

Menu and Nutritional Standards for Public Hospitals in South Australia*

SA Health Hospital
Nutrition & Menu
Standards Working Party

Created 2009

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* These Standards are not intended to be applied to paediatric patients.
For specific information about paediatric populations, please refer to page 4.

Acknowledgements

In 2008 – 2009, SA Health commissioned a consultant dietitian, Ms Jacqui Krassie, to facilitate a working party consisting of Food Service Dietitians, Clinical Dietetics Managers and Food Service Managers from various metropolitan and country public hospitals in South Australia to prepare the draft *Menu and Nutritional Standards for Public Hospitals in South Australia*. Since 2009 several South Australian hospitals have used the draft Standards as a basis for their menus.

These Standards have been reviewed by a group of Food Service Dietitians, Clinical Dietetics Managers and Food Service Managers from various metropolitan and country public hospitals in South Australia. They have been endorsed by the SA Health Statewide Nutrition and Dietetic and Speech Pathology Advisory Groups.

For further information about the development of the *Menu and Nutritional Standards for Public Hospitals in South Australia*, please contact Dietetic departments at the following Local Health Networks:

- > Central Adelaide Local Health Network (CALHN)
- > Southern Adelaide Local Health Network (SALHN)
- > Northern Adelaide Local Health Network (NALHN)
- > Country Health South Australia (CHSA LHN)
- > Women's and Children's Health Network (WCHN)

Or alternatively the Allied and Scientific Health Office, SA Health on 08 82266406 or alliedscientifichealth@health.sa.gov.au

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1. Introduction

Food is fundamental to patient care. Failure to provide adequate nutrition can delay recovery time, increase complication rates and extend the length of stay for hospital patients. Specific attention to nutritional intake is required for hospitalised patients due to their increased requirements and often reduced appetites.

The focus of these Standards is to minimise the impact of poor nutrition on individual patients, patients' families and carers as well and the cost of the health care system. A menu consistent with the Australian Dietary Guidelines is appropriate for patients whose appetites *are not diminished*. The Australian Dietary Guidelines are intended for people of all ages and backgrounds within the general healthy population including people with common diet-related risk factors, such as being over-weight, but do not apply to people with medical conditions requiring specialised dietary advice or to frail elderly people at risk of malnutrition.¹ Recovery from illness takes priority during hospitalisation.

All patients have the right to expect that the food provided in hospital will promote health and recovery and maintain good nutritional status. Patients who are well nourished on admission have the right to retain their nutritional status on discharge⁶ and are more likely to return to independent living

These Standards have been developed to ensure that inpatients in South Australian hospitals have access to sufficient and appropriate types of food and fluids to meet their nutritional needs. Recognising this, these guidelines are based on the following broad understandings:

- > Hospitalised patients are generally acutely ill or suffering from chronic diseases that place their nutritional status at risk. There is a body of evidence that supports the premise that poor oral intake rather than clinical treatment or medical disease is responsible for daily nutrient requirements not being met.^{2,3,4,5}
- > Patients who are poorly nourished on-admission or who eat poorly even for 3-4 days can have increased recovery time, complication rates and consequently their length of stay can be affected, incurring increased health costs. The elderly cohort of this group recover less quickly.¹⁸
- > Intake from the hospital menu is crucial for the nutritional status of patients with a longer length of stay, regardless of their nutritional status on admission.

2. Scope

These Standards are applicable to patients requiring texture modified diets and those who may be eating poorly. They do not provide nutrition standards for patient populations such as paediatric patients or any patients requiring therapeutic nutritional intervention. For information about appropriate foods suitable for specific therapeutic diets, the NSW Agency for Clinical Innovation Therapeutic Diet Specifications for Adult Inpatients http://www.aci.health.nsw.gov.au/_data/assets/pdf_file/0006/160557/ACI_AdultDietSpecs.pdf, including any revisions. For information about texture modified food and fluids, refer to Australian standardised definitions and terminology for texture-modified foods and fluids, http://dmsweb.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Appendix.pdf.

The appropriate dietitian must be consulted in relation to which diets are relevant for specific hospitals.

General food service considerations for specific patient groups are outlined in Section - *Nutritional issues for Specific Patient Groups* found on page 16 of this document.

These Standards are intended to assist the assessment and development on nutritionally adequate menus. The Working Group plans to develop a toolkit with sample menus and recipes to further support menu development.

