‘healthier catering practices’
- create healthier balanced menus using a model known as Eating for Health
- select healthier ingredients, as well as cooking and preparation methods
- possess product knowledge so that they can advise customers in their choices
- consider healthier catering practices at point of service
- effectively promote and present ‘healthier’ options.

3.1 What is ‘healthier’ catering?

THE MYTHS ABOUT HEALTHIER CATERING

There are many misconceptions about what ‘healthier catering’ means.

Healthier catering is not about:
- taking chips off the menu
  Chips are often one of the most popular menu items and can be part of a healthier catering plan by making small changes such as cutting potatoes thinly or buying thick/steak cut chips (that may be pre-blanched in a steamer), cooking at the correct temperature in unsaturated oil and draining them thoroughly.
- serving brown rice or wholemeal pasta with everything
  Brown rice or wholemeal pasta are good choices if they are popular with customers, but people generally prefer white varieties. Healthier catering means providing large servings of either type of rice or pasta to increase carbohydrate intakes. This can also save money as starchy foods, such as rice, cost less than many other meal components.
- adding olive oil to everything
  Olive oil is a healthier choice than many other fats or oils because it contains a high proportion of monounsaturates (a type of fatty acid) (see section 3.3, page 18 and appendix 3). Rapeseed oil also has a high proportion of monounsaturates and is a cheaper alternative. However, all fats and oils should be used sparingly (see section 5, page 46).
- only highlighting one ‘special’ dish on the menu
  Highlighting one special dish offers customers a choice and can encourage them to select a ‘healthier’ option. Small changes, across the board, also have the potential to be of great health benefit to customers and may largely go unnoticed.
- offering a vegetarian option
  Vegetarian dishes are not always a healthier option as they can be high in fat or salt. Those which contain a lot of pastry, cheese, creamy sauces or nuts can have a substantially higher fat content than dishes containing fish or lean cuts of meat (see section 5, page 46).
- offering non-genetically modified or organic foods
  The consumption of organic or non-genetically modified (GM) produce is a matter of individual choice. There is little evidence to suggest that organic vegetables are nutritionally superior to their alternatives and the concerns relating to GM foods are about safety, rather than nutrition. For information about the regulations concerning GM see appendix 8.

The whole issue of food additives has aroused great concern amongst the British public but only a very small number of customers will be affected by them. In fact, the risk of ill-health as a result of an imbalanced diet is about one hundred thousand times greater than that from additives. The role of food additives in health should not be ignored but the risk they present should be placed in perspective.

THE FACTS ABOUT HEALTHIER CATERING

Healthier catering is about:

Introducing healthier alternatives gradually in the menu and/or making small changes to best-selling items. Providing a ‘healthier’ option can involve making several changes to improve the nutritional value of one menu item (e.g. reducing the energy, fat and salt content) and can broaden the range and choice of foods offered to customers.

Modifications across the board might involve minor changes to many aspects of food preparation, including the type or amount of ingredients used, the cooking or preparation methods employed, the way in which food is served or the portion sizes provided.

3.2 Considering healthier catering practices in menu planning

Why should healthier catering be an integral part of menu planning?

Eating out is no longer something that happens only on special occasions in this country. For many people it is a part of everyday life, e.g. food eaten at lunchtimes. Food eaten outside the home now makes a substantial contribution to total nutritional intake. So, for those who do eat away from home regularly, it is important that they think about the choices they make and try to select healthier options. This will only be possible if healthier options are made available in the first place. Customer surveys suggest such options would be welcomed.

Eating for Health

Eating for Health was developed as a model for healthy eating in Scotland by the Health Education Board for Scotland in 1996. It is nationally recognised and widely used by the food and catering industries, as well as by health professionals, teachers and individual consumers, as a guide to the contents of a balanced meal or diet. In England the equivalent model, the Balance of Good Health, was developed in 1994 by the Health Education Authority, Department of Health and Ministry of Agriculture, Fisheries and Food.

The two keys to a healthy diet are:
- Eating the right amount of food for how active you are
- Eating a range of foods to make sure you’re getting a balanced diet

A healthy balanced diet contains a variety of types of food, including lots of fruit, vegetables and starchy foods such as wholemeal bread and wholegrain cereals; some protein rich foods such as meat, fish, eggs and lentils; and some dairy foods.

Dr Cathy Higginson, Nutritionist
Health Education Board for Scotland

Key points for students
- There are two approaches to healthier catering - making small changes across the whole service (a ‘behind the scenes’ approach) or highlighting one or two healthier options.
- Eating for Health can be used to achieve healthier catering.
- This is a pictorial representation of the proportions of the five main food groups that go to make up a balanced diet.
- Eating for Health promotes increased consumption of fruit and vegetables and starchy foods, together with moderate amounts of meat, fish and alternatives, and moderate amounts of milk and dairy foods. It suggests that foods high in fat and foods high in sugar should make up a relatively small proportion of the food and drink consumed.
- Eating for Health should be used as a guide for purchasing ingredients and for creating balanced menus.

“Highlighting a special dish on the menu as a healthy choice, as well as making small changes across the board, can both have very positive impacts on customers’ health”.

Stephen Wearne, Chief

Fruit and vegetables
Meat, fish and alternatives
Foods and drinks
Fats and oils
Eating for Health

It’s all about striking the right balance.

Photograph Courtesy of the Health Education Board for Scotland. A larger version of this figure can be found in appendix 9.
INCORPORATING HEALTHIER PRACTICES INTO ALL ASPECTS OF CATERING CONTINUED

Eating for Health shows the proportion of the overall diet that should come from each of the five food groups in order to provide enough of the important nutrients (such as vitamins, minerals and protein) and fibre, without too much fat (especially saturates) and sugar. Foods in each food group provide a similar range of nutrients (see appendix 1). For example, milk and dairy products are rich in calcium, protein, B vitamins and also provide some vitamin A. The size of each segment represents the proportion of the diet that each food group should contribute. For example, fruit and vegetables should make up around a third of the total diet. Although the guide applies to the whole diet, it can also be used in planning single meals (see section 3.7).

The guide applies to catering for most people over the age of 5 years, including those who are overweight, vegetarians and people of all ethnic origins, although adapted versions have now been developed for some ethnic groups (see section 4.2.3). Children under 5 years need to learn to eat healthily but too much emphasis on cutting down fat intake and increasing the amount of fibre eaten is inappropriate for this age group - it can result in a bulky diet and children may not be able to eat sufficient amounts of food to meet their energy and nutrient needs (see section 4.2.1).

What does this mean for most people in the UK?

A third of total food intake should be made up of starchy foods (e.g. bread, pasta, rice and potatoes). These foods should make up a main part of a meal.

To meet this guideline, most people will need to eat half as much again as they currently do.

A further third should be made up from fruit and vegetables. People should aim to eat at least 5 portions of a variety of fruit and vegetables each day.

Most people will need to double the amount they are currently consuming.

Meat, fish and alternatives (e.g. eggs, nuts, pulses, soya products) and milk and dairy foods provide concentrated sources of essential nutrients. So, only moderate amounts need to be eaten. Many people have too much fat in their diet and would benefit from choosing leaner meats and lower fat dairy products.

Foods containing a large amount of fat or sugar should make up a relatively small proportion of the total food and drink consumed. Most people are consuming foods from this group too frequently.

What does this mean for caterers?

Eating for Health is a useful tool for caterers in menu planning as it shows the overall balance that should be aimed for in the meals served. Having identified the main ingredients of a dish, balance can be achieved by altering the proportions, e.g. using more pasta in relation to meat sauce in a lasagne, or serving slightly smaller portions of the main dishes with extra fruit, vegetables or bread.

Whatever the type of catering service provided, the principles of balance and variety apply.
Serve moderate amounts of milk and dairy foods – and use lower fat versions where practical and acceptable (see section 3.3, page 16).

Serve moderate amounts of meat, fish and alternatives - use leaner cuts of meat (see section 3.3, page 17). Good kitchen practices (e.g. trimming excess fat from meat, removing the skin from poultry and draining fat from mince) are also important (see section 3.4, page 19).

Serve relatively small amounts of foods containing a lot of fat - try to cut down on fat, especially saturates, which is the type of fatty acid found largely in butter and hard margarine, pastries, cakes and biscuits, fatty meats and meat products and full fat dairy products (see section 3.3, page 18 and appendix 3). Some vegetable oils, such as coconut oil and palm oil, also contain a high proportion of saturates.

Try to use lower-sugar versions where you can, particularly for snack foods - when sweetening foods or dishes, remember honey, golden syrup and treacle all contain lots of sugar. Offer sugar-free drinks and lower-sugar alternatives to cakes, biscuits and pastries.

Also, try to cut down on the amount of salt used in cooking - for caterers this means using alternative flavourings, such as lemon juice, herbs, spices, onions and peppers, to enhance the taste of food. Look for lower salt (or sodium) versions of convenience and pre-prepared foods. Most stock cubes and bouillons, ready-made pickles, sauces and curry pastes, cured foods (e.g. bacon and ham) and pre-prepared meat products are high in salt. Use salt sparingly in food preparation and allow the customer to add extra if required. Provide low sodium alternatives at the table for those who wish to restrict their sodium intake (see section 3.4, page 20).

How does Eating for Health apply to composite (or multi-ingredient) dishes and meals?
Dishes or meals usually contain foods from more than one of the five food groups. Eating for Health can still be applied by identifying the main food items or ingredients in the composite dish or meal and thinking about how these fit with the proportions shown in the guide. By altering the proportions of ingredients, or serving slightly smaller portions of the main dishes with extra fruit, vegetables or bread, balance can be achieved.

For example, a sausage, cheese and tomato pizza contains foods from 4 of the main food groups: The proportion of tomato (from the fruit and vegetable group) relative to the other ingredients is generally small compared with that shown in the Eating for Health model. There may be an inadequate contribution of items from the bread, cereals and potatoes food group, particularly if the pizza has a thin base.

Try to include more fish on the menu - particularly oil-rich fish (e.g. salmon, mackerel, herring and trout) that contain oils beneficial to health (see appendix 3). White fish contains very little fat so is a good choice, but watch the addition of high fat sauces and provide alternatives to deep fried items.
3.3 Choosing healthier ingredients

The choice of commodities can have a significant effect on the nutritional content and the balance of meals and foodstuffs. Many suppliers have responded to the increasing demand for healthier ingredients, which are now easier to find. Several pre-prepared products are available that can be cooked by one of 3 methods - oven bake, grill or shallow/deep fry. Caterers should check the labels on pre-prepared dishes to look for lower fat and salt varieties. For more information about how to read food labels see appendix 5.

What are the healthier alternatives?

This section provides examples of the types of foods and ingredients that can improve the nutritional composition of a dish or meal.

**BREAD, CEREALS AND POTATOES**

Serve larger portions of starchy foods.

The healthier alternatives include:

- For baked goods
  - a range of thick sliced breads for sandwiches and toast, including granary, multi-grain and wholemeal
  - speciality uncut breads (such as those with poppy seeds, olives or sun-dried tomato) for crusty wedges to serve with soups (in place of fried croûtons), salad and pasta dishes
  - chapattis, Naan breads and pittas to serve with Indian and Mediterranean cuisine, flour tortillas to serve with Mexican cuisine
  - crispbreads, matzos
  - morning goods such as bagels, teacakes, pikelets, raisin bread and English muffins (provide spread separately)
  - scones, fruit buns, fruit breads and malt loaf for cake selection (also useful as alternatives to biscuits at meetings).

- For dry cereals
  - rolled oats, pinhead oatmeal, cornmeal, couscous, millet, semolina, cracked wheat, buckwheat
  - rice - quick cook, long grain, brown, basmati, risotto, Thai fragrant rice, arborio, pudding
  - wholemeal and wheatmeal flours or a mixture of white and wholemeal varieties, besan flours, buckwheat flour, gram flour
  - all varieties of pasta (white, verdi, red, whole-wheat), e.g. spaghetti, lasagne, macaroni, fettucine, rigatone, cannelloni, tagliatelli
  - whole-grain, unsugared breakfast cereals; unsweetened muesli.

- Others
  - alternatives to chips such as jacket potatoes (with low fat fillings)
  - thick (14mm) or steak (19mm x 9mm) cut or oven chips.

**FRUIT AND VEGETABLES**

Always a healthy option, so include in dishes/meals as often as possible.

The healthier alternatives include:

- a large variety of fresh fruit and vegetables, including salad vegetables (with lower fat dressings)
- a wide variety of frozen fruit (such as berries) and frozen vegetables (single or mixed, for stir-frys and casseroles)
- use fewer fats that contain a high proportion of saturates by substituting these with fats and oils with a high content of unsaturates, where possible (see section 3.3, page 18 and appendix 3)
- use salt and salty foods in moderation
- use added sugar in moderation.
MILK AND DAIRY FOODS

Use lower fat versions where possible and appropriate.

The healthier alternatives include:

For cheeses:
- lower fat cheeses for sandwiches or on cheese boards e.g. cottage cheese, low fat soft cheeses, Edam, feta, Camembert, St Paulin, Coulommiers, Petit Suisse, mozzarella, reduced fat hard cheeses (e.g. Cheddar) and spreads
- strong cheeses, such as parmesan, a strong Cheddar or Cheshire, that can be used in smaller amounts in sauces than a larger amount of mild cheese, therefore providing less fat
- cheese flavoured pastes for sauces.

The graph below provides the fat content for a range of different cheeses. Portion size determines the total amount of fat but the values are provided per 100g for easy comparison.

For creams:
- “half fat” or “light” creams, reduced fat crème fraîche, lower fat cream products
- very low fat (0.2%) fromage frais
- reduced calorie mayonnaise or dressings based on low fat yogurt or fromage frais, rather than cream.

The typical fat content of different creams and alternatives g fat/100g

<table>
<thead>
<tr>
<th>Cream Type</th>
<th>g fat/100g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jersey/Clothed cream</td>
<td>64</td>
</tr>
<tr>
<td>Double cream</td>
<td>48</td>
</tr>
<tr>
<td>Crème fraîche*</td>
<td>40</td>
</tr>
<tr>
<td>Whipping cream</td>
<td>39</td>
</tr>
<tr>
<td>UHT canned spray cream</td>
<td>32</td>
</tr>
<tr>
<td>50/50 whipping cream/Greek yogurt</td>
<td>24</td>
</tr>
<tr>
<td>Soured cream</td>
<td>20</td>
</tr>
<tr>
<td>Half fat Crème fraîche*</td>
<td>15</td>
</tr>
<tr>
<td>Single cream</td>
<td>19</td>
</tr>
<tr>
<td>Half cream</td>
<td>13</td>
</tr>
<tr>
<td>50/50 single cream/low fat yogurt</td>
<td>10</td>
</tr>
<tr>
<td>50/50 half fat Crème fraîche*/very low fat fromage frais</td>
<td>8</td>
</tr>
<tr>
<td>Quark</td>
<td>Trace</td>
</tr>
</tbody>
</table>

For yogurts:
- yogurts, quark or fromage frais as alternatives to double cream or pastry cream in desserts (mixtures can also be used)
- low fat plain yogurt for cooking or low fat fruited yogurt for desserts
- Greek yogurt in place of sour cream, e.g. for dips
- plain yogurt (stabilized with starch such as cornflour or locust bean gum) for savoury dishes or with arrowroot for desserts
- in place of cream in hot soups (e.g. chicken, cream of tomato, mushroom soup) and sauces
- plain yogurt or lower fat fromage frais for dips, dressings and dessert toppings.

For milk:
- lower fat milk (e.g. skimmed, semi-skimmed)
- powdered skimmed, skimmed or semi-skimmed milk (without added non-fat milk fat i.e. non-filled).

MEAT, FISH AND ALTERNATIVES

Select leaner meats and lower fat and lower salt meat products where possible.

The healthier alternatives include:
- leaner cuts of red meat (e.g. beef, pork, lamb, venison)
- lean processed meats (e.g. ham, bacon)
- lower fat and salt (sodium) pre-prepared meat products
- skinless poultry (e.g. chicken, turkey, ostrich)
- fresh and frozen fish and seafood
- oily fish (e.g. herrings, mackerel, salmon, fresh tuna, trout, sardines)
- fish (e.g. tuna, salmon, sardines and pilchards) canned in water, tomato sauce or brine (although this is higher in salt), rather than oil
- meat substitutes - tofu, textured vegetable protein and mycoprotein (Quorn®)
- dried or tinned peas or beans (e.g. red kidney beans, black-eyed beans, butter beans, haricot beans, flageolet beans, split peas, chick peas) tinned beans in tomato sauce or water
- lentils - dried, green or red
- unsalted nuts - though not low in fat, nuts are rich in monounsaturates (see appendix 3)
- eggs - not fried (see section 5, page 46, for information about cholesterol in eggs).
3.4 Preparing and cooking food in healthier ways

Cooking techniques and preparation methods can also make a substantial contribution to healthier catering practices.

REDUCING THE FAT CONTENT

Whilst the choice of ingredients is very important, several cooking methods and preparation techniques can be used to reduce the fat content of dishes.

