**APPENDIX 6**

**NUTRITIONAL GUIDELINES FOR HOSPITAL CATERING’**

**HEALTH OF THE NATION (1995).**

|  |  |  |
| --- | --- | --- |
| **NUTRIENT** |  | **OTHER COMMENTS** |
| **Energy** | 1200-2500 kcal | * **300 kcal for each main meal.**
* **500 kcal for an energy dense meal.**
 |
| **Protein** | 50 -80g | * **18g per main meal.**
* **Absolute minimum of 12g for vegetarian options.**
 |
| **Vitamin C** | 40mg  |  |
| **Iron** | 8.7mg (women over 50 and men).14.8mg (women19 – 50 years). |  |
| **Folic acid** | 200ug |  |
| **Dietary Fibre**  | **12g**  |  |

*These requirements may be increased (or decreased)*

*by the effects of trauma or specific illness.*

**Nutrient Specification For Foods In Hospital – The Scottish Government 2008.**

Table 2 Essential criteria for the provision of nutrients for hospitalised children and adults

|  |  |  |  |
| --- | --- | --- | --- |
| **Nutrient (/ day)** | **'Nutritionally vulnerable' patients** | **'Nutritionally well' patients ( DRVs)** | **Provided** |
| **Energy (kcal)** | Adults 2250 - 2625 1b | Adults 1800 -2550 1a | Daily |
|  | Children 1200 - 2750 | Daily |
| **Protein (g)** | 60 - 75 3 | 56 2 | Daily |
| **Total fat (% food energy)** | Not specified | = 35 | Averaged over a week |
| **Saturated fat (% food energy)** | Not specified | = 11 | Averaged over a week |
| **Carbohydrate (% food energy)** | Not specified | = 50 | Averaged over a week |
| **Non-milk extrinsic sugars ( NMES) (% food energy)** | Not specified | = 10 | Averaged over a week |
| **Non-starch polysaccharides (g)** | 12-18 4 | 18 4 | Daily |
| **Sodium (mg)** | < 2400 5 | < 2400 5 | Daily |
| **Salt equivalents (g)** | < 6 5 | < 6 5 | Daily |
| **Vitamin A (µg)** | 700 6 | 700 6 | Averaged over a week |
| **Vitamin D (µg)** | 10 7 | 10 7 |  |
| **Calcium (mg)** | = 700 | = 700 | Averaged over a week |
| **Potassium (mg)** | 3500 6 | 3500 6 | Averaged over a week |
| **Magnesium (mg)** | 300 6 | 300 6 | Averaged over a week |
| **Iron (mg)** | = 14.8 8 | = 14.8 8 | Averaged over a week |
| **Vitamin B12 (µg)** | = 1.5 | = 1.5 | Averaged over a week |
| **Folate and Folic Acid (µg)** | = 200 | = 200 | Averaged over a week |
| **Vitamin C (mg)** | = 40 | = 40 | Averaged over a week |
| **Zinc (mg)** | = 9.5 | = 9.5 | Averaged over a week |
| **Fluid (litres)** | = 1.5 | = 1.5 | Daily |

1a Estimated Average Requirement ( EAR) for males and females 19+ years. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)1b BAPEN recommendations for the energy requirements for the 'unwell' hospital patient are 1.3 to 1.5 times resting energy expenditure, that equates to approximately 30-35kcal/kg/day (1800 - 2200kcal/day for a 60kg individual; 2250 - 2625 for 75kg individual). [31](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) Recommendations are based on reference weights used for DRVs. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)
2 Age group RNIs should be used for children and to provide for the increased requirements of pregnant and lactating females. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)
3 BAPEN recommendations for protein requirements for the 'unwell' or 'nutritionally vulnerable' hospital patient are 1g/kg/day. [31](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) Recommendations are based on reference weights used for DRVs. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) This intake must be accompanied by an adequate energy intake if optimal protein utilisation is to be achieved. [31](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) Those patients with altered metabolic state should be identified by screening procedures and referred for dietetic assessment.
4 Applicable to individuals > 5 years old. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) Diets of well adults should contain 18g/day; with a range 12-24g depending on individual circumstances. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20), [32](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)
5 Age-specific recommendations: 1-3 years = 2g salt/day (0.8g sodium); 4-6 years = 3g salt/day (1.2g sodium); 7-10 years = 5g salt/day (2.0g sodium); 11+ years = 6g salt/day (2.4g sodium). [33](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)
6 Age group RNIs should be used for children. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)
7 The provision of food that will provide >10 µg/day vitamin D is difficult. Individual patients may still require additional supplementation, especially elderly patients and those who are in long-stay care and are house/hospital bound. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)
8 When catering solely for older adults, use RNI for individuals 50+ years (9mg/day).