These Standards are not intended to be applied to paediatric patients. For guidance in relation to paediatric patients, please refer to the ACI Nutrition Standards for paediatric inpatients in NSW hospitals http://www.aci.health.nsw.gov.au/_data/assets/pdf_file/0005/160556/Nutrition-standards-for-paediatric-inpatients-in-NSW-hospitals.pdf.

3. Principles

The overall approach of the Standards is to ensure patients have access to food that meets their nutritional needs and contributes to their sense of well-being.

The application of the Standards assumes the following principles:

- > Patients are provided with a variety of safe and good quality food that is appealing, enjoyable, and nutritionally adequate
- > Patients nutritional requirements are addressed through the hospital's food service production, meal assembly and delivery systems
- > Patients at risk of poor nutrition are identified and intervention strategies implemented
- > The food provided should take into consideration the patients' medical, cultural, and religious circumstances
- > Key stakeholders from food services and clinical staff should work together in collaboration to implement and monitor the Standards
- > Cost control is balanced with quality and range of choice
- > The hospital patient profile and patient consumption patterns should be monitored regularly to inform ongoing revision of menu design

The nutrition principles that underpin these Standards are set out in the supporting document, "*Supporting Evidence – Menu and Nutritional Standards for Public Hospitals in South Australia*".

4. Expected outcomes

Each public hospital in South Australia will offer:

- > A menu that meets this Standard
- > A menu that meets the nutritional needs of the patient profile at each facility.
- > A menu format and level of choice consistent with the patient profile at each facility
- > Regular monitoring of the patient profile at each facility to ensure menus continue to meet the nutritional needs of patients and to inform the development of the menu over time
- > A dietitian will assess the hospital menu as meeting these Standards as the menu changes

5. Nutritional issues for specific groups

While these Standards do not address the needs of patients who require specialised therapeutic intervention, there are some patient groups which may require additional considerations during menu planning. Typically these patients are associated with the following hospital patient groups:

- > Mental health services
- > Patients who follow a vegetarian diet
- > Maternity patients
- > Long stay patients / Rehabilitation
- > Patients from diverse cultural and religious backgrounds
- > Patients requiring food with a modified consistency
- > Poor eaters

The Nutritional Issues for Specific Patient Groups (page 13) are based upon observations from nutrition and food service professionals working with these patient groups.

Each section identifies features of these patient sub-groups that reflect upon the application of these Standards with considerations for the planning of food services for these groups.

6. Nutrient criteria

The Nutrient Reference Values for Australia and New Zealand, 2006⁷ (NRVs) were used as the basis for developing these Standards. The NRVs are defined for healthy individuals and are not always appropriate for persons who are ill or require nutritional support.⁶ Many in-patients will have increased nutrient requirements as a result of their medical condition and/or need to treat malnutrition acquired prior to entering hospital.

As a result, these Standards include modified requirements for specific nutrients including energy and protein, where good evidence exists to reflect the specific nutritional needs of hospital patients.^{8,9,10}

For more information on the nutrient goals and reference person used in the development of these Standards, please refer to the supporting document *"Supporting Evidence – Menu and nutritional standards for acute care hospitals in South Australia"*.

7. Recommendations for local implementation

It is recommended that:

1. a gap analysis of the current menu against the Standards and the nutritional implications of any non-compliance be completed. This will require Standard Recipes to be in place, with nutritional analyses. A dietitian can assist with this.
2. a menu be developed and implemented by Food Services, in close consultation with Dietetics and, in relation to texture, Speech Pathology, and patients;
3. a self-audit process be put in place to monitor implementation (choice/quality/costs) and patient perceptions; and
4. the menu be reviewed annually.

8. Implementation issues

This development of these Standards has recognised the impact of the following issues:

- > The range of the size and complexity of the systems in use across South Australian public hospital food services
- > The potential impact on recurrent costs
- > Procurement issues including the availability of food on a seasonal basis and in country locations
- > Need for training and other support systems including information technology.

9. Reporting on progress

It is recommended that compliance with the Standards be reported through the local reporting lines to LHN group with responsibility for food services and patient care.