Easy ways to cut down on fat in food preparation include:
- trimming visible fat from meat
- removing the skin and fat from poultry before cooking or serving (except for roasts)
- preparing lower fat vinaigrette dressing using 3 parts wine vinegar, orange or lemon juice to 1 part oil

‘Healthier’ cooking practices to reduce fat include:
- routinely grilling, steaming, stir-frying or oven baking rather than frying or roasting with added fat
- using non-stick frying pans whenever possible (although this may be unrealistic in some commercial situations)
- using spray oils
- dry frying or dry roasting spices
- skimming fat from the surfaces of liquids, including gravy, before serving
- sweating onions in cling film (microwavable) in a microwave instead of sautéing them in oil
- avoiding letting food sit in fat when roasting or oven cooking by roasting on a rack or trivet and grilling on a rack, rather than a flat oven tray (keeping basting to a minimum if possible, without affecting taste)
- creating soups and sauces from pureed vegetables or reductions, instead of roux thickenings
- not enriching with butter (monter au beurre) unless absolutely necessary (e.g. in classic dishes)
- using a thin batter for fish or oven baking pre-coated products
- using a whisked sponge method or mix for puddings, instead of the creamed method
- not tossing the item, e.g. pasta, in butter (use a small amount of oil to prevent sticking for bulk quantities).

INCREASING THE AMOUNT OF VEGETABLES, FRUITS AND STARCHY FOODS

Adding more vegetables, fruit and starchy foods (e.g. rice, pasta and potatoes with their skins) and pulses will increase the fibre content of a meal.

Other ways include:
- where possible (i.e. based on dish type), returning ingredients that provide fibre (e.g. vegetables or fruits) rather than straining them out or removing them
- adding extra starchy foods, such as cooked pasta and pulses (e.g. kidney beans and chick peas), brown rice or cracked wheat to salads, stews and other savoury dishes
- leaving the skins on potatoes, vegetables and fruits whenever possible, but washing them well (carrots should be peeled and topped)
- using a mixture of white and wholemeal flours.

Key points for students:
- The way in which food is prepared and cooked will have a large impact on the amount of fat it contains. For example, simply removing the skin from poultry or trimming off excess fat from meat before cooking and using alternative cooking methods to frying or roasting (e.g. grilling, steaming, baking) will substantially reduce the fat content.
- Similarly, simple measures can be adopted in the preparation of food to reduce the salt and sugar content, and enhance the amount of fibre.
- Simple techniques in the kitchen can also avoid unnecessary loss of vitamins from fruit and vegetables, e.g. short storage periods, using the minimum amount of water during cooking, and placing foods directly into water that is already boiling or steaming.

Simply taking the skin off chicken prior to cooking can remove three-quarters of the fat (reducing it from 18g to 4g per 100g).

FATS AND OILS

Use sparingly. Replace fats high in saturates with those containing a high proportion of unsaturates (see appendix 3).

The healthier alternatives include:
- oils and fats that are high in saturates - that is polyunsaturates (e.g. sunflower, soya, sesame, safflower and corn oils, sunflower and soya margarine) or monounsaturates (e.g. olive oil, rapeseed oil)
- ‘whiter’ shortening high in unsaturates for pastry making
- low fat spread for spreading and/or margarines rich in unsaturates for cooking and using coconut milk in place of creamed coconut for flavouring and potatoes or low fat plain yogurt (to thicken) in some curries
- reduced calorie and reduced fat mayonnaise and dressings.

Choosing an oil

Some fats and oils are rich in different types of fatty acids:

<table>
<thead>
<tr>
<th>FATTY ACIDS</th>
<th>OILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>High in saturates</td>
<td>High in unsaturates</td>
</tr>
<tr>
<td>High in monounsaturates</td>
<td>High in polyunsaturates</td>
</tr>
</tbody>
</table>

This classification is simplistic but further details can be found in appendix 3.

<table>
<thead>
<tr>
<th>Mayonnaise</th>
<th>Reduced calorie mayonnaise</th>
<th>50/50 reduced calorie mayonnaise/low fat yogurt</th>
</tr>
</thead>
<tbody>
<tr>
<td>76</td>
<td>28</td>
<td>18</td>
</tr>
</tbody>
</table>

Whilst price will be determined by the supplier or contractor, speciality oils (e.g. walnut oil, peanut oil) do tend to be more expensive. But most vegetable oils (except coconut and palm oils) will meet the requirements for healthier catering.
3.5 Healthier ways to serve foods

At point of service, caterers have an ideal opportunity to help their customers understand more about healthy choices and to achieve a healthy meal in line with Eating for Health (see section 3.2, page 10). Dishes should not automatically be dressed with higher fat items, e.g. butter or cream, prior to service. Wherever possible, give customers the choice. Recent consumer research carried out in pubs and restaurants found that:

- a third of customers would like to be offered lower fat milks with beverages
- a third would like the choice of adding butter to vegetables and potatoes themselves rather than having it already added
- 83% would like chips to be served unsalted so that they can add salt if they wish.

Health Education Authority (1996)

Encourage customers to eat more starchy foods, vegetables and fruit by:

- adjusting the proportions of the components of the main dish to improve the balance, e.g. serving more starchy foods (such as pasta or rice) and slightly less sauce
- providing bread with main meals
- offering plenty of vegetables or salad
- offering dressing-free side salads to accompany hot main meals
- offering plenty of fresh fruit, as well as lower fat fruit-based desserts providing smaller serving utensils and dishes for higher fat foods, e.g. smaller ladles and bowls for creamy soups.

Let the customer choose by:

- serving vegetables unglazed and items such as bread, rolls, toast, fruit breads and baked potatoes unbuttered, and by offering a choice of butter, unsaturated margarines or low fat spread separately for those customers who want them
- allowing customers to add their own sauces and dressings. Highlight healthier alternatives, for example ‘fat free’ dressings
- letting customers add their own cream or other toppings to desserts and by providing a choice of lower fat alternatives (e.g. ‘half’ fat or ‘light’ creams, reduced fat crème fraîche, low fat fromage frais), although portion control and cost must be considered
- limiting salt addition during cooking (e.g. chips) and letting customers add their own salt at the table.

3.6 Merchandising and marketing healthier choices

Despite the growing interest in diet and health, to some customers the term ‘healthy’ can read ‘tasteless’ and ‘boring’. So, informing customers about healthier catering practices or healthier choices on the menu must be handled carefully.

Lifestyle is a key determinant in the food selection process and the way in which the product is presented (merchandising technique) needs to be flexible and determined by the customer base. As far as the promotion of healthier items is concerned, a great deal depends on customer profiles, the level of nutritional hygiene required for the client company’s wishes in contract catering and the level of nutritional awareness of restaurant users.

Key points for students

- At the point of service, caterers can encourage customers to eat a healthy, balanced meal by increasing the portion sizes of starchy foods, fruit and vegetables on offer.
- Wherever possible, higher fat items, e.g. gravies, dressings and dessert toppings, should be served separately so that customers choose how much they wish to add.
- Instead of automatically glazing vegetables or buttering bread and other items, these should be served plain and portions of low fat spread, unsaturated margarine and butter should be made available for customers who wish to add fat.
- Extra salt should not be added to foods (e.g. chips) prior to service.

Additional information

Students can experiment with the above points during practicals by assessing the impact of:

- adapting the amount of salt added during cooking
- weighing out added salt
- comparing the salt content of ingredients to identify lower salt alternatives.

Recipe evaluation can determine the extent to which salt can be minimised without affecting taste or quality. Students can experiment during practicals by assessing the impact of:

- using salt sparingly in cooking - gradual reduction cooking methods affect the amount of salt in the final dish. So, sauces should be reduced first and then seasoned
- using herbs, spices, lemon - lime juice to flavour food in place of salt
- avoiding the use of stock pastes, granules, packet soups and sauces that contain a lot of salt, where possible (see section 3.2, page 13).

REDUCING THE AMOUNT OF SUGAR

There are many ways to lower the sugar content of dishes, such as:

- using reduced sugar recipes where practical and acceptable
- cutting down on the amount of sugar used when sweetening creams, fillings, puddings and garnishes
- using dried fruit and fresh fruit to sweeten dishes
- reducing the quantity of sugar in sauces where practical and acceptable
- poaching fruits in natural unsweetened fruit juice or low sugar syrups (but this may affect the keeping and eating quality).

GOOD PRACTICES WITH FRUIT AND VEGETABLES

Simple techniques in the kitchen can minimise the loss of vitamins from fruit and vegetables.

Losses occur because:

- some vitamins are soluble in water and can be lost by moist methods of cooking, such as boiling and steaming, or by soaking
- some vitamins can also be destroyed at high temperatures, so certain cooking methods, e.g. high pressure steaming, can lead to considerable losses.

Many methods that preserve the vitamin content will also ensure a better quality product.

Good practice with fruit and vegetables includes:

- never leaving vegetables in water for long periods as water-soluble vitamins will leach out and be lost
- using the minimum amount of water in cooking: steaming or microwaving vegetables will preserve more of the vitamin content than boiling
- cooking vegetables by placing them directly into water that is already boiling to minimise losses
- not cutting vegetables into very small pieces (with a greater surface area for vitamins to leach out into water)
- using a combi oven to steam vegetables
- cooking vegetables rich in vitamin C (which is readily destroyed by heat) in small quantities and as quickly as possible to preserve the vitamin content
- stir-frying vegetables in a little oil, which is a quick method of cooking that will ‘seal in’ the vitamins
- using spray oil
- storing foods containing vitamin C for short periods only and using them as fresh as possible (this will also improve the colour, flavour and texture)
- cutting vegetables with a sharp knife to avoid bruising
- adding lemon - lime - or vinegar-based dressings to salad to help to reduce vitamin C loss, as this vitamin is more stable in acidic conditions
- not preparing fruit and vegetables too early, as valuable vitamins will be lost during warm-holding (the taste and texture will also be affected).

Frozen or vacuum-packed vegetables often contain larger amounts of vitamins than stored fresh versions.

There are legal definitions that must be met when making a nutritional claim.
Key points for students continued
(e.g. ‘low’ fat). It is far safer to inform customers about changes to cooking methods or ingredients (e.g. made with semi-skimmed milk).
• Taking care with the presentation of healthier items can make them even more appetising.
• Putting healthier foods in places that are easy to reach at the point of service and reducing price (e.g. promotions) can encourage sales.
• Posters, advertising and leaflets about healthy eating can be effective, particularly in larger catering establishments. Other promotional opportunities include theme days, free tastings and healthier catering awards.
• Staff should be kept fully informed of new dishes and healthier catering practices so that they can aid customers in their food selection.

To support caterers in providing healthier options to consumers, the Health Education Authority carried out some research in workplace catering outlets to compare the effect of different promotional strategies and presentation styles on sales and customer opinions, e.g. small changes to popular dishes or active promotion of ‘healthier’ options.

The best strategy was found to depend upon several factors, including the type of venue and the nature of the changes made. In smaller catering establishments, where the number of main meals or choices on offer is limited, adopting ‘across the menu’ changes (see section 3.1) and offering a healthier dish to everyone without aggressive marketing appears to work well. A subtle statement emphasising the benefits to customers, whilst reassuring them that popular dishes will still feature and that taste will not be compromised, is often the best approach. Ways to do this include displaying a Mission Statement or a Healthier Catering Policy, or by making general statements outlining any changes (e.g. semi-skinned rather than whole milk is now used in all recipes).

In larger outlets where there is scope to offer a wider choice, new menu items that meet the healthy eating criteria can be introduced and should sell well alongside other dishes (as long as they are reasonably priced, taste good and look attractive). The way in which these items are described and presented on the menu is a key factor in encouraging people to try them out. Labelling a specific item or dish as ‘the healthier option’ can actually reduce its popularity in some cases. Emphasising increased choice and variety or the novelty aspect of new dishes on the menu can be more effective. Placing healthier options as the first items on a printed menu or highlighting them as the ‘dish of the day’, on signs placed by the dish at point of service, can encourage their selection.

Customers can be informed at point of selection of the ingredients in a dish. This can promote healthier choices, as well as assisting food allergy sufferers.

Larger establishments may be able to use marketing activities to inform current and potential customers of their changes. This can take place in the restaurant area starting with ‘Coming soon’. But it can also involve a variety of other methods including e-mail (workplace catering), promotional posters or leaflets. Those catering in a workplace may also communicate via company newsletters, desk drops, notice boards in strategic places around a site, displays and links to occupational health activity, as long as approval is obtained from the appropriate person on site. Whatever approach is used, the ‘four Ps’ of traditional merchandising can still be applied:
• providing a good quality product
• presenting foods attractively
• making the price competitive and appropriate
• promoting foods by using displays, communication, advertising and new ideas.

Product
Although people are becoming more interested in healthy eating, their main priority when eating out remains good value. Healthier options will only sell if they are perceived to be of good quality by the customer.

Presentation
We all know that how a meal looks is very important in determining whether or not customers decide to purchase it. Positioning is also important; any new dishes should be displayed prominently, either first or at the front of the counter within easy sight and reach. However, healthier options should not usually be positioned separately as this could encourage some people to leave them out, e.g. at main course hot dishes should usually be kept together. The challenge to the caterer is then to present these items in a way that will encourage their selection.

Price
Value for money is still the strongest influence on customer choice. Although some ingredients (e.g. leaner meat) can cost more, it is a common misconception that healthier options are always more expensive for the caterer. Strategies can be adapted to make the cost of healthier options equal to, or less than, those of traditional meals. These include providing larger portions of starchy foods (e.g. bread, rice or potatoes) and vegetables, or reducing the quantities of more expensive items or the amount of fat used in cooking.

Customers are more likely to try out new options if they are initially marketed with some kind of sales incentive. Pricing strategies, such as reducing the cost of healthier menu items, have been found to have a substantial effect on sales (see below).

Promotional activities
Healthier catering can be promoted using a variety of activities including:
• theme days where the focus is not overtly healthy eating but the foods offered are based on healthier catering practices (e.g. promoting Italian, Indian, Thai or Chinese cuisine or links to events, such as the Olympics or Wimbledon, or to festive occasions, such as Halloween or Christmas).

For example, an Italian theme day could be used to promote:
• different types of pasta
• a range of different sauces, some of which are lower in fat, e.g. some tomato-based sauces
• a variety of fruit and vegetables, e.g. beans in salads, fruit desserts
• a range of different breads
• thick-based pizzas with plenty of vegetable toppings and/or lower fat cheeses or bacon.

An Indian theme could include:
• chapatti and Naan bread
• plenty of boiled rice
• a range of dishes based on lentils, beans or peas
• chicken dishes thickened with yogurt (or potato) and flavoured with dry fried spices
• dishes cooked in vegetable oil instead of ghee.

• special promotions - e.g. a week of different breads
• reduced price deals - e.g. offering a menu item at a lower price for a day or two as ‘Dish of the Day’
• seasonal specials - e.g. reducing prices for desserts using fruits in season
• package deals - selling food items together at one price, e.g. a roll with soup or fresh fruit with a sandwich.

The success of new menu ideas can be assessed by:
• using a suggestion box
• carrying out customer surveys
• talking to customers
• monitoring sales.

Of 2000 restaurant and pub customers interviewed, 91% said that healthier options on the menu should be no more expensive than other items.

Health Education Authority (1996)

Describing healthier choices on the menu
• Describing foods as ‘freshly cooked’, ‘tasty’ or ‘satisfying’ is likely to be more enticing than referring to the ‘fat content or the “healthiness” of a dish.
• Simple symbols on the menu or at point of sale are useful (e.g. V for vegetarian) but any nutritional claim must be supported or justified (see page 25).
• ‘Healthier’ options should be placed alongside existing menu items where customers are sure to see them, rather than in a separate menu section.
• Menus can be illustrated with colour photographs of healthier dishes.
• meal deals - offering a complete meal for a lower price than the total cost of all the separate items, e.g. a sandwich, yogurt and fresh fruit
• free ride - offering free selected items with purchased foods, e.g. a free jacket potato with a main meal, a free glass of fruit juice with breakfast cereals, a free Naan bread with a curry, or an extra serving of vegetables with a meal
• tying foods - selling a fast moving item with a slow seller at a discounted price, e.g. ‘buy a chicken sandwich and select a piece of fruit for half the price’
• offering free tastings of less familiar foods, e.g. fat-reduced cheeses or unusual fruits
• awards - find out if there are any awards in your local area for caterers who provide healthier options on the menu. An award provides a caterer with an external recognition of achievement in healthier catering practices.
• providing copies of recipes for customers to take home and make themselves.

The case studies below describe how three caterers have successfully implemented healthier catering practices.

Case Studies

“I provide catering services for a manufacturing company, with a policy that supports healthy alliances at work, but my customers took a traditional approach to food selection despite being offered healthier choices. I decided to review ingredients and cooking methods and to make gradual changes to reduce added fat and the amount of added salt. As a chef, presentation, taste, quality and food cost are the benchmarks on which I judge my performance. The bonus is that the food still meets customers’ taste and quality perceptions and, by reducing added oil, I have cut my food costs. The subtle approach worked and I have contributed to giving the food a healthier profile!”