**Nutrient specification**

**2.3.1 Nutritional requirements of hospital patients**

The Department of Health Committee on Medical Aspects of Food Policy ( COMA) in 1991 published Report on Health and Social Subjects number 41, Dietary Reference Values for Food Energy and Nutrients for the United Kingdom. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) This publication set out recommended Dietary Reference Values ( DRVs) - daily requirements for energy (calorie) intake and all other nutrients for all age groups ( [Appendix two](http://www.scotland.gov.uk/Publications/2008/06/24145312/12)). The following terms relating to energy and nutrient intakes are used to define the needs of population groups of the UK:

* *EAR (Estimated Average Requirement) - the amount of energy required each day by an average person in the specified age group, some people require more, and some less than this figure.*
* *RNI (Reference Nutrient Intake) - the amount of a nutrient estimated to meet the needs of the majority of the population.*
* *Safe Intake - some nutrients can be toxic in high amounts, safe levels of intake are recommended for these.*

The current document uses the DRVs and, in the case of salt, advice from the Scientific Advisory Committee on Nutrition ( SACN) as a **baseline guide** for the nutrient specifications for the general hospital population. However, these recommendations were developed specifically for use with healthy groups of the population. [30](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) The British Association of Parenteral and Enteral Nutrition ( BAPEN) have proposed amendments to the recommendations for energy and protein for the un-well hospital patient. [31](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) The amendments to the DRVs for a hospital population and the rationale behind this are explained fully in [Appendix three](http://www.scotland.gov.uk/Publications/2008/06/24145312/13). The nutrient specifications in the current document endorse the recommendations provided by the British Dietetic Association document Delivering Nutrition Care through Food and Beverage Services [4](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) and The British Association of Parenteral and Enteral Nutrition ( BAPEN) Hospital Food as Treatment report. [31](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)

Using DRVs to plan the food provision in hospitals alongside nutritional screening procedures that have clear nutritional management guidelines to support those individuals identified 'at-risk', should ensure that NHSQIS standard 3.2 can be achieved.

It is **essential** a hospital menu is capable of meeting the nutrient standards set out in table 2, as appropriate for the patient population it is catering for.

* **Energy on a daily basis**
* **Protein on a daily basis**
* **RNI for micronutrients (vitamins and minerals) on a weekly basis**

This pragmatic approach allows menus to be planned with greater flexibility. It is unlikely that a free-living individual at home will meet the RNI for all nutrients on a daily basis, with most being met on average over a week.

As noted, hospital menus must meet the nutritional requirements of diverse patient population groups. [32](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) Two sets of nutrient standards have been specified in table 2; this is acknowledgement of the extremes of the core nutritional requirements in the hospital setting (outlined in section 2.2). One set of standards is applicable to the needs of 'nutritionally vulnerable' patients; those with poor appetites, poor food intakes, undernourished. The other set of nutrient standards is in line with the requirements of the healthy balanced diet and thus are applicable to the needs of those patients who are considered to be 'nutritionally well'. Provision of a menu that meets the nutritional requirements outlined for hospital patients, must also be a menu that provides **choices of dishes** that tempt patients to eat, and which they will enjoy.

**2.3.2 Rationale for differences in nutrient standards set**

Many of the nutrient standards that have been set in table 2 are common to both 'nutritionally well' and 'nutritionally vulnerable' patients. A healthy eating style of service is inappropriate for the 'nutritionally vulnerable' patient. The DRV for fat (<35% of total energy, and that for saturated fat <11% of total energy) and also that set for carbohydrate (and non-milk-extrinsic sugars - NMES) have therefore not been included as core nutrient standards for this population group. Given the levels of malnutrition in the hospital setting and also the poor appetites and poor food intakes of many patients [28](http://www.scotland.gov.uk/Publications/2008/06/24145312/20) one of the key aims of the core foodservice should be to **provide food with concentrated energy and nutrients** in **small serves**. The very nature of providing a diet that is energy and nutrient-dense in small serving sizes may require the addition of extra fat, protein, or refined carbohydrate; or selection of food items that are perhaps considered 'less healthy'. This practice is incompatible with a standard that limits the percentage of energy from these macronutrients. More specific guidance about individual meals and components of the meal for the 'higher-energy' diet is provided in [section 5](http://www.scotland.gov.uk/Publications/2008/06/24145312/9).

Non-starch polysaccharide ( NSP) or fibre provides bulk to the diet. A diet high in NSP is beneficial for individuals whose needs are in line with the healthy diet; it is important in preventing constipation, it gives a feeling of fullness and thus individuals are less likely to want to eat as frequently. As such, a diet that is very high in NSP is not advocated for individuals with a poor appetite where the aim is to ensure maximum food and thus energy and nutrient intakes. Diets of 'nutritionally well' adults should contain 18g/day; with a range 12-18g for the 'nutritionally vulnerable' depending on individual circumstances. [11](http://www.scotland.gov.uk/Publications/2008/06/24145312/20)

Where a menu must meet the needs of the 'nutritionally well' and the 'nutritionally vulnerable', then ensuring that both 'healthy choices' and 'higher energy and nutrient-dense' choices are available at each eating occasion should enable all patients to choose a diet that meets their nutritional requirements. It would be considered good practise for menus to be analysed to ensure that they have the capacity to enable individuals to choose a healthy balanced diet through selection of healthy choices and meet the nutritional standards for healthy eating based on COMA and SACN recommendations. They should also be analysed to ensure they have the capacity to meet the nutrient standards set for 'nutritionally vulnerable' patients.

Many patients will have changes in their nutritional and dietary requirements during their stay in hospital. Regular nutritional screening of patients, especially those who are most vulnerable, should ensure that changing needs can be met.

In situations when a menu is being planned solely for a defined patient group, for example children, it would be considered good practise to aim for the RNIs for nutrients for that particular age group (provided in [Appendix two](http://www.scotland.gov.uk/Publications/2008/06/24145312/12)). In practice, the patients' choice of different portion sizes of food should account somewhat for meeting different energy and nutrient requirements.

* Reference Food in Hospitals: National Catering and Nutrition Specification for Food and Fluid Provision in Hospitals in Scotland. The Scottish Government (2008).