10. Food and Menu Standard

The Food and Menu Standard outlined in the following tables specifies the

- > Minimum menu pattern including menu item, minimum number of choices, serving size and comments for
- > A patient in a public hospital/facility for
- > Breakfast, lunch, dinner and three mid meals

For each menu item, the Food and Menu Standard specifies:

- > Minimum number of choices
- > Minimum serve and examples
- > Menu Design Comments
- > Nutritional Standards

This menu Standard is to be considered a minimum standard. Facilities are encouraged to extend the meal service and offer additional choices.

Food and Menu Standard – Breakfast

Menu Item	Minimum Number Choices per Meal	Minimum Serve and Examples	Menu Design Comments	Nutritional Standards
FRUIT (Fresh) or (Canned)	1	100 – 120g eg. 1 medium piece (apple, pear, banana) 2 small pieces (mandarins, plums) 5 prunes 120g	Provide a variety of fruit. Include seasonal fruit where possible	15 g carbohydrate per serve In natural fruit juice or water
JUICE	1	100 ml		No added sugar (100% juice)
CEREAL (Hot) CEREAL (Cold)	1 4	150g cooked weight eg. porridge, semolina Portion packs where available or 30g eg. Cornflakes, Weetbix, All-Bran		No added sugar No added fat Cereals (without fruit) to contain less than 15g sugars per 100g Cereals with fruit to contain less than 25g sugars per 100g Offer at least 2 varieties with a fibre content of at least 3g total fibre per serve
*PROTEIN Continental breakfast and/or Traditional cooked	1	125g yoghurt 50 – 65g egg 20g cheese 130g baked beans eg. lean bacon, scrambled egg, omelette	Low protein items such as spaghetti, tomato and mushrooms can be offered to create menu variety.	*At least 6g protein per serve (protein equivalent of 1 egg)
BREAD eg. toast / bread / roll	Able to select up to 2 slices	1 slice 1 roll (30g)	Offer white and at least one of wholemeal, wholegrain or multigrain	
MARGARINE	1 per slice of bread	Portion pack (10g)	Offer poly or mono-unsaturated spread Butter may be offered as an option	Poly or mono-unsaturated fats are recommended
MILK	1	150 ml	Full cream and reduced fat. Soy milk to be available on request	Soy milk to contain at least 100 mg calcium per 100 ml
SPREADS	3	Portion packs where available	Include a selection of jams, marmalade, honey, vegemite and peanut butter	Low joule jam not necessary for persons with diabetes
HOT BEVERAGES eg. tea, coffee	2	150 ml 15 ml milk or portion pack per beverage	Decaffeinated and hot chocolate beverages may be offered	
SUGAR AND SUGAR SUBSTITUTE	1	Portion packs	Offer 2 if patient selects cereal and hot beverage	

*Protein goals for inpatients can be difficult to achieve. As breakfast is often well consumed, offering a protein source at this meal can be strategic for nutritionally at-risk patients

Food and Menu Standard – Lunch and Dinner

Menu Item	Minimum Number Choices per Meal	Minimum Serve and Examples	Menu Design Comments	Nutritional Standards
SOUP (Type 1 – Nutrient Dense) SOUP (Type 2 – Minimal Nutrient Value)	Type 1 soup offered at least 1 per day	180 ml 180 ml	Variety at consecutive meal Additional soup of Type 1, Type 2 or clear broth may be offered Check with Speech Pathology about suitability for patients on thickened fluids	At least 350 kJ per serve At least 5 g protein per serve Maximum 500 mg sodium per serve At least 180 kJ per serve At least 2 g protein per serve Maximum 500mg sodium per serve Use unsaturated fat in cooking soups
HOT MEAL Solid piece of beef, pork, veal, lamb, chicken or fish Wet dish – meat and sauce, minimal to no vegetables Wet dish – even mix of meat and vegetables Vegetarian dish (optional)	2	90 g cooked weight eg. roast beef / pork / lamb / chicken, grilled fish 130 g cooked weight Edible meat component 90 g eg. plum chicken, lemon pork 150 g cooked weight Edible meat component 90 g eg. chicken stir-fry, Irish stew 100 – 250 g eg. lentil curry, vegetarian quiche, chickpea patties, kidney bean casserole	At least 2 hot meals per day to be meat-based. 1 hot meal per day to be red meat. Vegetarian choice is optional. Variety of meats at consecutive meals. To minimise repetition, main meal items should not appear more than once per week Fish provided at least twice per week. Gravy is additional The edible meat component may be less than 90 g if the dish contains legumes and still provides at least 20g protein. The edible meat component may be less than 90 g if the dish contains legumes and still provides at least 20g protein. Portion sizes can vary significantly. These must be compliant with vegetarian standards unless the dish is additional to the minimum 2 hot choices per meal.	Less than 20% of main menu items have more than 15 g fat per serve Less than 10% of main menu items have more than 500 mg sodium per serve Maximum 10% of menu items are less than 20g protein per serve (or less than 10g protein per serve if vegetarian) Use unsaturated fat in cooking main meals At least 20 g protein per serve At least 20 g protein per serve At least 20 g protein per serve At least 600 kJ per serve At least 10 g protein per serve