Jason Trotman, Food Quality and Production Manager
Catering and support services supplier, Swindon

“For many years my customers had shown a preference for white bread and although I offered wholemeal and multi-grain alternatives, there was a very poor uptake. After an educational promotion on diet and health, incorporating the principles of Eating for Health, customer food selection patterns began to change over 1-2 years. This also coincided with the wider implications of the growth in ‘grazing’ and ‘grab n’ go’ eating patterns. A complete reversal in bread and sandwich preferences has taken place. Now at the sandwich and deli bar we offer a similar number of sandwiches and rolls made from white and whole-grain bread and these have equal proportional uptake. Customers can have the spreading fat of their choice, or no spread, and a range of fillings and salad items are on offer so that they can create their own healthy, or not so healthy, combination. What matters to me is that the choices on offer are matching changing customer demand and expectations”.

Sean Charles, Head Chef
Prestigious Business and Industry Group, Scotland

“Following a customer survey, I have introduced a sense of theatre for my office-based customers. They want to know more about the ingredients I am using, so I make sure that the catering staff are fully briefed on dish content and portion sizes before food service. I also decided to give customers the chance to choose from a range of ingredients to create their own stir-fry recipe, which I cook for them. They can add rice, noodles or a range of breads to complete their selection. It’s really popular and gives extra value, which my customers are prepared to pay for. It satisfies the messages in the Balance of Good Health, providing a variety of vegetables, a serving of starchy food, moderate amounts of lean meat, fish or poultry and a tiny amount of oil. Of course, there are extra items that the health aware can choose to complete their meal, including fruit and yoghurts”.

Warren Turvey, Head Chef
Ordinance Survey, Southampton

Making nutritional claims carries risks

When highlighting a healthier choice, it is important to ensure that any claims are true and not exaggerated in order to avoid prosecution under various statutory provisions (Trade Descriptions Act 1968, Food Safety Act 1990).

Note: A proposed new EU regulation on nutrition and health claims made on foods is due to take effect towards the end of 2006 or early in 2007. This regulation will change some of the conditions for certain claims. Advice should be sought from the relevant local authority environmental health officer before making any claim.

There are currently specific regulations covering claims for ‘reduced’ or ‘low’ energy foods and for claims about fat, protein, cholesterol and vitamins and minerals. There are also guidelines covering the use of terms such as ‘low’, ‘high’ or ‘reduced’ for nutrients such as fat, saturates, sodium (salt), sugars and for fibre.

For example,
• to describe an item as ‘low fat’ it must contain no more than 3g of fat per 100g of food (or per 100 ml for liquids)
• a ‘reduced fat’ food should contain at least 25% less fat than a comparable food
• a “low salt” food must contain no more than 40mg of sodium per 100g.

The regulations require that, when a nutrition claim is made, the label must bear nutrition information to support that claim, in the prescribed format. So, foods purchased pre-packed and sold as individual items (e.g. low fat cottage cheese) must provide nutrition information on the label. When a claim is made for a non-pre-packaged food sold by caterers (e.g. ‘this is a low fat pizza’), full nutrition information is not required. However, information about the nutrient for which the claim is made may be given at the point of sale on a per 100g (or per 100ml) or per portion basis.

Examples of claims and the guidelines for their use are given in the table over the page.
Making a nutrition claim - not as easy as it might appear

While these guidelines are non-statutory, misleading claims can lead to legal action.

Nutritional claims must be supported by full nutritional information. Recipe analysis can be carried out by a dietitian or nutritional using a computer package. Alternatively, a sample of food can be sent away for laboratory analysis. Both methods are time consuming and can be costly.

Low fat means that there is no more than 2g of fat in 100g (or 100ml for liquids) of the food. This means total fat, not just added fat. For example: Tomato salsa (serves 12)

<table>
<thead>
<tr>
<th></th>
<th>Fat</th>
<th>Calories</th>
<th>Sugars</th>
<th>Sodium</th>
<th>Salt</th>
<th>Servings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomato salsa (100g)</td>
<td>3.2g</td>
<td>48 kcal</td>
<td>0.5g</td>
<td>1.4g</td>
<td>0.2g</td>
<td>2 servings</td>
</tr>
</tbody>
</table>

This means that the food/dish should contain a stated amount, e.g. less fat (stated amount, as a percentage) than a comparable food/dish.

Total fat reduction 45% to fry the onions and garlic) 1.2g

Original 2.2g

Tomato salsa (serves 12)

For example: Tomato salsa (100g)

<table>
<thead>
<tr>
<th></th>
<th>Fat</th>
<th>Calories</th>
<th>Sugars</th>
<th>Sodium</th>
<th>Salt</th>
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<td>1.4g</td>
<td>0.2g</td>
<td>2 servings</td>
</tr>
</tbody>
</table>

Sauces

Sausages are used to add flavour and texture and improve the appearance of foods but many traditional sausages are very high in fat. This need not matter quite so much if the amount of sauce in a dish is small, but if large portions are provided it can have a substantial effect on the energy and fat content of the dish. Use in this way should be restricted to meals for special occasions. But choice of ingredients and preparation methods can make a considerable difference.

Student Tips

• Try using semi-skimmed milk as a substitute for whole milk in sauce making.
• Finish sauces with lower fat creams/cream products, low fat yogurt or fromage frais, instead of butter, cream or egg (if necessary this could be stabilised with a little starch such as cornflour or potato starch, e.g. fécule).
• If you are making sauces with cheese, use a smaller amount of a stronger flavoured cheese, such as parmesan, or a strong Cheddar.
• Try using a béchamel sauce in place of a cheese sauce in dishes which are high in fat.

SOUPS AND SAUCES

The best restaurants have excellent two-way communication between the kitchen and the service staff. It improves customer relations and promotes empowerment. Ways of facilitating this include:

• staff meetings
• briefings prior to service
• providing descriptions of foods on the menu
• providing information on dishes with ingredients that might be unacceptable for some customers (e.g. nuts, gluten) (see section 4.2.8).

Below is a case study example of how good staff communication has been achieved in one catering outlet:

Service staff need to know about the nutritional benefits of menu items on offer if they are to convey these messages to their customers.

Case Study

As a company we recognise the importance of good communication. We are also very aware of the role of health and always include healthy choices on the menu in our Partners’ dining rooms. New staff who join as catering partners undergo a training programme that includes information about healthier catering practices. Half-hour communication sessions are held each week and these provide an ideal opportunity to keep catering staff up-to-date about any changes on the menu.

We are currently in the process of developing a nutrition pledge to raise awareness of healthy eating amongst our staff. This will ensure that standardisation in our Partners’ dining rooms across the country, both in terms of the healthier options offered and the training provided to catering staff. We are also looking at pricing to ensure that healthier foods are not more expensive than other options*.

Lynn Johnstone, Manager, Catering Administration for a major retailer

3.7 Healthier catering in practice

This section provides practical examples to demonstrate the nutritional benefits that can be achieved through small changes to ingredients and methods of food preparation, for several of the SVG Food Preparation and Cooking units.

The conventional recipes have been taken from Practical Cookery, where details of the methods can be found.

• The contribution of fat, protein and carbohydrate to the energy content of each dish is also given. Whilst the nutritional analysis can be compared with current recommendations (see appendix 6), these recommendations apply to overall intake and do not need to be met for each dish/meal.

• Students could carry out a price comparison between the traditional and modernised dishes to demonstrate how healthier catering practices might affect cost.

• Students can compare the appearance, aroma, taste and texture of the traditional and modified dishes (see appendix 7 for a taste evaluation form).

• Accompaniments to some dishes are also suggested to demonstrate how to serve a meal to meet the proportions illustrated in Eating for Health (see section 3.2, page 10).

"Healthy foods can be appealing and tasty. It’s just a question of getting the right balance".

Stephen Hiles
Divisional Chef Trainer for a major catering and support services supplier

A recent MORI survey found that 84% of customers regarded the staff working at restaurants to be an important source of information to help them choose what to eat.

Food Standards Agency (2002)
Serving soups with bread is an easy way to boost the amount of starchy foods in a meal. Toasting croûtons, rather than frying them, will help to reduce the fat content.

**Soups**

Soups can be a dish in their own right and those made from purées or sweated broths, in particular, can make a significant contribution to a healthy balanced diet.

**Student Tips**

- Try using food processors and liquidisers to make soups without the use of a roux thickening (using a starchy food, e.g. potatoes, to thicken). This can reduce the fat content of the dish, provide a lighter product and reduce cooking time, thereby improving the retention of vitamins that are readily destroyed by heat.
- Skim off excess fat wherever possible.
- Aim not to add cream to soups (although it is often considered essential to classic dishes such as velouté soups).
- Use leaner cuts of meats.
- Use salt sparingly and allow the customer to add extra if required at the table.
- Use fresh vegetable stocks/pastes and bouillons or lower salt versions as many convenience stocks can be very salty.
- Try using stock cubes and packet soups that have a lower salt content.

**Example: Vegetable soup**

**Traditional recipe for vegetable soup - 10 portions**

- 1.5kg Mixed vegetables (onion, carrot, turnip, leek, celery)
- 125g Flour
- 2.5 litres (2500ml) White stock
- 300g Potatoes
- Seasoning: Bouquet garni, salt, pepper
- Serve with croûtons: 125g Butter
- 3 slices (108g) White bread

**Modified recipe for vegetable soup - 10 portions**

- 1kg Mixed vegetables (onion, carrot, turnip, leek, celery)
- 2 litres (2000ml) Vegetable stock
- 300g Potatoes
- Seasoning: Bouquet garni, salt (try using less), pepper
- Serve with: 10 thick slices (440g) granary or olive bread (one slice per person)

**Modifications to traditional recipe**

- Less oil is used as the vegetables are sautéed with the pan lid on and softened in the steam created.
- Olive oil or sunflower oil are used in place of butter.
- Olive or granary bread is offered as an accompaniment, instead of traditional croûtons fried in butter.

**How do the nutritional compositions compare?**

<table>
<thead>
<tr>
<th>Nutritional content per portion</th>
<th>Traditional (42g/portion)</th>
<th>Modified (41g/portion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (kJ)</td>
<td>1167</td>
<td>1099</td>
</tr>
<tr>
<td>(kcal)</td>
<td>279</td>
<td>263</td>
</tr>
<tr>
<td>Total fat (g)</td>
<td>21.2</td>
<td>11.7</td>
</tr>
<tr>
<td>Saturates (g)</td>
<td>13.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Fibre (g)</td>
<td>2.6</td>
<td>4.4</td>
</tr>
</tbody>
</table>

These simple adaptations produce a soup with less fat, only a small proportion of saturates and considerably more fibre.

**MEAT, POULTRY AND OFFAL DISHES**

Meat, poultry and offal dishes can be an excellent source of protein and iron, as well as B vitamins (especially B12), zinc and magnesium. However, the use of fatty cuts of meat can make a significant contribution to overall fat intake, so using lower fat versions or removing excess fat whenever possible is important.

**Student Tips**

- To reduce the fat content of meat dishes, order lean cuts of meat, trim off excess fat where possible, remove the skin from chicken before cooking in dishes such as casseroles, and skim off excess fat before serving.
- Bake, grill, roast, dry fry or poach to reduce the fat content.
- If frying, make sure the oil temperature is correct (using thermostats on deep fat fryers and manufacturers’ guidelines regarding weights of food per oil volume), change the fat regularly and drain well. Larger pieces of coated meat will absorb less fat than smaller pieces.
- Always use the minimum amount of additional fat possible without compromising on taste, and always rack and drain the meat.
- Always drain fried foods well.
- Improve the overall balance of the meal by serving it with plenty of vegetables or a starchy food (e.g. bread).

**Example: Lasagne**

**Traditional recipe for lasagne - 10 portions**

- 500g Lasagne
- 3 tbs (33g) Oil
- 250g Onion
- 125g Carrot
- 125g Celery
- 500g Minced beef
- 125g Streaky bacon
- 125g Tomato purée
- 1 litre Demi-glace (80g butter, 80g white flour, 1330ml stock)
- 1 1/2 cloves (4.5g) Garlic
- 250g Mushrooms
- Béchamel sauce (600ml whole milk, 50g white flour, 50g butter)
- 125g Cheddar
- Seasoning: Majoram, salt, pepper

**Modified recipe for lasagne - 10 portions**

- 700g Lasagne
- 250g Onion
- 150g Carrot
- 175g Celery
- 500g Lean minced beef *
- 1200g Canned tomatoes
- 11/2 cloves (4.5g) Garlic
- 300g Mushrooms
- Béchamel sauce (600ml semi-skimmed milk, 50g white flour, 50g polyunsaturated margarine)
- 100g Mature Cheddar
- Seasoning: Majoram, pepper

*Note: Could substitute pulses, e.g. lentils or textured vegetable protein, in place of some of the minced beef.
The mince is lean and dry fried. The fat produced is used to sweat down the vegetables.

 parish is added.

 The demi-glace and tomato purée are replaced by tinned tomatoes.

 The sauce is made using semi-skinned milk instead of whole milk.

 When using stock to cook

 Try using oven-baked filo pastry in place of enriched pastry.

 CONTINUED

 Half the gruyère is substituted by fromage frais and the other half is

 Finally the sauce is not finished with double cream, butter and egg yolk.

 Steaming or microwaving fish helps to retain nutrients and avoids

 If a dish must be finished with butter, try lightly brushing with melted

 Boil, poach, steam, grill or bake rather than deep fry whenever possible.

 (see section 3.2,

 model - they contain plenty of star chy foods, a variety of

 If possible do not glaze with extra butter before service.

 For cheese sauces try using smaller amounts of a stronger tasting cheese

 Use skimmed or semi-skimmed milk in sauce making.

 If you are deep frying fish, use unsaturated oil and make sure that the

 Béchamel is made with a polyunsaturated margarine and semi-skimmed

 The nutritional composition of any fish dish will depend upon the way the

 fish is cooked and the other ingredients added but, in general, fish is an

 excellent source of protein and B vitamins and contains several important

 minerals including phosphorus, selenium and iodine. The bones of whitebait

 and tinned sardines, pickards and salmon (when eaten) also provide plenty of calcium and phosphorus. The oil-rich fish, such as sardines, trout, herring, mackerel, salmon and tuna, contain the fat soluble vitamins A and D. Although this type of fish contains a larger amount of fat than white fish, the type of fatty acids that it contains (the n-3 or omega 3 fatty acids) have been shown to have many benefits for health (see appendix 3).

 Modifications to traditional recipe

 • The mince is lean and dry fried. The fat produced is used to sweat down the vegetables.
 • Bacon is omitted and extra vegetables are added to the sauce (tomatoes, carrot, celery).
 • Extra lasagne is added.
 • The demi-glace and tomato purée are replaced by tinned tomatoes.
 • The sauce is made using semi-skinned milk instead of whole milk.

 Nutritional content per portion

<table>
<thead>
<tr>
<th></th>
<th>Traditional (303g/portion)</th>
<th>Modified (408g/portion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (kJ):</td>
<td>2545</td>
<td>2061</td>
</tr>
<tr>
<td>(kcal):</td>
<td>608</td>
<td>493</td>
</tr>
<tr>
<td>Total fat (g):</td>
<td>33.1</td>
<td>15.5</td>
</tr>
<tr>
<td>Saturates (g):</td>
<td>16.3</td>
<td>5.9</td>
</tr>
<tr>
<td>Fibre (g):</td>
<td>3.4</td>
<td>4.8</td>
</tr>
</tbody>
</table>

The modified lasagne provides less energy and the proportion of energy coming from fat, particularly saturates, is lower. Skimming the fat from the meat would reduce the total fat content even further. Serving the lasagne with a salad and bread or a jacket potato would provide a meal with the balance of the food groups shown in Eating for Health (see section 3.2, page 10).

Fish Dishes

The nutritional composition of any fish dish will depend upon the way the fish is cooked and the other ingredients added but, in general, fish is an excellent source of protein and B vitamins and contains several important minerals including phosphorus, selenium and iodine. The bones of whitebait and tinned sardines, pickards and salmon (when eaten) also provide plenty of calcium and phosphorus. The oil-rich fish, such as sardines, trout, herring, mackerel, salmon and tuna, contain the fat soluble vitamins A and D. Although this type of fish contains a larger amount of fat than white fish, the type of fatty acids that it contains (the n-3 or omega 3 fatty acids) have been shown to have many benefits for health (see appendix 3).

For comparison, the nutritional composition of a portion (310g) of a pre-prepared lasagne from a catering supplier is:

- Energy (kJ): 2548
- (kcal): 609
- Total fat (g): 6.9
- Saturates (g): 2.4
- Fibre (g): 0.5

However, the composition will vary, so it is important to check the label.

White fish naturally contains very little fat but this is often increased dramatically by the addition of high fat sauces or when it is coated in batter or breadcrumbs and fried.

We should be eating at least two portions of fish a week, including one of oily fish. The consumption of oil-rich fish helps to reduce deaths from heart disease.

Rice Dishes

Rice is a good source of starchy carbohydrate, B vitamins and fibre. Brown rice has a higher fibre and B vitamin content than white rice, as there are considerable losses of these nutrients during the polishing process. Rice is a useful alternative to wheat products for people who need a gluten-free diet (see section 4.2.6).

Many rice-based dishes (e.g. paella, risotto, pilafs) fit with the Eating for Health model - they contain plenty of starchy foods, a variety of vegetables and a moderate amount of meat or fish.