Food and Menu Standard – Lunch and Dinner continued

Menu Item	Minimum Number Choices per Meal	Minimum Serve and Examples	Menu Design Comments	Nutritional Standards
POTATO RICE PASTA	2	90 g cooked weight		At least 15 g carbohydrate per serve No added salt Use unsaturated fat in all potato dishes
VEGETABLES	2	60 g cooked weight per vegetable	Limit repetition to once every second day Side salads may be offered as an option	No added salt Use unsaturated fat in all vegetable dishes
SALAD (as a main meal) Meat or equivalent Fresh salad vegetables Starchy (carbohydrate-based) salad	1	60 g cold meat, edible portion and / or 40 g cheese and / or 2 eggs and / or 40 g legumes 3 fresh salad vegetables on each plate and 100g total weight 90 g eg. potato, pasta, and / or sweet corn	Include salad dressing portion packs as optional item Variety of protein on consecutive days eg. ham, turkey, chicken, beef or quiche Offer variety of salad vegetables with at least three different colours on the plate 1 serve starch on each plate	At least 20 g protein per serve At least 15 g carbohydrate per serve
SANDWICH Bread Margarine Filling	1	2 slices Portion pack (10g) maximum 45 g cold meat, edible portion and / or 40 g cheese and / or 1 egg (55-60 g)	Offer white and at least one of wholemeal, wholegrain or multigrain Poly or mono-unsaturated spread Variety of filling on consecutive days May include salad as an ingredient for variety	At least 10 g protein per serve All meat should be lean with no visible fat
FRUIT (Fresh) or (Canned)	1	120g eg. 1 medium piece (apple, pear, banana) 2 small pieces (mandarins, plums) 5 prunes 120g	Provide a variety of fruit. Include seasonal fruit where possible	15 g carbohydrate per serve In natural fruit juice or water

Food and Menu Standard – Lunch and Dinner continued

Menu Item	Minimum Number Choices per Meal	Minimum Serve and Examples	Menu Design Comments	Nutritional Standards
DESSERTS				
Milk based	1 per day	90 g Eg. cream rice, crème caramel, crème brulee	Limit repetition to once per week	Use unsaturated fat in all desserts At least 500 kJ per serve At least 4 g protein per serve Maximum 5 g saturated fat per serve At least 100 mg calcium per serve
Fruit based	1 per day	90 g eg. pie, crumble, slice, pudding, cake	Optional: Serve with custard (60 g)	At least 300 kJ per serve Less than 7 g fat per serve
Ice cream* Custard Yoghurt	At least 1 of either	50 g 100 g 125 g	*Icecream and jelly are not suitable for patients on thickened fluids	
BREAD	1	1 slice	Offer white and at least one of wholemeal, wholegrain or multigrain	
MARGARINE	1 per slice	Portion pack (10g)	Offer poly or mono-unsaturated spread Butter may be offered as an option	
COLD BEVERAGE (MILK)	1	150 ml	Full cream and reduced fat. Soy milk to be available on request	Soy milk to contain at least 100 mg calcium per 100 ml
HOT BEVERAGES eg. tea, coffee	2	150 ml 15 ml milk or portion pack per beverage	Decaffeinated and hot chocolate beverages may be offered	
SUGAR and SUGAR SUBSTITUTE	1 of each	Portion packs		

Food and Menu Standard – Mid meals

(anyone recognised as malnourished or at risk of malnutrition requires nourishing mid meals)

Menu Item	Minimum Number Choices per Meal	Minimum Serve and Examples	Menu Design Comments	Nutritional Standards
HOT BEVERAGES eg. tea, coffee	2	150 ml 15 ml milk or portion pack per beverage	Decaffeinated and hot chocolate beverages may be offered	
COLD BEVERAGE (MILK)	1	150 ml	Full cream and reduced fat Soy milk to be available on request Cordial and chocolate drinks optional	Soy milk to contain at least 100 mg calcium per 100 ml
BISCUITS	1	2 biscuits or 20 g (portion pack)	Required to meet the energy requirement of the Reference Person.	

Food and Menu Standard – Nourishing mid meals

Menu Item	Minimum Number Choices per Meal	Minimum Serve and Examples	Menu Design Comments	Nutritional Standards	
High protein, high energy	3 per day	20 g cheese and 3 crackers 125 g yoghurt 90 g custard ½ sandwich with protein filling	>500 kJ per serve Required for patients identified at risk of malnutrition and for patients eating less than 75% of their meals, or if taking 2 milk drinks /supplements, less than 50% of their meals.	Greater than 500 kJ At least 5 g protein or greater	
Moderate protein, high energy		30-80 g cake or muffin 30 g Breakfast bar 90 g dairy dessert (fromage frais, crème brulee) ½ sandwich with non-protein filling		Greater than 500 kJ At least 2 g protein or greater	
Low protein, high energy		30 g chocolate 50 g potato crisps 50 g dried fruit 2 -3 plain sweet biscuits 3- 4 savoury biscuits		Not recommended for >1/day – for variety only	Greater than 500 kJ Protein not specified
Healthy snack (low fat, no added sugar, high fibre)		½ sandwich, high fibre bread, with low fat protein filling 30 g nuts (no added salt or fat) 100 g low fat yoghurt 20 g low fat cheese and 3 water crackers 120g fruit – fresh, canned (in natural juice)			Greater than 300 kJ Protein not specified

An analysis of a typical intake for a 'poor eater' provides approximately 4,000 kJ and 40-45 g protein per day, which equates to around half the energy and protein requirements of the average reference person. Hence, food eaten at mid meals can make a significant contribution towards meeting the nutritional requirements of 'poor eaters' and other patient groups with elevated energy requirements. Refer to the "Poor Eaters" section for further information.

11. Nutritional Issues for Specific Patient Groups

Mental Health Services

BACKGROUND/RATIONALE	CONSIDERATIONS FOR MENU PLANNING
<p>Patients receiving care for mental health in acute care hospitals can have a longer length of stay, with some patients staying for extended periods of time (often years). This needs to be taken into consideration when menu planning.</p> <p>The prevalence of obesity and excessive weight gain for mental health patients in acute care hospitals can be high, with one facility in South Australia quoting a prevalence of 40%. Associated health risks of excessive weight include Type 2 diabetes and cardiovascular risk. The menu is an important tool to manage and minimise risk of chronic disease.</p> <p>PAL (Physical Activity Levels) may also be low in this population group due to a disinclination to exercise, inability to participate in normal daily living activities, sedation, increased hours of sleep, and diagnoses such as depression, schizophrenia, and agoraphobia. Whilst not defined in the literature, the PAL (physical activity level) factor in these patients may be as low as 1.0 – 1.1.</p> <p>Medication can also dramatically increase patient appetites and have sedative affects, reducing patient activity levels. Some antipsychotic medications reduce metabolic rate, diminish activity levels and affect appetite. Weight gain is a common side effect.</p> <p>Conversely, activity levels may be increased due to diagnoses such as mania, obsessive compulsive disorder and untreated psychosis and subsequently, these patients may suffer from weight loss.</p> <p>Elderly patients with dementia are also at risk of weight loss as these patients may refuse to eat or not eat adequate amounts at the normal meal times.</p>	<ul style="list-style-type: none"> > Maintain an interest in eating with strategies such as longer menu cycles, increased choice, seasonal changes, and special theme days. > Provide healthy food choices that are low in energy and saturated fat, yet high in satiety. > Additional low energy food made available if patients are still hungry e.g. salad, vegetable soup, fruit. > Serve size and number of serves should be planned to meet the <u>actual</u> energy needs of the patient, not patient demand. > Supervised cooking groups can be useful to increase variety and reduce menu fatigue and provide opportunities to share practical education about diet and the risks associated with fast food. > Where energy expenditure is increased, offer high energy options at meal times and snacks and offer flexible eating times. > Some patients may require a menu with 'finger foods' if they are not able to manage cutlery. > Additional foods are available between meals for patients with dementia. > Nutritional supplements may be necessary to meet increased nutrient requirements due to malnutrition or increased activity resulting from obsessive behaviour.