Example: Fillets of sole mornay

Traditional recipe for sole mornay - 10 portions

<table>
<thead>
<tr>
<th>5 (1500g)</th>
<th>300ml Fish stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>625ml Béchamel sauce</td>
<td></td>
</tr>
<tr>
<td>3 (54g) Egg yolks</td>
<td></td>
</tr>
<tr>
<td>125g Gruyère cheese</td>
<td></td>
</tr>
<tr>
<td>60g Butter</td>
<td></td>
</tr>
<tr>
<td>5 tbsp (150g) Cream</td>
<td></td>
</tr>
<tr>
<td>Seasoning: Salt, cayenne</td>
<td></td>
</tr>
</tbody>
</table>

Modified recipe for sole mornay - 10 portions

<table>
<thead>
<tr>
<th>5 (1500g)</th>
<th>300ml Fish stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>625ml Béchamel sauce</td>
<td></td>
</tr>
<tr>
<td>75g Fromage frais</td>
<td></td>
</tr>
<tr>
<td>75g Parmesan cheese</td>
<td></td>
</tr>
<tr>
<td>Seasoning: Salt, cayenne</td>
<td></td>
</tr>
</tbody>
</table>

Modifications to traditional recipe

• The béchamel is made with a polyunsaturated margarine and semi-skinned milk, instead of the butter and whole milk in the traditional recipe.
• Half the gruyère is substituted by fromage frais and the other half is replaced by stronger tasting parmesan.
• Finally the sauce is not finished with double cream, butter and egg yolk.

How do the nutritional compositions compare?

Nutritional content per portion

<table>
<thead>
<tr>
<th></th>
<th>Traditional (323g/portion)</th>
<th>Modified (301g/portion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (kJ):</td>
<td>1759</td>
<td>1136</td>
</tr>
<tr>
<td>(kcal):</td>
<td>420</td>
<td>272</td>
</tr>
<tr>
<td>Total fat (g):</td>
<td>28.0</td>
<td>11.8</td>
</tr>
<tr>
<td>Saturates (g):</td>
<td>15.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Fibre (g):</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

The traditional dish is very high in fat, particularly saturates. Adapting the sauce makes the dish less rich, with a lower fat content. Serve with new potatoes and steamed green vegetables to add some fibre.

Student Tips

• Offer boiled or steamed rice.
• When using stock to cook rice dishes, limit the amount of salt added.
• Try using lower salt versions of convenience products.

For comparison, the nutritional composition of a portion (310g) of a pre-prepared lasagne from a catering supplier is:

- Energy (kJ): 2548
- (kcal): 609
- Total fat (g): 6.9
- Saturates (g): 2.4
- Fibre (g): 0.5

However, the composition will vary, so it is important to check the label.

White fish naturally contains very little fat but this is often increased dramatically by the addition of high fat sauces or when it is coated in batter or breadcrumbs and fried.

We should be eating at least two portions of fish a week, including one of oily fish. The consumption of oil-rich fish helps to reduce deaths from heart disease.
PULSE DISHES

Pulses contain little fat yet they are a good source of protein, carbohydrate and fibre. They also contain several B vitamins and iron (and are a particularly important source of this mineral for vegetarians). Pulses are very flexible and can easily be used to replace meat or fish on the menu.

Example: Vegetarian kedgeree

Traditional recipe for vegetarian kedgeree - 10 portions

- 250g Cauliflower
- 250g French beans
- 250g Courgettes
- 250g Mange-tout
- 300mL Sunflower oil
- 125g Onion
- 2-3 cloves (9g) Garlic
- 50g Curd powder
- 25g Grated root ginger
- 9g Ground cardamom
- 9g Turmeric
- 250g Basmati rice
- 500mL Vegetable stock
- 180g Cooked green lentils
- 1.25 litre (1250mL) Curry sauce

Modified recipe for vegetarian kedgeree - 10 portions

- 1 large (240g) Onion
- 3 cloves (9g) Garlic
- 25g Grated root ginger
- 2 large (40g) Green chillies
- 5 tbsp (55g) Sunflower oil
- 1kg Basmati rice
- 1 tbsp (15g) Mild curry paste
- 3 x 420g cans Green lentils
- 2 litres (2000mL) Water
- 5 medium (305g) Hardboiled eggs
- 3 tbsp (9g) Chopped fresh parsley/coriander

The nutritional analysis has been carried out using 250mL of oil, assuming that 50mL is drained from the vegetables.

Modifications to traditional recipe

- Much less oil is used to fry the onions and spices.
- Extra lentils and hardboiled eggs replace the fried vegetables (a salad accompaniment is suggested to provide foods from this group).
- More rice is used.
- One tablespoon of curry paste is used in place of the curry sauce.

How do the nutritional compositions compare?

**Nutritional content per portion**

<table>
<thead>
<tr>
<th></th>
<th>Traditional (367g/portion)</th>
<th>Modified (496g/portion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (kJ)</td>
<td>2009</td>
<td>2509</td>
</tr>
<tr>
<td>(kcal)</td>
<td>480</td>
<td>600</td>
</tr>
<tr>
<td>Total fat (g)</td>
<td>32.9</td>
<td>10.6</td>
</tr>
<tr>
<td>Saturates (g)</td>
<td>3.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Fibre (g)</td>
<td>4.1</td>
<td>5.2</td>
</tr>
</tbody>
</table>

The modified version has around a third of the fat and saturates. A perfect accompaniment would be a salad of finely chopped fresh tomato, cucumber, onion and lemon juice.

HOT AND COLD DESSERTS

Many desserts, particularly those with lashings of cream, pastry or syrup, are rich in fat and sugar. The challenge is to produce healthier recipes that are appetising and appealing to customers.

**Student Tips**

- Use yogurts, quark, fromage frais and fruit purées as alternatives to cream and pastry cream where practical and acceptable. Whipping cream has a lower fat content than double cream and gives more volume.
- Serve desserts with sorbet or lower fat ice cream instead of double cream.
- For pastry-based pies use a top crust only and make the pastry using a fat high in unsaturates, instead of butter.
- Gradually reduce the amount of sugar in desserts, e.g. cut back on added sugar in fillings when using a sweet pastry or in desserts that contain dried fruit.
- Offer fresh fruit or fruit salad for customers who want an alternative.
- Experiment with other fruit-based desserts (e.g. fruit kebabs, fruit fools).

Example: Trifle

**Traditional recipe for trifle - 8 portions**

- 1 (144g) Sponge
- 25g Jam
- 1 can (420g) Fruit in syrup (e.g. peaches, pineapple, pears)
- 35g Custard powder
- 375mL Whole milk
- 50g Caster sugar
- 425mL Whipping cream
- Decorate with:
  - 25g Angelica
  - 25g Glacé cherries

**Modified recipe for trifle - 8 portions**

- 6 (144g) Trifle sponges
- 25g Jam
- 1 can (420g) Fruit in natural juice (e.g. peaches, pineapple, pears)
- 2 medium (200g) Banana
- 35g Custard powder
- 375mL Semi-skimmed milk
- 50g Caster sugar
- 142mL Whipping cream
- 142mL Greek yogurt
- Decorate with:
  - Fresh strawberries, raspberries or blueberries
and an expert panel was set up to help plan healthy, balanced menus. School caterers are aided by the nutrient standards for school meals, manufactured food product specifications and nutritional analysis software to help ensure that the meals meet the required nutritional standards and are appealing to children and parents.

4.2.1 Hospitals

Hospital caterers have an important opportunity to promote healthy eating habits amongst patients and staff (see section 4.1.3). There is now a growing recognition that food in hospitals should be part of the treatment and care received. Hospital caterers can also play a part in improving the nutritional status of patients who enter hospital unwell or who are undernourished.

Modified trifle

Carbohydrate 48%

Fat 45%

Protein 7%

How do the nutritional compositions compare?

NUTRITIONAL CONTENT PER PORTION

Traditional (191g/portion) Modified (204g/portion)

| Energy (kJ) | 1699 | 1199 |
| (kcal) | 406 | 287 |
| Total fat (g) | 27.5 | 14.2 |
| Saturates (g) | 15.7 | 7.2 |
| Fibre (g) | 0.8 | 1.0 |

These small changes to the recipe produce a trifle with less energy and half the fat. Although the proportion of fat remains higher than the recommended overall target, this dessert can be combined with lower fat dishes to provide a meal in line with Eating for Health (see section 3.2, page 10).

WHAT CAN THIS MEAN FOR A MEAL?

The traditional and modified recipes provided can be used to demonstrate the effect of healthier catering on the nutritional value of a meal. For example, for a meal consisting of lasagne, served with a green salad and followed by a trifle, simple changes to the recipes can produce a more nutritious meal in line with Eating for Health (see section 3.2, page 10).

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4.1.2 Schools

The importance of providing children with better school meals was highlighted in the Diet Action Plan for Scotland and an expert panel was established to further this aim. Their report, Hungry for Success: A Whole School Approach to School Meals in Scotland was introduced in 2002. All Primary and Special schools were required to adopt the recommendations in the report by the end of 2004 with secondary schools following by the end of 2006.

Measures include:

• Nutrient standards for school meals and detailed mechanisms for monitoring them
• Larger portions of more nutritious food at no additional cost to parents
• Fresh, chilled drinking water available free in school dining halls
• Raising awareness of the entitlement to free school meals
• Improved atmosphere and ambient facilities in dining halls
• Connecting school meals with the curriculum as a key aspect of health education and health promotion

A number of other initiatives, such as “healthy” tuck shops, breakfast clubs and fruit and salad bars, are underway to encourage improvements in children’s diets at school and, in particular, to increase their fruit and vegetable consumption.

Key points for students

• In schools, workplace canteens, or other establishments where meals are consumed by the same customers on a regular basis, the food provided makes a significant contribution to the overall diet. It is, therefore, important that each of these types of catering establishment offers customers a choice of dishes which give them the opportunity to eat more healthily.
• The challenge for school caterers is to provide high quality food which is attractive to children and which results in consistent nutritious balanced meals and snacks.
• Hospital caterers or those catering for older people in residential and nursing homes have a particularly important role to play in providing appropriate food to promote good health and aid recovery from illness.
• School caterers are aided by the nutrient standards for school meals, manufactured food product specifications and nutritional analysis software to help plan healthy, balanced menus.
• Independent practical guidance has also been produced to help those catering for people in childcare establishments (e.g. day nurseries), residential and nursing homes, and for those providing community meals.

4.1. Catering for different sectors

4.1.1 Hospitals

Hospital caterers have an important opportunity to promote healthy eating habits amongst patients and staff (see section 4.1.3). There is now a growing recognition that food in hospitals should be part of the treatment and care received. Hospital caterers can also play a part in improving the nutritional status of patients who enter hospital unwell or who are undernourished. Some people who are ill in hospital have special dietary needs that may be at odds with the general recommendations for those who are healthy. For example, people who enter hospital undernourished or with a poor appetite need foods that are both energy- and nutrient- dense to assist recovery. As well as providing meals with an appropriate nutritional content, social, cultural, religious and special dietary requirements must also be considered. This variation in needs presents a substantial challenge for caterers, requiring close collaboration with ward staff, dietitians, patient’s representatives and relevant organisations.

NHS Boards have begun to implement the Clinical Standards for Food, Fluid and Nutritional Care in Hospitals, published by NHS Quality Improvement Scotland in November 2003. Performance and assessment visits against these standards began in May 2005.

To ensure more progress, nutrient and food based standards are being developed to underpin the clinical standards. The Food Standards Agency Scotland is also currently developing nutrient specifications for public sector procurement which will further underpin the standards.

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• School caterers are aided by the nutrient standards for school meals, manufactured food product specifications and nutritional analysis software to help plan healthy, balanced menus.
• Independent practical guidance has also been produced to help those catering for people in childcare establishments (e.g. day nurseries), residential and nursing homes, and for those providing community meals.
4.1.3 Staff restaurants
Eating away from home, particularly at lunchtime, is a common occurrence, rather than a special treat. For some people, workplace caterers may provide the main meal of the day. For others (e.g. those in the armed forces or working on an oil rig), they may provide every meal and share the responsibility for total food intake. Providing healthy food at work can also encourage people to adopt healthier eating habits at home. Workplace catering establishments can, therefore, have a substantial influence on the overall diet of the workforce.

Scotland’s Health at Work (SHAW) is a national award scheme that rewards organisations for their efforts and achievements in building a healthy workforce, a healthy workplace and a healthy organisation. Guidelines are available to support the implementation of workplace healthy eating policies and procedures (see Section 6). Workplace caterers may be required by contract to use healthier catering practices. Offering menus based on Eating for Health (see section 3.2, page 10) can also be a good marketing tool for those who wish to break into workplace catering.

4.1.4 Older people in residential care and in receipt of community meals
A healthy diet has an important role in maximising good health into old age and aiding recovery from illness. The provision of appropriate food is essential to the wellbeing of older people in the community (e.g. Meals on Wheels, lunch clubs, day centres) and to those in residential care (residential or nursing homes). Some older people suffer from circumstances that can result in a poor food intake, such as poverty and social exclusion, others have a poor appetite (due to illness or medication), a declining sense of taste or smell, a lack of interest in food because of depression or bereavement, or difficulties in eating or preparing food (such as poor dentition, swallowing disorders, arthritis). As a result, many may be undernourished and overweight. In old age this poses a greater risk to health than being overweight. While declining activity levels result in falling energy needs, requirements for essential nutrients, such as vitamins and minerals, do not differ greatly from those of younger adults. Older people, therefore, need to consume a balanced diet with an emphasis on nutrient-dense foods (i.e. the same amount of nutrients but in a smaller volume of food).

The Caroline Walker Trust has developed practical nutritional guidelines for caterers who have the responsibility for producing food for older people in residential and nursing homes and for community meals. A computer program, known as CORA (Catering for Older People in Residential Accommodation) is also available to help plan nutritionally balanced, varied and appealing menus (see section 6 for further details).

4.1.5 Childcare establishments
Nutrient standards for the under 5’s have been published for providers of childcare and early education giving advice on nutrition and menu planning. The guidance has been written by a working group of nutritionists and childcare professionals to use with their patients or clients. The range of resources will be increasing to include materials for caterers and for the general public.

4.2 Catering for different customers
People differ in their nutrition needs. For example, the amount of energy that someone needs will depend on:
- their gender - women tend to need less energy than men
- their age - older adults need less energy than growing adolescents
- whether they are very physically active - the more active a person is the greater their energy needs
- life events, such as pregnancy or illness, will also change people’s energy and nutrient needs
- whether they are on a special diet for medical reasons.

In 1991, the then UK Department of Health published recommendations for the daily amounts of energy and nutrients needed by males and females of different ages across the UK, including Scotland. Although the amount of food people need varies, the proportions of foods from the different groups for all healthy people over the age of 5 years remains consistent with Eating for Health.

This section briefly outlines the differing needs and health concerns of various groups, including children, pregnant and breastfeeding women, older people, ethnic minority groups, people on a low budget, vegetarians, people with diabetes, those following a gluten-free diet and sufferers of food allergy and other diets for medical reasons. This information will help caterers to plan suitable menus to meet all customers’ dietary requirements.

The Scottish Nutrition and Diet Resources Initiative (SNDRI) aims to produce a range of easily accessible resources on nutrition and diet, which give consistent health messages to the public. The majority of resources currently produced by SNDRI are used by State Registered Dieters and other professionals to use with their patients or clients. The range of resources will be increasing to include materials for caterers and for the general public.

4.2.1 Children
Growing children have high requirements for energy and nutrients in relation to their size. Although it is important to progress towards a diet based on the principles of Eating for Health by around 5 years of age, a young child’s diet should not contain too many bulky fibre-rich foods or be too low in fat. This is because young children may not be able to eat enough of these bulky types of foods to meet their energy and nutrient needs. Semi-skimmed milk is suitable for most children over 2 years but skimmed milk is too low in energy and certain vitamins for children under 5.

Currently in Britain:
- many older people do not have enough vitamin D in their diet, which is necessary for bone health
- some older people have low intakes of certain vitamins (e.g. folic acid and vitamin C) and minerals (e.g. magnesium, potassium and zinc)
- those without their own teeth, living in institutions or from lower socio-economic groups, are at highest risk of vitamin and mineral deficiencies

National Diet and Nutrition Survey. People aged 65 years and over (2005)

Key points for students
- Nutritional needs vary throughout a person’s life, although the general principles of a well balanced diet remain the same.
- What people eat is also affected by their religious beliefs, cultural habits, lifestyle and attitudes.
- A knowledge of the differing needs and health concerns of various groups will enable students to cater for all potential customers.

“Demonstrating the ability to apply healthier catering practices is an increasing requirement in tender specifications”.

Anne Powell
Company Dietitian for a major catering and support services supplier

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

The Caroline Walker Trust

Increasing fruit intake at school - a case study
Fruit Plus is a joint healthy eating initiative between Glasgow City Council and NHS Greater Glasgow designed to encourage children to eat and enjoy fruit. It is the largest initiative of its kind ever launched in the United Kingdom. Since August 2001, through the project, nearly 56,000 Primary, SEN and Pre S pupils have received free fruit in the classroom five times per week over the entire school year. The main aim of Fruit Plus is to encourage a fruit eating habit amongst pupils that will continue into their adult and home lives.