It is also important to acknowledge that many mental health patients have opportunities to visit local shops and, given their limited resources and the small range of consumer items they can or wish to buy, many use their discretionary spend on fast food. This reality should be taken into account in planning menus and food related activities.

Long stay patients / Rehabilitation

BACKGROUND/RATIONALE	CONSIDERATIONS FOR MENU PLANNING
<p>In any facility there may be a number of patients who are hospitalised for extended periods of time for a number of reasons including complications, rehabilitation, mental instability or waiting for placement.</p> <p>For these patients, appetite can decline for a number of reasons increasing the likelihood of poor nutrition and delayed healing.</p>	<ul style="list-style-type: none"> > Maintain an interest in eating with strategies such as longer menu cycles, increased choice, seasonal changes, and special theme days. > Offer traditional menu choices that would appeal to an older age group. > Healthy choices to assist patients in improving their health > Nourishing dishes which are higher in kilojoules and protein for those with increased needs or small appetites. > Providing an 'extras list' or supplementary 'long stay menu' with additional choices.

Patients requiring texture modified food/fluids

BACKGROUND/RATIONALE	CONSIDERATIONS FOR MENU PLANNING
<p>Patients may require texture modified foods for a variety of reasons, including poor dentition. Patients who have dysphagia may not be able to swallow non-texture modified foods and thin fluids safely and be at risk of choking. It is very important that these patients receive the correct consistency of diet. The Australian Standards for Texture Modified Foods and Fluids¹ recommends the following scale for modified fluids and texture-modified foods:</p> <p>Food</p> <ul style="list-style-type: none"> Texture A - Soft Texture B - Minced and Moist Texture C - Smooth Pureed <p>Fluids</p> <ul style="list-style-type: none"> Level 150 - Mildly Thick Level 400 - Moderately Thick Level 900 - Extremely Thick <p>Further information regarding the recommended foods and fluids for each of the above textures and thicknesses can be found in The Australian Standards for Texture Modified Foods and Fluids.**</p> <p>Patients who require a texture modified diet and/or thickened fluids can suffer from poor oral intake due to the absence of variation in texture, colour and shape of their food. Liquids may be required during processing of texture modified foods to ensure the correct consistency which can dilute the nutrient density of foods.</p> <p>In addition, patients who require thickened fluids may be at risk of dehydration.</p>	<ul style="list-style-type: none"> > Ensure meal lists are up-to-date to ensure patients receive the correct consistency of diet as patients' conditions can change suddenly. > Avoid mixing foods on the plate or in a bowl to enhance individual flavours. > Where possible serve food in attractive containers and colour combinations. > Vary shapes wherever possible using moulds or roulades. > Offer suitable snacks to achieve energy and nutrient goals. > Provide alternative eating utensils to assist patients with poor manual dexterity. > Consider the ease with which patients can open containers/packages. > Provide support for patients to assist with feeding during meal times. > Consider the nutrient dilution when foods are liquidised > Food items that are liquid at room temperature (such as soup, jelly, and icecream) may not be suitable for patients requiring thickened fluids. > Refer to The Australian Standards for Texture Modified Foods and Fluids for further menu planning guidance** > Seek the advice of speech pathologists for planning menus for this patient group to ensure modified foods and fluids comply with texture and thickness standards.

** Dietitians Association of Australia and The Speech Pathology Association of Australia Ltd. Texture-modified foods and thickened fluids as used for individuals with dysphagia: Australian standardised labels and definitions. Nutrition & Dietetics 2007; 64 Suppl 2:s53-76. http://dmsweb.daa.asn.au/files/info%20for%20Professionals/Texture_Mod_Appendix.pdf

Recommended Reference:

Martin, Janet and Backhouse, Jane. Good Looking, Easy Swallowing, Creative Catering for Modified Diets. 1993. JFC Foundation.