The project places heavy emphasis on integrating the principles of healthy eating into the school curriculum with the aim of improving long term health and attainment levels. An incentive scheme has been implemented in all schools to encourage children to eat fruit. This scheme rewards children with small incentives such as badges, stickers, certificates and bookmarks.

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- many older people do not have enough vitamin D in their diet, which is necessary for bone health
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- A knowledge of the differing needs and health concerns of various groups will enable students to cater for all potential customers.

“A good diet will help children and young people to improve their concentration and achieve their potential, both inside and outside school”.

Stephanie Valentine
Education Director British Nutrition Foundation

“The standard of school meals is an area of huge concern to parents across Scotland and it is vital that all children benefit from and appreciate the importance of good nutrition from an early age”.

Food Standards Agency, Scotland
Healthier catering for children includes:
- offering child-size portions of a variety of meals, not just a range of fried favourites
- offering foods from the 4 main food groups shown in Eating for Health (see section 3.2, page 10) i.e.
  - fruit and vegetables
  - bread, other cereals and potatoes
  - meat, fish and alternatives
  - milk and dairy foods
- pricing children’s portions appropriately
- for young children, offering small fruits and yogurts, which are usually popular
- offering healthier snacks, which might include fruit breads, scones, lower sugar biscuits and cakes, alongside the standard offer
- offering milk, unsweetened fruit juice and water.

### 4.2.2 Pregnant and breastfeeding women

A woman’s energy and nutrient needs increase slightly during pregnancy and during the stages of breastfeeding, and a balanced diet is essential for the health of the child. Particularly important dietary aspects for pregnant women include the consumption of foods rich in iron, calcium and folate and those fortified with folic acid (e.g. breakfast cereals) (see appendix 4 for sources). Any serious episode of food poisoning (e.g. salmonellosis) can increase the risk of miscarriage, so scrupulous food hygiene practices are essential.

A number of foods should be restricted or avoided during pregnancy. These include:
- liver and liver-containing foods (e.g. liver paté) because of their potentially high vitamin A content. Excess vitamin A is toxic to the growing baby
- foods which increase the risk of food-borne infections, e.g. listeria poisoning (e.g. unpasteurised milk, paté, mould ripened cheeses which are usually soft or blue cheeses), or salmonella poisoning (e.g. undercooked chicken/undercooked eggs and raw eggs in home-made mayonnaise or cold desserts, such as Tramisu)
- excessive alcohol drinking as it can cause damage to the baby at any stage of pregnancy. Many women choose to avoid alcohol completely, particularly during the first 3 months of pregnancy.
- avoid any shark, swordfish and marlin because of the levels of mercury in these fish. At high levels, mercury can harm a baby’s developing nervous system.

Pregnant women who have been diagnosed with food allergy, asthma, eczema or hay fever may also want to avoid peanuts and peanut-containing foods.

### 4.2.3 Ethnic minority groups

A large number of ethnic minority groups now live in the UK, the largest being the Asian, African Caribbean and Jewish communities. Some of these groups follow lacto-vegetarian diets (avoid meat and fish but eat milk/milk products); others follow diets in which certain foods are prohibited.

As a rough guide the following table provides a summary of the foods which may be avoided by customers from a selection of religious groups:

<table>
<thead>
<tr>
<th>Religious group</th>
<th>Foods and drinks which may be avoided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muslim</td>
<td>Pork, non-halal meat and chicken, shellfish, alcohol</td>
</tr>
<tr>
<td>Hindu</td>
<td>Meat (some eat lamb, chicken), fish (some eat white fish), eggs, alcohol</td>
</tr>
<tr>
<td>Sikh</td>
<td>Beef, pork (some are vegetarian), alcohol</td>
</tr>
<tr>
<td>Buddhist</td>
<td>Chicken, lamb, pork, beef, shellfish (some avoid all fish), alcohol</td>
</tr>
<tr>
<td>Rastafarian</td>
<td>Animal products (except milk), foods which are not Halal (i.e. avoid tinned or processed food), alcohol, tea, coffee</td>
</tr>
<tr>
<td>Jewish</td>
<td>Pork, meat which is not kosher, shellfish Meat and milk products must not be served at the same meal or cooked together</td>
</tr>
</tbody>
</table>

However, even within an ethnic minority group, the types of food chosen can vary widely and caterers should find out as much as possible about foods that are acceptable to their clients/customers and ensure that meals and menus conform to their dietary laws.

The traditional diets of most ethnic minority groups contain a large amount of starchy foods (such as cereals, rice, cassava, yams, potatoes), pulses, vegetables and fruit, and are likely to be beneficial in terms of health. Although older members of ethnic minority groups often maintain their traditional dietary patterns in Britain, many younger people, particularly those born in this country, are increasingly adopting Western style food habits.

A number of health problems are more prevalent among ethnic minorities than in the indigenous UK population. For example, people from South Asia are at high risk of diabetes and heart disease, whilst African Caribbean people are at greater risk of diabetes, high blood pressure and stroke. Encouraging a healthy balanced diet is, therefore, very important.

Adapted versions of the 5 food group plate model have been developed for some ethnic groups. For example, the British Nutrition Foundation has produced a Chinese version.

In a recent survey of restaurant and pub customers, 96% agreed that children should be offered healthier options, in addition to sausages or fish and chips.

Health education Authority (1996)

*It is important when catering for ethnic minority groups to use plenty of vegetables and pulses and not to offer too many dairy-based dishes that are laden with fats or oil*. 

Aline Choudhury, Proprietor of a Thai Restaurant and Director of the Asian and Oriental School of Catering
4.2.4 People on a low income
Promotion of healthy choices is possibly even more important when catering for people living on a low budget. This is because evidence shows that typical food choice is less varied and that intake of essential nutrients is poorer. Chronic conditions, such as obesity, diabetes and heart disease, in which diet can play a part, are more common amongst the lowest socio-economic groups in Britain.

Providing foods that are filling, cheap and nutritious, can be a challenge. But including lots of starchy foods, such as pasta, rice, bread and potatoes, as well as plenty of seasonal vegetables and pulses, can make the food offered healthier, at a reasonable cost.

A number of local food initiatives are underway to improve access to, and the enjoyment of, healthier foods. The case study below describes the success of a community café in Stirling.

Case Study
Craigend Community Café was set up in 1995 to provide decent and affordable meals for local people on low incomes, as well as to create local employment. Healthy menu options also help communicate healthy eating messages to the community. The café has expanded enormously from initially providing snacks to now being able to offer three-course meals and cater for external events and private functions. Food is provided Monday to Friday between 9am and 3.15pm. Celebrity cooks are invited to prepare special dishes for customers and surveys have been carried out to find out what customers want on the menu. As well as serving healthy food, the café also provides a safe place for people at risk in the community to visit. Staff at the centre have also set up a successful “fruit barra” to sell fruit and vegetables to the elderly, single parent families and low-income families in the community.

Craigend Resource Centre, Greenock

For further details about community food projects, contact the Scottish Community Diet Project (see section 6 for contact details).

4.2.5 Vegetarians
Strictly speaking, vegetarians do not eat meat or fish but the term “vegetarianism” can mean a variety of different things and the types of foods restricted can vary enormously. People who say they are vegetarians can be broadly divided into those who:

- avoid all meat, fish, eggs, dairy foods and anything derived from animals (vegans)
- avoid all meat, fish, eggs but eat dairy food
- avoid all meat and fish but eat eggs and dairy products
- avoid all meat but eat fish, dairy foods and eggs
- avoid red meat but eat poultry, fish, dairy foods and eggs.

It is, therefore, very important to ask customers which foods they do not eat.

Vegetarians usually exclude any animal-derived ingredients added to manufactured food, such as emulsifiers derived from animal fats (e.g. lecithin) and firming agents (e.g. gelatin). Products which are seen to involve the exploitation of animals (e.g. honey) or which have undergone safety testing using animals, may also be avoided. Catering for vegans not only requires consideration about the ingredients used; the foods must also not come into contact with any animal products during preparation or service.

Because many foods are restricted, vegan diets require careful consideration to ensure that they provide sufficient protein, vitamins and minerals. Avoidance of dairy products can increase the risk of low intakes of calcium, vitamin B12 and vitamin B12. Vegans are at higher risk of iron and zinc deficiency.

Alternative sources of these nutrients are:
- cereals, soya products, pulses and nuts for protein
- bread, green vegetables, pulses, nuts, tempeh and soya mince for calcium
- fortified foods, leafy green vegetables, whole-grain breads and breakfast cereals for vitamin B12
- fortified foods, for example breakfast cereals or some vegetable extract spreads for vitamin B12
- fortified breakfast cereals, pulses and legumes, green vegetables, bread, nuts and dried fruit for iron - serving fruit or fruit juice containing vitamin C (e.g. citrus fruits) with a meal can improve the amount of iron absorbed from foods of plant origin
- cereals, pulses and nuts for zinc.

The high fibre content of starchy foods, pulses, fruit and vegetables can make a vegetarian diet very bulky and it may be difficult for children and others with small appetites to eat sufficient to meet their energy and nutrient needs. Whole milk, full fat dairy products, soya products and fortified breakfast cereals are important foods for young children adopting a vegetarian diet.

A well planned vegetarian diet can be a very healthy one but, as with any diet, it must contain the right balance of foods. Vegetable-based dishes are not always healthier choices if they are made with a lot of oil, pastry, cheese or creamy sauces and it is important for caterers to offer lower fat vegetarian choices (e.g. vegetable and bean casserole, nut risotto).
### PLANNING MENUS TO SUIT ALL CONTINUED

#### 4.2.6 People on gluten-free diets

Some people (around one person in 100) are unable to digest a protein found in cereals (e.g. wheat) called gluten. In sensitive people, gluten has a harmful effect on the digestive system which means that food cannot be absorbed normally. This condition (known as coeliac disease) can cause bowel symptoms and weight loss. Sufferers must avoid all gluten-containing foods, which include wheat, rye and barley and possibly oats. This is difficult because gluten is present in many foods and drinks, including bread, biscuits, cakes, pastries, breakfast cereals, pasta, beer and most soups, sauces and puddings. Naturally gluten-free cereals include rice, millet, maize and sorghum. Other flour products that are gluten-free are buckwheat, gram, soya and potato. The products made from these do not rise on baking. While these flours are acceptable for biscuits, they are not suitable for making bread. Foods can be made gluten-free by the removal of gluten from wheat starch and some of these products are available on prescription for those with a definite diagnosis of gluten sensitivity. The taste tends to be better than products made from alternatives, such as potato starch, but as it is gluten that gives wheat its unique baking qualities, the texture is still not as good as products baked with gluten-containing flour.

The UK Coeliac Society publishes a yearly updated list of gluten-free foods that it produces on the basis of information provided by food manufacturers (see section 6 for details).

Care must be taken not to use breads and not to dust meat, fish or poultry with flour before cooking. There must not be any contact with, or use of, sauces and gravies thickened with flour or any other Batter. Cross-contamination can occur during food preparation if equipment is not washed fully and dried before usage.

#### 4.2.7 People with diabetes

Diabetes occurs when the amount of glucose (sugar) in the blood is too high and the body is unable to use it properly. This is the result of a failure to secrete insulin normally. People with diabetes need to pay particular attention to their diet as they are at higher risk of suffering from heart disease and because uncontrolled diabetes can lead to a number of long-term problems, including blindness. These days a highly restricted or regimented diet is not advised, but adopting the healthy eating guidelines demonstrated by Eating for Health is vital to keep diabetes under control (see section 3.2, page 10). People with diabetes may need to balance their intake of starchy foods with the medication they are taking. This means that regular meals and snacks are important. While small amounts of sugar-containing foods can be consumed as part of a meal, the consumption of lots of sugar-rich foods and drinks, particularly if eaten on their own as snacks, should be avoided. Specialist diabetic foods, such as “diabetic” sweets and chocolates, are not recommended; they are often as high in fat and energy as comparable foods and, therefore, offer no additional benefit. Many adults with diabetes may be trying to lose weight, so offering lower fat and lower energy alternatives is important. For further information contact Diabetes UK Scotland which provides a variety of information leaflets and recipe booklets (see section 6).

People with diabetes frequently ask service staff about the ingredients in foods, so keeping staff informed of any changes or the contents of new dishes is very important. If staff are not sure whether there is a trace of a life-threatening ingredient in a meal they should say so and never guess.

What should caterers do in an emergency?

- Call for an ambulance immediately and inform medical staff that the person is likely to be suffering from anaphylaxis.
- Send a member of staff to stand by to direct the ambulance crew to the patient.
- Any staff trained in first aid should learn what to do in this situation.

#### Healthier catering for people following gluten-free diets means:

- offering plenty of gluten-free cereals, e.g. rice, potatoes, buckwheat, tapioca, breakfast cereals made from corn or rice
- Gluten-free flour is available but alternatives include maize, corn and soya flour
- offering plenty of fruit and vegetables (checking the labels on canned varieties)
- offering some lower fat dairy products (avoiding cheese spreads and artificial creams containing flour or yogurt with milk)
- offering some lean meat, fish, eggs, pulses, nuts (checking the labels of meat products, such as burgers, pies, sausages or fish in batter/crumbs)
- not offering too many sugar-rich foods, particularly between meals (avoiding desserts containing flour, breadcrumbs and suet)
- not offering too many fat-rich foods
- limiting the amount of salt added to foods.

#### Healthier catering for people with diabetes means:

- offering plenty of bread, rice, pasta, cereals, potatoes
- offering plenty of fruit (fresh, frozen or canned in natural juice, rather than syrup) and vegetables
- offering some milk and dairy foods (lower fat varieties)
- offering some lean meat, fish, eggs, pulses, nuts
- not offering too many sugar-rich foods and drinks (offer lower sugar alternatives especially for snacks)
- not offering too many fat-rich foods
- limiting the amount of salt added to foods.

More people believe themselves to be allergic to foods than is actually the case. But the possibility of food allergy or an intolerance to a food should always be taken seriously because it can cause severe, possibly life-threatening, reactions and chronic ill health. Food Intolerance is an umbrella term covering a wide range of unpleasant reactions to food or food components. It can result in symptoms such as abdominal pain, diarrhoea, headaches, migraine, fatigue, asthma or a skin reaction, but these symptoms can also occur for reasons unrelated to food. Food allergy is a specific form of food intolerance in which the reaction provoked involves the body’s immune system.

#### What should caterers do in an emergency?

- making sure staff are aware of the potential hazards from the use of foods containing allergens (such as nut and nut products), e.g. through training sessions or notices
- informing the customer if foods containing such allergens are used in a recipe
- remembering that oils used previously to cook products containing nuts can carry minute traces of nut proteins and have the same effect in a sensitised individual as nut dishes
- avoiding accidentally transferring an allergy-containing food from one dish to another e.g. via cooking equipment
- asking suppliers to provide information when the ingredients or flavourings used in their products contain common allergens, in particular nuts or seeds.

#### PLANNING MENUS TO SUIT ALL CONTINUED

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Items about diet, nutrition and health appear regularly in newspapers, in magazines, on the radio and on television. Indeed, the majority of people get most of their information about diet and health through these media and it is sometimes difficult to discern the myth from the fact. This section attempts to dispel many of the common misconceptions that exist, not just amongst caterers but also amongst the general public.

**Try this quiz with your students to identify the most common misconceptions.**

### Are the following true or false?

**Experts are always changing their minds about ‘healthy’ eating**

**Healthy eating and healthier catering is restrictive and boring**

**Providing healthier foods is always more expensive**

**With small changes a ‘traditional’ cooked breakfast can be ‘healthy’**

**‘Low fat’ or ‘reduced fat’ foods are always low in energy**

**Vegetarian dishes are always a healthier option**

**Vegetable suet is healthier than beef suet**

**Margarine has less fat than butter**

**Red meat is high in fat, while poultry is low in fat**

**Although we should be cutting down on fat, this does not include olive oil**

**Some foods contain ‘good’ cholesterol**

**Eating eggs causes high blood cholesterol**

**Starchy foods, such as bread and potatoes, are fattening**

**Savoury foods are less fattening than sweet foods**

**It is more important to cut down on sugar in snacks than in desserts at main meals**

**Honey contains less sugar than granulated sugar**

**Intense sweeteners should not be used in place of sugar as they are dangerous to health**

**Fruit and vegetables can be processed and still be healthy**

**There are different types of fibre with varying effects on health**

**Adding bran to foods is the best way to increase the fibre content**

**Sea salt is healthier than ordinary salt**

**Salt is usually referred to as ‘sodium’ on labels**

**Taking supplements can never replace a healthy diet**

**People with diabetes need to eat a ‘special’ diet**

**Allergies are commonplace in Britain**

**There is a perception amongst the general public that nutrition experts don’t agree or regularly change their minds. But a lot of the contradictory messages about healthy eating result from sensational reporting of scientific findings in the popular press, rather than from disagreement amongst scientists. Of course, there will always be changes in the detail of nutrition messages, as new science emerges but, broadly speaking, messages about diet and health have remained constant for some time. For example, fruit and vegetables are universally recommended these days but their importance was recognised during the war years when we were advised to ‘dig for victory’. The message to reduce fat intake has been the same for over 15 years.**

**Healthy eating and healthier catering is restrictive and boring**

**While there are some foods that we should not eat too much of, or eat too often, there are many foods that we should be increasing in the diet, such as fruit and vegetables, starchy food and oily fish. This provides ample opportunity for experimentation and a number of great chefs have now revolutionised the ‘ dull and unappealing’ image of healthier food.**

**Providing healthier foods is always more expensive**

**Some ingredients recommended for healthier catering can be more expensive, although they are often used in very small amounts. As demand for healthier alternatives increases prices will fall. In some instances healthier catering can actually cut costs. For example, extending meat by using it in casseroles or stir-frys in combination with beans, pulses or seasonal vegetables saves money, as these ingredients cost less. Similarly, serving more bread or other starchy staples with meals is a relatively cheap step.**

**With small changes a ‘traditional’ cooked breakfast can be ‘healthy’**

**Grilled lean bacon, poached eggs, baked beans, mushrooms cooked without fat and grilled tomatoes served with thick crusty bread will match up to Eating for Health (see section 3.2, page 10) and provide a delicious cooked breakfast.**

**‘Low fat’ or ‘reduced fat’ foods are always low in energy**

**Foods described as ‘low’ or ‘reduced fat’ are not necessarily low in energy. Replacing fat with other ingredients can still result in a product with as high, or an even higher, energy content. To claim that a product is ‘reduced fat’ the amount of fat in the food must be lowered by at least 25% (see section 3.6, page 25). But as the types of foods often modified in this way tend to be high in fat and energy in the first place, the ‘reduced fat’ version can still have an appreciable amount of both. Quantity is also important – using a reduced fat product more liberally than a full-fat product may result in the consumption of the same amount, or even more, fat and energy.**

**Vegetarian dishes are always a healthier option**

**Vegetarian dishes with substantial amounts of cheese, oil, pastry, nuts or creamy sauces, or that are fried, can contain a lot of fat. In contrast, red meat can be low in fat if it is lean and all the visible fat has been removed. Poultry without the skin and fish are also low fat options, provided they are cooked without incorporating a lot of fat into the dish.**
FACT OR FICTION?

Vegetable suet is healthier than beef suet  False
Vegetable suet is suitable for vegetarians but is just as high in fat and saturates as beef suet. Similarly, cheese that is suitable for vegetarians has alternatives to animal-based rennet used in its production (although it is still made from milk) but this does not affect the fat content.

Margarine has less fat than butter  False
This is a common misconception. Whilst butter and margarine differ in the type of fatty acids they contain, both have a similar amount of fat. Whether you are using butter or margarine, remember to use them sparingly.

Red meat is high in fat, while poultry is low in fat  False
Removing the visible fat from meat can make a substantial difference to its fat content. Lean red meat is surprisingly low in fat (4-8g per 100g). Minced or meat products, in which both the lean and fat components of meat are blended, can be much higher in fat. Meat products, whether made from red meat or poultry, may also be high in fat because they contain additional high fat ingredients, e.g. the pastry component of a pie. The fat content of skinned poultry meat is only about 1-3g per 100g (white meat contains less than darker meat). But again if the poultry skin and the fatty deposits beneath it are not removed, the fat content rises considerably. It is, therefore, important to select leaner cuts and to remove visible fat from red meat as well as the skin and visible fat from poultry.

Although we should be cutting down on fat, this does not include olive oil  False
We should be cutting down on all types of fat. However, oils which contain a high proportion of unsaturates (mono-unsaturates or polyunsaturates) are a better choice than fats or oils containing a large amount of saturates (see section 3.3, page 18 and appendix 3). Fats high in saturates can raise the level of blood cholesterol and so increase the risk of heart disease. Olive oil, as well as some other oils (e.g. rapeseed oil, peanut oil and hazelnut oil), contains a large amount of mono-unsaturates. These have a lowering effect on blood cholesterol levels, as well as blood fats called triglycerides. High levels of these blood fats can also increase the risk of heart attack. But do not forget that the amount, as well as the type of fat in the diet, is important for health.

Some foods contain 'good' cholesterol  False
Cholesterol in the diet and cholesterol in the blood are different. Some people get confused between the two. ‘Good’ cholesterol is not a type of cholesterol found in foods but refers to the way the body transports cholesterol in the blood.

Eating eggs causes high blood cholesterol  False
Some foods, e.g. eggs, shellfish (such as prawns) and offal (such as liver and kidney) contain a large amount of dietary cholesterol. Restriction of these foods is sometimes advised for people with high blood cholesterol levels. But for most people trying to lower blood cholesterol, limiting the amount of fat, particularly saturates, in the diet is more effective than limiting the amount of dietary cholesterol (see section 3.3, page 18 and appendix 3).

Starchy foods, such as bread and potatoes, are fattening  False
It is a common fallacy that starchy foods, such as bread, potatoes, rice and pasta, are fattening. It is the fat in the fillings and toppings added to these foods that make them fattening (such as creamy sauces on pasta, oil-rich sauces on rice, butter or cheese on baked potatoes). Gram for gram dietary carbohydrate (the main constituent of starchy foods) has less than half the energy (calories) of dietary fat (see appendix 2). Starchy foods also have the advantage that they are bulky and tend to be filling.

Savoury foods are less fattening than sweet foods  False
Both savoury and sweet foods can be high in fat. Fat provides twice as much energy as the same weight of sugar. So just because a food is not sweet does not mean it is not fattening. Fried savoury foods can be particularly high in fat.

It is more important to cut down on sugar in snacks than in desserts at main meals  True
Although eating too much sugar can contribute towards over-consumption of energy in an imbalanced diet, the main concern relates to dental caries. But it is the frequency of sugar consumption, rather than the amount that seems to be important in terms of dental caries risk. This is because, each time sugar is eaten, there is the potential for bacteria present in dental plaque to ferment the sugar, producing acid. It is this acid that attacks dental enamel. Current advice is to restrict the consumption of sugar-rich foods and drinks to four or five occasions per day, ideally keeping to meal times. Providing low sugar snacks is, therefore, more important than reducing the amount of sugar in desserts, particularly for children.

Honey contains less sugar than granulated sugar  True
Honey contains about 75% of the total amount of sugar contained in white granulated sugar but it is not considered to be a good source of any other nutrients. It is slightly sweeter than refined sugar, so smaller amounts can be used in place of sugar in some recipes. However, it should not be eaten too frequently as it can contribute to tooth decay.

Intense sweeteners should not be used in place of sugar as they are dangerous to health  False
Intense sweeteners, such as aspartame and saccharin, are used widely in manufactured foods. Tablet, liquid and sprinkle sweeteners can also be added to drinks, on cereals or in desserts. Because they are so sweet, only small amounts need to be used. Some people are concerned about the safety of these sweeteners and the fact that they are now added to so many foods. Sweeteners, like all food additives, are only permitted for use in food after careful evaluation, which includes rigorous safety checks by scientific committees. An Acceptable Daily Intake (ADI) is set for each additive. This is the amount that can be consumed every day over a lifetime without any appreciable health risk. Current trends show that the ADI for sweeteners is very unlikely to be regularly exceeded by most adults. However, it is important to dilute these products rather than using them in pure form. Intense sweeteners are not appropriate for use in food for infants and young children because they cannot digest them safely.

Fat provides twice as much energy as the same weight of sugar.
A portion of fruit or vegetables means:
• 1/2 a large fruit (e.g. avocado, grapefruit)
• 1 medium sized vegetable or fruit (e.g. apple, orange, banana)
• a couple of small fruits (e.g. 2 plums)
• 1 cup of very small fruit (e.g. grapes)
• 1/2-1 tbsp dried fruits (e.g. dates, sultanas)
• 2-3 tbsp cooked or canned fruit
• 2 tbs raw, cooked, frozen or canned vegetables
• a glass of fruit juice (only counts as one per day).
• 2-3 tbs beans or pulses (only counts as one per day).

Fruit and vegetables can be processed and still be healthy True
People often mistakenly believe that only fresh fruits and vegetables are of benefit and that processed produce does not provide the same amount of nutrients, owing to losses during processing procedures. In fact, some methods of food processing, such as freezing, can actually help preserve levels of certain nutrients in food, as the activity of the chemicals responsible for deterioration is greatly reduced whilst the produce remains frozen. For example, scientific studies have shown lower vitamin C levels in some raw vegetables, which have been distributed and stored at ambient or chilled temperatures, than in those that have been immediately frozen after harvest. Current healthy eating guidelines recommend that we aim to include at least 5 portions of different fruit and vegetables in our diet every day; this includes fresh, frozen, canned and dried fruits and vegetables, fruit and vegetables in composite dishes (e.g. stews or curries) and fruit juice. In this context, a typical portion is about 80g. It does not, however, include potatoes.

There are different types of fibre with varying effects on health True
Dietary fibre comprises a number of different substances that fall into two distinct categories - soluble fibre and insoluble fibre.

Soluble fibre is found in oats, other cereals, pulses and some fruits. This type of fibre can help to regulate blood cholesterol and blood sugar (glucose) levels. Insoluble fibre is found in wheat and other cereals and in vegetables, and is important in maintaining a healthy digestive system and preventing constipation.

Adding bran to foods is the best way to increase the fibre content False
As well as containing fibre, bran also contains substances called phytates. These can bind to minerals, such as calcium and iron, and stop them from being absorbed into the body. Adding a lot of bran to foods is not therefore, a good way to increase fibre intake. Good sources of fibre include whole-grain cereal products (such as bread, breakfast cereals), fruit and vegetables, beans and pulses.

Sea salt is better than ordinary salt False
Natural sea salt contains the same amount of sodium as any other salt. Some alternative flavourings, like soy sauce or anchovy essence, are also just as high in sodium. However, a number of lower sodium salts are now available on the market and these can be used in cooking, baking and at the table (see section 3.4, page 20).

Salt is usually referred to as ‘sodium’ on labels True
Salt is also known as sodium chloride (1g of sodium is equivalent to around 2.5 g of salt). At the moment most, but not all, foods are labelled with the amount of sodium they contain in grams per 100g of the product. This is because not all sodium is in the form of salt/sodium chloride. Other forms of sodium are used as flavour enhancers and preservatives, e.g. monosodium glutamate, sodium bicarbonate.

Taking supplements can never replace a healthy diet True
Supplements can be useful for certain groups of people who have special needs. For example, vitamin drops are recommended for children from 6 months to 2 years, elderly or housebound people may benefit from a vitamin D supplement and women are advised to take folate acid supplements if they are planning to have a baby and until the end of the twelfth week of pregnancy.

Eating 5 portions of fruit and vegetables each day may help to protect against chronic diseases, such as cancer and heart disease, but it is these foods in their entirety, rather than one particular nutrient in them, which appears to provide this protection. Supplements should never be used in place of a balanced diet. In addition, just because a little of a vitamin is good for you, it does not mean that much more is better. Some minerals compete with each other for absorption, e.g. high doses of iron can reduce absorption of zinc. This can cause problems in people who are marginally deficient in these nutrients. Also, some vitamins and minerals have adverse effects at very high levels (e.g. vitamin A, selenium).

People with diabetes need to eat a ‘special’ diet False
Whilst it is very important that people with diabetes watch what they eat, the diet recommended follows the general healthy eating guidelines applicable to the whole population. There is no need for different meals. Diabetic food and drink products are not recommended as they offer no health advantage (see section 4.2.7).

Allergies are commonplace in Britain False
Although the frequency of food allergy in Britain seems to be increasing, they are not as common as is often assumed. Whilst around 2 in 10 people believe they are ‘allergic’ to certain foods, in reality only about 1 in 100 people do have unpleasant reactions that can be measured by clinical tests. Allergies are not the only type of unpleasant reactions to foods that can occur; unpleasant reactions to foods also result from food intolerance reactions, which unlike food allergies do not involve the immune system. Food allergy is less common than food intolerance. However, caterers must be vigilant at all times because of the potential severity of symptoms - in extremely rare cases a severe allergic reaction (such as to peanuts or other nuts) can result in death. Others who suffer from intolerance to certain foods also need to be ‘catered for’ (see section 4.2.8).

How can caterers recognise a severe allergic reaction?
• If an allergic customer becomes ill or she or, someone they are with, is likely to recognise that they are suffering from an allergic reaction.
• Such individuals may wear a Medic Alert bracelet.
• An adrenaline injection must be given as soon as a reaction is suspected (sufferers may carry this with them). For details of what to do in an emergency see page 43.
Useful Addresses and websites

Food Standards Agency Publications
The Food Standards Agency produces a wide range of publications for the public and the food industry. To find out more visit their website: http://www.food.gov.uk/aboutus/publications or telephone: 0845 606 0667 Also for 8 tips for eating well, visit http://www.eatwell.gov.uk/healthydiet/8tips

Food Standards Agency Scotland Office
St Magnus House
25 Guild Street
Aberdeen AB11 6JU
Telephone: 01224 285100
E-mail: scotland@foodstandards.gsi.gov.uk
Website: www.food.gov.uk

Scottish Executive Health Department
St Andrew’s House
Regent Road
Edinburgh EH1 3DG
To find out key information about the programme of action to influence and encourage the nation to adopt a healthier diet, see:
http://www.scotland.gov.uk/Topics/Health/health

Scottish Executive Education Department
Victoria Quay
Edinburgh EH1 6QQ
Telephone: 08457 741741
Website: www.scotland.gov.uk

British Nutrition Foundation
Provides publications and information about diet.
High Holborn House
52-54 High Holborn
London WC1V 6NY
Telephone: 020 740 46504
Fax: 020 740 46747
Website: www.nutrition.org.uk

Diabetes UK Scotland
Savoy House
140 Sauchiehall Street
Glasgow G2 3DH
Telephone: 0141 332 2700
Email: scotland@diabetes.org.uk
To order leaflets, books or other materials contact:
The Distribution Department
PO Box 1057
Bedford
Bedfordshire MK42 7XQ
Telephone: 0800 585088
Website: www.diabetes.org.uk

The National Institute for Health and Clinical Excellence
NICE has taken on the functions of the Health Development Agency to create a single excellence-in-practice organisation responsible for providing national guidance on the promotion of good health and the prevention and treatment of ill health. NICE guidance is for those working in the NHS, local authorities and the wider public, private and voluntary sectors.
Midcity Place
71 High Holborn
London WC1V eNA
Telephone: 020 7076 75800
Fax: 020 7076 75801
E-mail: nice@nice.org.uk

NHS Scotland
Health Scotland provides a national focus for improving health and work with the Scottish Executive and other key partners to take action to improve health and reduce health inequalities in Scotland.
Woodburn House
Canaan Lane
Edinburgh
EH10 4SG
Telephone: 0131 536 5500
Fax: 0131 536 5501
For information about obtaining or purchasing Health Scotland publications, E-mail: publications@health.scot.nhs.uk

Hospitality Training Foundation Scotland
28 Castle Street
Edinburgh
EH2 3HT
Telephone: 0131 624 4040
Fax: 0131 624 4041
E-mail: ntoscotland@htf.org.uk

The British Dietetic Association
The British Dietetic Association, established in 1936, is the professional association for dietitians.
Website: www.bda.uk.com/sgroupspublic.html

Scottish Consumer Council
Royal Exchange House
100 Queen Street
Glasgow G1 3QN
Telephone: 0141 226 5261
Fax: 0141 221 0731
Website: www.scotconsumer.org.uk

Scotland’s Health at Work (SHAW) now part of the Scottish Centre for Healthy Working Lives
Princes Gate
Castle Street
Hamilton
ML3 6BU
Advice line tel: 0800 019 2211
Website: www.healthyworkinglives.com

Scottish Health on the Web (SHOW)
Contains information about health in Scotland.
Website: www.show.scot.nhs.uk

Scottish Nutrition and Diet Resources Initiative
Room M5010 (Milton Street Building)
Glasgow Caledonian University
Cowcaddens Road
Glasgow G4 0BA
Telephone: 0141 331 8479
Fax: 0141 331 3208
E-mail: sndri@gcal.ac.uk
Website: www.sndri.gcal.ac.uk

Sustain Food Poverty Network
94 White Lion Street
London N1 9PF
Telephone: 020 783 71228
Website: www.sustainweb.org

The Anaphylaxis Campaign
PO Box 275
Farnborough
GU14 6SX
Telephone: 01252 540209
Fax: 01252 373793
Website: www.anaphylaxis.org.uk
also: www.cateringforallergy.org

The Caroline Walker Trust
22 Kindersley Way
Abbots Langley
Herts WD5 1DQ
Telephone: 01726 846107
Website: www.cwt.org.uk

The Coeliac Society
Coeliac UK
Suites A-D
Octagon Court
High Wycombe
Bucks HP11 2HS
Telephone: 01494 437278
Fax: 01494 474349
Website: www.coeliac.co.uk

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Sources of information


Resources


Community Café Pack, Just for Starters Provides useful information for those interested in starting up a community cafe. Available from: NHS Health Scotland

CORA (Catering for Older People in Residential Accommodation) menu planner (1998) A computer program designed for all those involved in planning or providing catering in both residential and nursing homes - chefs, cooks and managers/matrons. Includes over 800 recipes. CORA Menu Planner is available either on CD-ROM or on 3.5” disk. Available from: The Caroline Walker Trust.