Vegetarian/Vegan Patients

BACKGROUND/RATIONALE	CONSIDERATIONS FOR MENU PLANNING
<p>Vegetarian diets can be healthy when carefully planned and monitored.</p> <p>The menu for vegetarian/vegan patients' needs to ensure an adequate level and quality of protein as well as micronutrients.</p> <p>Nutrients at risk in this patient group include protein, iron, zinc and calcium.</p>	<ul style="list-style-type: none"> > Provide a choice of suitable options that are popular and likely to be eaten. > Include appropriate meat and dairy substitutes. > Offer a source of Vitamin C at each meal e.g. fruit juice, to improve iron absorption. > If an alternative to cow's milk is required, a calcium-fortified soy milk should be provided to provide adequate calcium. > Legumes should be considered for a good source of protein, iron and zinc. > Patients who follow a vegan diet will require further assistance to ensure adequate nutritional intake and menu variety.

Maternity Patients

BACKGROUND/RATIONALE		CONSIDERATIONS FOR MENU PLANNING																																														
<p>This specialty group is characterised by younger (age range less than 45) healthy women generally with good appetites.</p> <p>Energy requirements in the 3rd trimester and lactation are not met by the standard menu.</p> <p>Hospitals may need to provide additional food and snacks to meet the energy requirements for maternity patients during the last trimester of pregnancy and lactation.</p> <p>Protein and calcium requirements for pregnant and lactating women are met by the standard menu for the reference person.</p>		<ul style="list-style-type: none"> > Offer more “contemporary” menu choices. > Healthy eating principles consistent with the Australian Dietary Guidelines can apply if sufficient quantities of food are available. There is no need for energy-dense food and beverage choices. > Mid meals are important to meet energy needs. Depending upon in-house food safety procedures, women may be able to access food from pantry areas themselves. > Offer meals that can be consumed cold or reheated to be flexible with the feeding pattern of babies e.g. lunch-box meals with long life/UHT products. > Use default menus to accommodate short stay patients and frequent movement between wards e.g. labour ward to postnatal. > Lactating women need to be able to access fluids to meet their increased fluid requirements e.g. jugs of beverages in individual rooms, beverage-making facilities in pantry areas. > A short menu cycle with more choices can suit this typically, short-stay population. > Longer stay maternity patients may require additional variety. > Consider the increased risks associated with Listeria infection for antenatal patients. 																																														
	<table border="1"> <thead> <tr> <th></th> <th>Energy kJ</th> <th>Protein g</th> <th>Calcium mg</th> <th>Iron Mg</th> <th>Iodine ug</th> <th>Folate ug</th> </tr> </thead> <tbody> <tr> <td>Reference 76kg Man</td> <td>7,600</td> <td>90</td> <td>1,300</td> <td>8</td> <td>-</td> <td>400</td> </tr> <tr> <td>Pregnancy</td> <td>6,000 + 1,400 (2nd Trimester)</td> <td>60</td> <td>1,000</td> <td>27</td> <td>220</td> <td>600</td> </tr> <tr> <td></td> <td>6,000 + 1,900 (3rd Trimester)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Lactation</td> <td>6,000 + 2,000</td> <td>67</td> <td>1,000</td> <td>9</td> <td>270</td> <td>500</td> </tr> <tr> <td>Sample Menu¹</td> <td>7,563</td> <td>90</td> <td>1,481</td> <td>15.76</td> <td>-</td> <td>405</td> </tr> </tbody> </table>		Energy kJ	Protein g	Calcium mg	Iron Mg	Iodine ug	Folate ug	Reference 76kg Man	7,600	90	1,300	8	-	400	Pregnancy	6,000 + 1,400 (2 nd Trimester)	60	1,000	27	220	600		6,000 + 1,900 (3 rd Trimester)						Lactation	6,000 + 2,000	67	1,000	9	270	500	Sample Menu¹	7,563	90	1,481	15.76	-	405					
	Energy kJ	Protein g	Calcium mg	Iron Mg	Iodine ug	Folate ug																																										
Reference 76kg Man	7,600	90	1,300	8	-	400																																										
Pregnancy	6,000 + 1,400 (2 nd Trimester)	60	1,000	27	220	600																																										
	6,000 + 1,900 (3 rd Trimester)																																															
Lactation	6,000 + 2,000	67	1,000	9	270	500																																										
Sample Menu¹	7,563	90	1,481	15.76	-	405																																										
<p>¹ Menu Model</p>																																																

Patients from diverse cultural and religious backgrounds

This section is not intended to be a minimum standard for a particular group, rather an initial point of reference to obtain some guidance and examples of food priorities for specific groups. In all cases, it is expected that staff at each facility would approach individual patients, their family or friends or relevant community groups to seek guidance on expectations and preferred menu options. It is important to acknowledge that family and friends are often prepared to supplement the hospital diets of patients with particular cultural or religious requirements.