DietSure.com website A website providing access to detailed dietary analysis, a cookbook of recipes and a nutritional library. Available from: DietSure.com, PO Box 911, Grantham NG33 5GR Website: www.dietSure.com

Eating for Health - Meeting the challenge: strategic framework for Food and Health 2004-2005 (2004) A Scottish Executive strategic framework for Food and Health, developed through dialogue and discussion with key partners. The framework is being used as a basis for developing further food and health policy and to guide national and local food and health action plans. Available online from the Scottish Executive’s publications website at: www.scotland.gov.uk/Publications/2004/07/19624/39995

Eating Well for Looked After Children and Young People (2001) This report sets out nutritional guidelines for the food provided for looked after children and young people. It is intended for use by local authority staff responsible for running children’s homes, contracting with care providers, and recruiting and training foster carers; and directors, managers and senior staff in voluntary and private sector organisations which provide care for looked after children and young people. Training materials to help implement the recommendations of the report are also available. Available from: The Caroline Walker Trust.

Eating well for older people (1995) Practical and nutritional guidelines for older people in residential and community care. This handbook offers solutions for people who cater for older people in care homes, nursing homes or at lunch clubs, or who are responsible for community meals. Available from: The Caroline Walker Trust.

Eating well for older people with dementia (1998) (Published by VOICES) Looks at how dementia affects the ability to eat well. Examines the role that good nutrition can play in the care of older people. Provides practical and nutritional guidelines for residential and nursing homes and others catering for older people with dementia. Available from: The Caroline Walker Trust.
<table>
<thead>
<tr>
<th>Food group</th>
<th>Foods included</th>
<th>What they contribute to the diet</th>
<th>What should caterers do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread, cereals and grains</td>
<td>• Other cereals includes breakfast cereals, noodles, rice, pasta, make, millet, comminoal</td>
<td>• Carbohydrate (starch)</td>
<td>Offer lots</td>
</tr>
<tr>
<td></td>
<td>• Meat includes bacon, salami and meat products (e.g., sausages, beefburgers, pâté) but these are relatively high fat choices</td>
<td>• Protein</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fish includes frozen and canned fish, fish fingers, fish cakes</td>
<td>• B vitamins, especially B12 and B6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Margarine, butter, other spreading fats, cooking oils, oil-based salad dressings, mayonnaise, cream, chocolate, crisps, biscuits, pastries, cake, puddings, ice cream, rich sauces, gravies</td>
<td>• Vitamin A (and some vitamin D)</td>
<td>Offer moderate amounts and use lower fat versions whenever possible</td>
</tr>
<tr>
<td>Fruit and vegetables</td>
<td>• Frozen, fresh, dried and canned fruit and vegetables</td>
<td>• Fat (including essential fatty acids)</td>
<td>Use sparingly and offer low fat alternatives</td>
</tr>
<tr>
<td></td>
<td>• A glass of fruit juice can also contribute</td>
<td>• Protein</td>
<td></td>
</tr>
<tr>
<td>Milk and dairy foods</td>
<td>• Milk, cheese, yogurt, fromage frais</td>
<td>• B vitamins</td>
<td></td>
</tr>
<tr>
<td>Meat, fish and alternatives</td>
<td>• Meat, poultry, fish, eggs, nuts, beans (e.g. baked beans), pulses</td>
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</tr>
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<td>Foods high in fat</td>
<td>• Margarine, butter, other spreading fats, cooking oils, oil-based salad dressings, mayonnaise, cream, chocolate, crisps, biscuits, pastries, cake, puddings, ice cream, rich sauces, gravies</td>
<td>• Fat (including essential fatty acids)</td>
<td>Use sparingly and offer low fat alternatives</td>
</tr>
<tr>
<td>Foods and drinks high in sugar</td>
<td>• Soft drinks, sweets, jam, sugar, cake, puddings, biscuits, pastries, ice cream</td>
<td>• Some vitamins</td>
<td>Offer reduced sugar versions whenever possible, particularly for snack foods</td>
</tr>
</tbody>
</table>

**The Five Food Groups**

<table>
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</tbody>
</table>

**Scottish Nutrition and Diet Resources Initiative (SNDR)**

Provides a range of resources giving advice on nutrition and diet, including special dietary needs. The resource is based on original diet sheets for use by dieticians and health professionals in Scotland. Available from: Scottish Nutrition and Diet Resources Initiative.

**Scotland’s Health at Work Award Scheme**

This pack outlines the criteria each workplace must meet in order to achieve an award with the scheme. Available from: Scotland’s Health at Work.

**Hungry for Success: A Whole School Approach to School Meals in Scotland (2002)**

Report of the Scottish Executive’s Expert Panel on School Meals which provides recommendations to establish standards for school meals, improve the presentation of school meals to increase general take-up and to eliminate any stigma attached to taking free school meals.

**Hungry for Success; A Whole School Approach to School Meals in Scotland**

Recommendations to establish standards for an average school lunch, for Success recommended nutrient standards for an average school lunch, including special dietary needs. The resource is based on original diet sheets for use by dieticians and health professionals in Scotland. Available from: Scottish Nutrition and Diet Resources Initiative.

**FURTHER HELP AND INFORMATION CONTINUED**

**APPENDIX 1**

**ICT Activities for Food Technology**

A photocopiable booklet and a CD-ROM providing information and activities for a wide range of food technology topics and ICT skills. Available from: Heinemann, P.O. Box 6926, Portsmouth, Telephone: 800 225 5800; email custserv@heinemann.com

**Nutrient Specification for Manufactured Products 2004**

To assist caterers to achieve the Hungry for Success recommended nutrient standards for an average school lunch, the Food Standards Agency Scotland has devised target nutrient specifications for manufactured products used in schools. Available from: the Scottish Executive’s website at: www.scotland.gov.uk/library5/education/nis-00.asp

**2004 Directory of Community Food Initiatives**

A directory of Scottish community food initiatives produced by the Scottish Community Diet Project and HEBS. A quarterly newsletter Fare Choice is also available. Available from: the Scottish Community Diet Project.

**Gluten-free guide for caterers/food service**

Information about coeliac disease and gluten-free foods (gluten free recipes and diet booklets also available). Available from: The Coeliac Society.

**Hungry for Success: A Whole School Approach to School Meals in Scotland**

Report of the Scottish Executive’s Expert Panel on School Meals which provides recommendations to establish standards for school meals, improve the presentation of school meals to increase general take-up and to eliminate any stigma attached to taking free school meals. Available from the Scottish Executive’s website at: www.scotland.gov.uk/Publications/Recent

**Available from: Scotland’s Health at Work Award Scheme**

A booklet providing a framework for action over a 10 year period to improve Scotland’s diet. It makes recommendations for everyone with an influence on what people eat – including food producers, local authorities, schools, caterers, retailers, the media and consumers themselves. Available online from the Scottish Executive’s publication’s website at: www.scotland.gov.uk/topics/Health/health/19133/17941

**Tipping the Balance - three chefs make easy work of healthier catering (1999)**

A video produced by the HEA that runs for 23 minutes and contains practical tips aimed at encouraging healthier catering.

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What are the essentials?
- Like all working machines, the body needs a supply of energy to keep it going.
- These days energy is expressed in kilojoules (kJ) but was previously expressed in calories (1 kilocalorie (kcal) = 4.184 kJ).
- This energy is derived from nutrients in food:
  - 1g carbohydrate = 16 kJ (or 3.75 kcal)
  - 1g protein = 17 kJ (or 4 kcal)
  - 1g fat = 37 kJ (or 9 kcal)
- Alcohol is also a source of kilojoules.
  - 1g alcohol = 29 kJ (or 7 kcal)
- The amount of energy people require varies widely depending on several factors including age, body size, gender and the amount of physical activity they do.
- In order to maintain body weight, the amount of energy provided by the diet should match the amount that is used by the body.

FAT
- Fat is the most concentrated source of energy.
- It can be stored in the body and is needed for health but in small amounts.
- Experts generally agree that many people in the UK are eating too much fat. This may contribute to the high rates of overweight and obesity, which is now a serious public health problem. A high fat diet may also increase the risk of heart disease, by increasing levels of blood cholesterol.
- Fats are made up of fatty acids, of which there are 3 main types:
  - saturates
  - monounsaturates
  - polyunsaturates.
- All fats contain a mixture of different fatty acids but the relative amounts can vary considerably.
- Whilst cutting back on the total amount of fat in the diet is important, experts recommend that a reduction in saturates is most beneficial for health.

PROTEIN
- Protein is essential for the growth and repair of body tissues.
- It is also a source of energy.
- Sources of animal protein include fish, meat, eggs, milk and cheese.
- Sources of vegetable protein include pulses (peas, beans, lentils), nuts and cereals. Processed vegetable proteins (such as tofu, soya and mycoprotein) can be an important source for vegetarians.

CARBOHYDRATE
- There are two main types of carbohydrate:
  - sugars
  - starch.
- Both types provide the same amount of energy and less than half the amount provided by fat, gram for gram.
- Sources of starch include breakfast cereals and cereal foods (e.g. wheat, rice, maize, cassava, oats, rye, barley) roots and tubers (e.g. potatoes, root vegetables), pulses and some fruit.
- Sugars are naturally found in milk, honey and fruit but are also added to many prepared foods (e.g. biscuits, puddings, sweets and soft drinks). Frequent consumption of these ‘added’ sugars has been linked to dental decay, particularly where dental hygiene is poor.
- At least half of the energy in our diets should come from carbohydrate, mostly from starchy foods.

FIBRE
- Fibre is a mixture of substances found in plant foods.
- Most people in the UK consume less fibre than is recommended (experts suggest 18g each day while the average person consumes around 12g).
- Good sources include whole-grain cereals and breads, rice, pulses, vegetables, fruit and nuts.
- Some types of fibre help to keep the digestive system working properly and help to prevent bowel disorders such as constipation. The type of fibre found in pulses, oatmeal, vegetables and fruit is thought to be particularly helpful with regard to blood cholesterol levels, when eaten as part of a low fat diet.
- Most foods that naturally contain plenty of fibre are low in fat and good sources of vitamins and minerals. They are usually lower in energy but are also more filling because they are bulky.

VITAMINS AND MINERALS
- These are only needed in minute amounts but are required for many processes in the body.
- Since the body cannot make vitamins and minerals they must be provided by the diet.
- Deficiency of any of these nutrients can result in ill health.
- A varied diet, with plenty of fruit and vegetables, will usually provide all the vitamins and minerals the body requires (with a few exceptional circumstances, e.g. the increased requirement for folic acid during pregnancy).

For further details of the types of fat found in foods see section 3.3, page 18 and appendix 3.

For further details of the functions and sources of vitamins and minerals see appendix 4.
Why all the fuss about fat?

Too much fat in the diet can contribute to obesity and increase the risk of chronic diseases, such as heart disease. Although rates have been falling, Britain still has one of the highest heart disease rates in the world and it is the most common cause of premature death.

Reducing the amount of oil fat in the diet has been recommended, but the type of fat is also important. The fatty acid composition of fats not only affects their cooking qualities and storage properties, it also contributes to people’s health.

Where are dietary fats found?

All fats contain a mixture of different fatty acids but choosing those which contain higher amounts of unsaturates (polyunsaturates or monounsaturates), rather than saturates, is preferable.

Types of fatty acids

<table>
<thead>
<tr>
<th>Saturates</th>
<th>Where they are found</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Found largely in fats of animal origin - meat (beef, pork, lamb), meat fats (suet, lard, dripping) and dairy products (butter, milk, cream, cheese).</td>
<td></td>
</tr>
<tr>
<td>• Although all oils contain some saturates, two vegetable oils naturally contain a relatively large proportion of saturates - palm oil and coconut oil.</td>
<td></td>
</tr>
<tr>
<td>• Fats/oils rich in saturates are used in the commercial manufacture of many biscuits, pastries, cakes, pies, snacks and other baked foods.</td>
<td></td>
</tr>
<tr>
<td>• A high intake may raise blood cholesterol levels and increase the risk of a heart attack.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unsaturates</th>
<th>Where they are found</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There are two categories of unsaturates - monounsaturates and polyunsaturates.</td>
<td></td>
</tr>
<tr>
<td>• Found in fats of both plant and animal origin. Olive oil and rapeseed oil are particularly rich sources.</td>
<td></td>
</tr>
<tr>
<td>• Other sources include dairy products, nuts and meat.</td>
<td></td>
</tr>
<tr>
<td>• These fatty acids are thought to be beneficial to health if they replace saturates in the diet.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monounsaturates</th>
<th>Where they are found</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There are two categories of monounsaturates - n-6 and n-3 polyunsaturates.</td>
<td></td>
</tr>
<tr>
<td>• Polyunsaturates are found largely in fats of plant origin, including sunflower, soya, sesame, corn, soyabean, cottonseed and safflower oils.</td>
<td></td>
</tr>
<tr>
<td>• Wholegrain cereals (e.g. wheat, barley, oats) also contain small quantities of n-6 polyunsaturates.</td>
<td></td>
</tr>
<tr>
<td>• Some oils (e.g. walnut, rapeseed, linseed oil) and oil-rich fish (including herring, mackerel, salmon, tuna - not tinned, trout) are rich in n-3 polyunsaturates.</td>
<td></td>
</tr>
<tr>
<td>• Both n-6 and n-3 polyunsaturates are important for health.</td>
<td></td>
</tr>
<tr>
<td>• Linoleic acid (an n-6 polyunsaturated) is essential in the diet, as it cannot be made in the body.</td>
<td></td>
</tr>
<tr>
<td>• It can help to reduce blood cholesterol levels.</td>
<td></td>
</tr>
<tr>
<td>• Oleic acid (an n-3 polyunsaturated) must be provided in the diet, as it cannot be made in the body.</td>
<td></td>
</tr>
<tr>
<td>• Populations which eat large amounts of oil-rich fish have much lower rates of heart attacks and strokes.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Polyunsaturates</th>
<th>Where they are found</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There are two main families of polyunsaturates - n-6 (or omega 6) and n-3 (or omega 3) fatty acids.</td>
<td></td>
</tr>
<tr>
<td>• n-6 polyunsaturates are found largely in fats of plant origin, including sunflower, soya, sesame, corn, soyabean, cottonseed and safflower oils.</td>
<td></td>
</tr>
<tr>
<td>• Wholegrain cereals (e.g. wheat, barley, oats) also contain small quantities of n-6 polyunsaturates.</td>
<td></td>
</tr>
<tr>
<td>• Some oils (e.g. walnut, rapeseed, linseed oil) and oil-rich fish (including herring, mackerel, salmon, tuna - not tinned, trout) are rich in n-3 polyunsaturates.</td>
<td></td>
</tr>
<tr>
<td>• Both n-6 and n-3 polyunsaturates are important for health.</td>
<td></td>
</tr>
<tr>
<td>• Linoleic acid (an n-6 polyunsaturate) is essential in the diet, as it cannot be made in the body.</td>
<td></td>
</tr>
<tr>
<td>• It can help to reduce blood cholesterol levels.</td>
<td></td>
</tr>
<tr>
<td>• Linoleic acid (an n-3 polyunsaturate) must be provided in the diet, as it cannot be made in the body.</td>
<td></td>
</tr>
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<td>• Populations which eat large amounts of oil-rich fish have much lower rates of heart attacks and strokes.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trans fatty acids</th>
<th>Where they are found</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hydrogenation, which makes polyunsaturates more saturated (e.g. in traditional margarine manufacture), gives rise to trans fatty acids. These are now removed by many margarine manufacturers but they are found in some spreads and pre-prepared foods, such as pies and pastries.</td>
<td></td>
</tr>
<tr>
<td>• Continual re-heating of oils which are high in polyunsaturates (such as for chips) can substantially increase the amount of trans fatty acids present in the food.</td>
<td></td>
</tr>
<tr>
<td>• A high intake may raise blood cholesterol levels and increase the risk of a heart attack.</td>
<td></td>
</tr>
</tbody>
</table>

### APPENDIX 3

**Fatty acid composition of common fats and oils Grams per 100g**

<table>
<thead>
<tr>
<th>Saturates</th>
<th>Monounsaturates</th>
<th>Polyunsaturates</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>40</td>
<td>60</td>
<td>80</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fatty acid composition of selected foods Grams per typical portion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturates</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>100</td>
</tr>
</tbody>
</table>


### APPENDIX 3

**Fatty acid composition of common fats and oils Grams per 100g**

<table>
<thead>
<tr>
<th>Saturates</th>
<th>Monounsaturates</th>
<th>Polyunsaturates</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>40</td>
<td>60</td>
<td>80</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fatty acid composition of selected foods Grams per typical portion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturates</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vitamin A</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maintains and repairs tissues, needed for growth and development</td>
<td>As retinol (pre-formed vitamin A): milk, fortified margarines, cheese, egg yolk, liver, fatty fish, (such as herring, tuna, pilchards, sardines)</td>
</tr>
<tr>
<td></td>
<td>Essential for immune function, normal and night vision</td>
<td>As carotenes (transformed into vitamin A in the body): vegetables and fruit, especially carrots, tomatoes and green leafy vegetables, mango, apricots</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vitamin B1 (Thiamin)</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy release from carbohydrate, fat and alcohol</td>
<td>Potatoes and all cereals, especially bread and breakfast cereals, milk and dairy products, meat and meat products, vegetables</td>
</tr>
<tr>
<td></td>
<td>Important for brain and nerve function</td>
<td>Milk and dairy products, fortified breakfast cereals, meat and meat products, yeast extract</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vitamin B2 (Riboflavin)</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy release from carbohydrate, fat and protein</td>
<td>Meat and meat products, milk and dairy products, bread, fortified breakfast cereals, potatoes, fish</td>
</tr>
<tr>
<td></td>
<td>Normal growth</td>
<td>Many foods especially potatoes, breakfast cereals, meat, fish, eggs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vitamin B3 (Niacin)</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Protein metabolism</td>
<td>All animal foods - meat and meat products, milk and dairy products, fish, eggs, or fortified breakfast cereals, yeast extract</td>
</tr>
<tr>
<td></td>
<td>Formation of healthy blood</td>
<td>Naturally occurring folate - green leafy vegetables (especially sprouts, spinach, green beans, peas), potatoes, fruit (especially oranges), milk and dairy products</td>
</tr>
<tr>
<td></td>
<td>Formation of healthy blood cells and nerve fibre</td>
<td>As folic acid - fortified breakfast cereals and bread, yeast extract</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Folate (or folic acid, the synthetic form)</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reduces the risk of neural tube defects (such as spina bifida) in early pregnancy</td>
<td>Fruits (especially citrus fruit), fruit juices, green vegetables, peppers, tomatoes, potatoes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vitamin C</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Structure of bones, cartilage, muscle and blood vessels</td>
<td>As retinol (pre-formed vitamin A): milk, fortified margarines, cheese, egg yolk, liver, fatty fish, (such as herring, tuna, pilchards, sardines)</td>
</tr>
<tr>
<td></td>
<td>Helps wound healing and iron absorption</td>
<td>As carotenes (transformed into vitamin A in the body): vegetables and fruit, especially carrots, tomatoes and green leafy vegetables, mango, apricots</td>
</tr>
<tr>
<td></td>
<td>Acts as an antioxidant (protecting the cells from damage by oxygen, which may lead to heart disease and cancer)</td>
<td>As folic acid - fortified breakfast cereals and bread, yeast extract</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vitamin D</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Promotes calcium absorption from food</td>
<td>Fortified margarines and spreads, oil-rich fish (e.g. herring, mackerel, salmon), meat, egg yolk, fortified breakfast cereals, formed in the skin by the action of sunlight</td>
</tr>
<tr>
<td></td>
<td>Essential for bones and teeth</td>
<td>As retinol (pre-formed vitamin A): milk, fortified margarines, cheese, egg yolk, liver, fatty fish, (such as herring, tuna, pilchards, sardines)</td>
</tr>
<tr>
<td></td>
<td>Helps maintain heart action and nervous system</td>
<td>As carotenes (transformed into vitamin A in the body): vegetables and fruit, especially carrots, tomatoes and green leafy vegetables, mango, apricots</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vitamin E</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acts as an antioxidant</td>
<td>Vegetable oils, margarines, wholegrain cereals, nuts, green leafy vegetables</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vitamin K</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Essential for normal blood clotting</td>
<td>Dark green leafy vegetables, vegetable oils, cereals, meat</td>
</tr>
</tbody>
</table>

**VITAMINS:**

**Main functions**

**Sources**

---

**MINERALS:**

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Main functions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>Bone and teeth formation, Muscle contraction, Nerve functioning, Blood clotting</td>
<td>Milk and dairy products, bread, pulses, green vegetables, dried fruit, nuts and seeds, soft bones in tinned fish, water</td>
</tr>
<tr>
<td>Magnesium</td>
<td>Component of bones and teeth, Nerve and muscle function, Energy release</td>
<td>Cereals and cereal products, green vegetables, milk, meat, potatoes, nuts, seeds</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>Bone and teeth formation</td>
<td>Milk and dairy products, bread, red meat, poultry</td>
</tr>
<tr>
<td>Potassium</td>
<td>Controlling the balance of fluids in the body, Muscle and nerve functioning</td>
<td>Vegetables, potatoes, fruit, fruit juices, bread, fish, meat, milk, nuts, seeds</td>
</tr>
<tr>
<td>Sodium*</td>
<td>Maintains normal fluid balance, Nerve functioning, Muscle contraction</td>
<td>Processed foods, bread, cereal products, breakfast cereals, meat products, pickles, canned vegetables, tinned and packet sauces/soups, packet snack foods, salt added during cooking and at the table</td>
</tr>
<tr>
<td>Iron</td>
<td>Blood cell formation</td>
<td>Meat, meat products, cereal products, vegetables, pulses</td>
</tr>
<tr>
<td>Zinc</td>
<td>Protein, carbohydrate and fat metabolism, Taste, Normal growth, Wound healing</td>
<td>Meat and meat products, milk and dairy products, bread and other cereal products, eggs, beans, pulses, nuts</td>
</tr>
<tr>
<td>Copper</td>
<td>Part of a number of enzymes</td>
<td>Shellfish, meat (especially liver), bread and cereal products, vegetables, water</td>
</tr>
<tr>
<td>Selenium</td>
<td>Component of a number of enzymes, some of which acts as antioxidants</td>
<td>Cereals and cereal products, meat, fish, brazil nuts, shellfish</td>
</tr>
<tr>
<td>Iodine</td>
<td>Regulation of growth, development and energy expenditure</td>
<td>Fish, sea vegetables (such as kelp), milk and dairy products</td>
</tr>
<tr>
<td>Fluoride</td>
<td>Constituent of bones and teeth, Protects against tooth decay</td>
<td>Tea, fish, water</td>
</tr>
</tbody>
</table>

*Unlike other minerals in the list, recommendations exist to limit sodium intake.*
The ability to interpret nutrition information on a food label will help caterers to select healthier options.

When should nutrition information be provided on the label of packaged foods?
- Nutrition information is not required by law for any products, unless a nutritional claim is made (such as “low in fat”).
- But where labelling is used, UK and EU laws and guidelines dictate the format.

How should nutrition information be presented?
- At a minimum, the information provided should list the nutrients known as the “Big 4”.
- More detailed information can be provided by listing the “Little 4” (sugars, saturates, fibre and sodium), as well as the “Big 4”.
- Other nutrients, such as monounsaturates, cholesterol or starch, can be declared.
- Which format is chosen will depend on the health claim, e.g. if a claim is made relating to the content of sugars, fibre or sodium, both the “Big 4” and “Little 4” must be listed.

How should the information be expressed?
- All information must be given per 100 grams (or 100ml) of the edible portion of the food.
- Information can also be given per serving or per portion, provided that the number of portions is stated.

### Typical values

<table>
<thead>
<tr>
<th></th>
<th>Per serving (g/s)</th>
<th>Per 100g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>1260kJ/300kcal</td>
<td>370kJ/90kcal</td>
</tr>
<tr>
<td>Protein</td>
<td>20.4g</td>
<td>6.0g</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>42.5g</td>
<td>12.5g</td>
</tr>
<tr>
<td>Fat</td>
<td>42.5g</td>
<td>12.5g</td>
</tr>
<tr>
<td>Fibre</td>
<td>2.7g</td>
<td>0.8g</td>
</tr>
<tr>
<td>Sodium</td>
<td>0.7g</td>
<td>0.2g</td>
</tr>
</tbody>
</table>

What about vitamins and minerals?
- The rules governing labelling of vitamins and minerals are more complex.
- For each vitamin or mineral the amount present can only be listed if the food provides a significant proportion of the Recommended Daily Allowance (RDA), as defined by European legislation.

What’s a GDA?
- GDAs, or Guideline Daily Amounts, for energy (Calories), fat and saturates intakes may be given to help consumers interpret nutrition labelling.

### Guideline Daily Amounts

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories (kcal)</td>
<td>2000</td>
<td>2500</td>
</tr>
<tr>
<td>Fat</td>
<td>70g</td>
<td>95g</td>
</tr>
<tr>
<td>Saturates</td>
<td>20g</td>
<td>30g</td>
</tr>
<tr>
<td>Salt</td>
<td>6g</td>
<td>6g</td>
</tr>
</tbody>
</table>

1000 kilocalories (kcals) = 4.184 megajoules (MJ) or 4184 kilojoules (kJ)

The recommendations for the average proportion of energy that should come from fat, protein and carbohydrate are:
- 33% of total energy should come from fat
- 10% should come from saturates
- 47% should come from carbohydrate foods (mainly starchy foods)
- Protein intake averages 15% of total energy intake
- Alcohol should contribute on average around 5% of energy intake

These figures are intended as population averages, not as targets for individuals. They refer to the habitual diet, so do not need to be met on a daily basis and certainly not by individual meals.

How far from these targets are we?
Although since these targets were published in 1991 there has been considerable improvement in the UK diet, on average we are still eating too much fat, particularly saturates.

How much fat is 33%?
For women with an average energy intake of 8100kJ (1940 kcals) per day, 33% of total energy intake would be:

$$\frac{33}{100} \times 8100 = 2673 kJ$$

Since 37 kJ are provided by 1g of fat, 2673 kJ are provided by:

$$\frac{2673}{37} = 72g$$

Therefore, to meet the recommendation total fat intake should average around 72g per day for women*.

For men with an average energy intake of 10600kJ (2550 kcals) per day, 33% of total energy intake would be 95g of fat.

*Please note that this figure differs slightly from that provided as the Guideline Daily Amount on food labels where it is rounded down to 70g.
APPENDIX 7b

TASTE EVALUATION FORM (suitable for use by students evaluating dishes prepared)

Dish: __________________________
Comments (e.g. made with less oil) ____________________________________________

Taste the dish and rate how much you like it on the following scales:

Initial appearance

<table>
<thead>
<tr>
<th>Very Bad</th>
<th>Poor</th>
<th>OK</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

Initial aroma

<table>
<thead>
<tr>
<th>Very Bad</th>
<th>Poor</th>
<th>OK</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

Taste

<table>
<thead>
<tr>
<th>Very Bad</th>
<th>Poor</th>
<th>OK</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

Texture

<table>
<thead>
<tr>
<th>Very Bad</th>
<th>Poor</th>
<th>OK</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

Overall, how would you rate the dish?

<table>
<thead>
<tr>
<th>Very Bad</th>
<th>Poor</th>
<th>OK</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

What was the best thing about the dish?

What was the worst thing about the dish?

FOR DESSERTS ONLY:

How sweet was the dish? (a similar scale could be used for saltiness)

<table>
<thead>
<tr>
<th>Not sweet enough</th>
<th>About right</th>
<th>Too sweet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: If dishes are being compared, add additional rows to the evaluation scales, and add an extra column for the code numbers (or other identifiers) for the different dishes.
Which foods need labelling?
Under current legislation, caterers must label any foods they sell to the ultimate consumer that contain GM soya, GM maize or GM additives and flavourings.

How should this information be presented?
The legislation allows caterers a certain amount of flexibility in how they provide the consumer with this information. The information can be given on a label attached to the food, or on a menu or notice which the customer can see when he or she chooses the food. Alternatively, caterers could display a notice saying that some of the foods sold contain GM ingredients, and that further information is available from the staff. Where this option is used, the business must have a procedure in place for ensuring staff are kept informed of this information.

What about functions like wedding reception or parties?
The legislation requires that the caterer provides the labelling information to the purchaser of the food. In the case of a function, such as a wedding reception or corporate hospitality event, this would be the organiser. The caterer is not required to make the information available to those actually eating the food. Where any further labelling is required, this will be the responsibility of the event organiser.

How can caterers find out if ingredients are GM?
The legislation requires that businesses supplying food to caterers must provide labelling information on GM ingredients. This information must be provided either on a label attached to the food, on a notice, or in accompanying documents such as an invoice. Caterers can use information received when buying ingredients to ensure they are correctly labelling the food they subsequently sell.

How are the requirements enforced?
The Trading Standards or Environmental Health Department at your Local Authority is responsible for enforcing the labelling requirements. It is anticipated that they will check for compliance in the course of their routine inspections. Businesses are required to take reasonable steps and exercise due diligence to ensure that they comply with the requirements. As part of this process, it is a good idea for caterers to keep records of the foods and ingredients they buy, and any accompanying labelling information.

Who can provide further information?
For further information, you can contact the Food Standards Agency at the address below. Guidance Notes giving more details of the legislation and setting out the labelling requirements, are also available.

Food Standards Agency Scotland
St Magnus House
25 Guild Street
Aberdeen AB11 6NJ
Telephone Switchboard: 01224 285100
www.food.gov.uk

Labelling of Genetically Modified (GM) Foods
Caterers are legally required to label foods that contain:
- GM soya or maize
- GM additives and flavourings

The information must be provided either:
- On a label attached to the food
- On a menu or notice
- Verbally via serving staff
The fat content of different cheeses

<table>
<thead>
<tr>
<th>Cheese</th>
<th>Grams of fat per 100g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mascarpone*</td>
<td>2.5</td>
</tr>
<tr>
<td>Stilton</td>
<td>2.0</td>
</tr>
<tr>
<td>Vegetarian cheddar</td>
<td>1.5</td>
</tr>
<tr>
<td>Cheddar</td>
<td>1.0</td>
</tr>
<tr>
<td>Double Gloucester</td>
<td>0.7</td>
</tr>
<tr>
<td>Gouda</td>
<td>0.5</td>
</tr>
<tr>
<td>Edam</td>
<td>0.5</td>
</tr>
<tr>
<td>Brie</td>
<td>0.5</td>
</tr>
<tr>
<td>Camembert</td>
<td>0.5</td>
</tr>
<tr>
<td>Parmesan</td>
<td>0.5</td>
</tr>
<tr>
<td>Dolcelatte*</td>
<td>0.5</td>
</tr>
<tr>
<td>Mozarella</td>
<td>0.5</td>
</tr>
<tr>
<td>Feta</td>
<td>0.5</td>
</tr>
<tr>
<td>Cheddar - reduced fat</td>
<td>0.5</td>
</tr>
<tr>
<td>Low fat soft cheese</td>
<td>0.5</td>
</tr>
<tr>
<td>Full fat soft cheese</td>
<td>0.5</td>
</tr>
<tr>
<td>Ricotta</td>
<td>0.5</td>
</tr>
<tr>
<td>Cottage cheese</td>
<td>0.5</td>
</tr>
</tbody>
</table>

McCance and Widdowson’s The Composition of foods, 4th Supplement, Milk Products and Eggs. RSC/MAFF (1989)

The fat content of different yogurts and alternatives

<table>
<thead>
<tr>
<th>Yogurt</th>
<th>Grams of fat per 100g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greek yogurt</td>
<td>0.0</td>
</tr>
<tr>
<td>Plain yogurt</td>
<td>0.0</td>
</tr>
<tr>
<td>Fromage frais</td>
<td>0.5</td>
</tr>
<tr>
<td>Very low fat</td>
<td>0.5</td>
</tr>
<tr>
<td>Low fat</td>
<td>0.5</td>
</tr>
<tr>
<td>Very low fat</td>
<td>0.5</td>
</tr>
</tbody>
</table>

McCance and Widdowson’s The Composition of foods, 4th Supplement, Milk Products and Eggs. RSC/MAFF (1989)

The fat content of different milks

<table>
<thead>
<tr>
<th>Milk</th>
<th>Grams of fat per 100g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skimmed</td>
<td>0.0</td>
</tr>
<tr>
<td>Semi-skimmed</td>
<td>0.5</td>
</tr>
<tr>
<td>Whole milk</td>
<td>1.0</td>
</tr>
</tbody>
</table>

McCance and Widdowson’s The Composition of foods, 4th Supplement, Milk Products and Eggs. RSC/MAFF (1989)

The calcium content of different milks

<table>
<thead>
<tr>
<th>Milk</th>
<th>Milligrams calcium per 100g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skimmed</td>
<td>120</td>
</tr>
<tr>
<td>Semi-skimmed</td>
<td>115</td>
</tr>
<tr>
<td>Whole milk</td>
<td>110</td>
</tr>
</tbody>
</table>

McCance and Widdowson’s The Composition of foods, 4th Supplement, Milk Products and Eggs. RSC/MAFF (1989)

A healthy diet is one that is rich in fruit and vegetables and cereals, and low in fat, salt and sugar. Improving health and reducing health inequalities is now a key government priority.

Recognising the links between diet, nutrition and preventable disease such as heart disease and some cancers, Our National Health, Scotland’s NHS action plan, supported by Eating for Health: A Diet Action Plan for Scotland, sets out a multi-agency, multi-sectoral approach to improve Scotland’s diet. It outlines plans to work with the food industry, including caterers, to improve the overall balance of the diet with respect to fruit and vegetables, salt, fat and sugar.

This booklet represents an important resource to achieve this goal. It provides guidelines and practical tips and a sound basis for improving health through provision of healthy catering in restaurants, workplaces, schools and hospitals.

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