BACKGROUND/RATIONALE	CONSIDERATIONS FOR MENU PLANNING
<p>Offering appropriate menu items to patients with complex religious food requirements can encourage better food intake and enjoyment of meals. This may involve the purchase of prepared meals from certified suppliers. For examples, Kosher meals for Jewish patients and Halal Certified Food for those of Muslim faith.</p> <p>At different times during the year, special cultural or religious practice may be observed. Meal service times may need to be flexible.</p> <ul style="list-style-type: none"> > Muslim - During Ramadan food can only be consumed after sunset and prior to dawn for a month, however sick people are usually exempted from this requirement but may choose to fast regardless of illness. > Asian - During certain festive seasons or religion celebrations specific foods may need to be consumed. Meal times may also vary during these events. 	<ul style="list-style-type: none"> > The requirements for multicultural menu items can reflect the need for variations to menu patterns, beverages, condiments, ingredients and cooking and serving techniques. > In some cultures there is an expectation of hot food for breakfast. > Offer a range of commonly drank beverages from different cultures. > For certain cultural group condiments maybe expected at mealtimes. For example, soy sauce/ fish sauce for Asians. > Ingredients may vary from those typically used in Australian cuisine. Use different ingredients in cooking. For example: Kangaroo and Emu for Indigenous/ Aboriginal Australians. > Staple foods vary between cultures. Offer a variety of carbohydrate such as rice, couscous, polenta, noodles. > Use some cultures cooking techniques that differs from those used for traditional Australian foods. For examples: stir-fry and stew. > In some religions there are strict requirements of how the meals are prepared and served.

The following offer additional information to assist those facilities undertaking menu planning for patients from diverse cultural and religious groups:

- > www.jewishaustralia.com/food.htm
- > <http://www.icv.org.au/>
- > <http://www.ceh.org.au/>
- > <http://pubs.asetts.org.au/nutrition/index.htm>
- > <http://www.africaguide.com/cooking.htm>
- > Gallegos, Danielle, Perry, Elizabeth. *A World of Food, A Manual to Assist in the Provision of Culturally Appropriate Meals for Older People*. Department of Human Services and Health

Diabetes, obesity and patients requiring diets consistent with Australian Dietary Guidelines as inpatients

BACKGROUND/RATIONALE	CONSIDERATIONS FOR MENU PLANNING
<p>People with diabetes do not need a special diet.</p> <p>The inclusion of foods/fluids with a low glycaemic at meals can help to moderate variations in blood glucose levels (refer to GI website* for more information)</p> <p>Patients with diabetes who are at risk of hypoglycaemia may need regular amounts of carbohydrate, including mid-meals.</p> <p>Admission to hospital for a disease with diet-related risk factors may motivate patients to review their dietary habits. Options which are consistent with the Australian Dietary Guidelines should be available on the menu to accommodate their needs.</p> <p>Patients who are obese, and are eating well, may benefit from avoiding energy dense foods. Patients who are obese and not eating well may need to prioritise recovery from illness and address appropriate weight loss as a long term issue.</p> <p>High sodium diets are associated with increased blood pressure (ADG). Processed foods are the major source of sodium in Western diets. A patient suddenly who changes from a high salt to a low salt diet may find the food unpalatably bland for a few weeks.</p>	<ul style="list-style-type: none"> > The general diet should be suitable for people with diabetes > Desserts with small amounts of sugar are acceptable, especially those which are milk-based due to the influence of protein on glycaemic index. > Ensure patients with diabetes, including those who require texture-modified diets, have access to carbohydrate containing mid-meals including fruit, biscuits and milk mid-meals. > Patients at risk of overnight hypoglycaemia may require a late evening snack, preferably a low GI food/fluid, for example milk, custard, or yoghurt. > Artificially sweetened cordial should be available for patients with diabetes > Artificial sweeteners should be available for patients who prefer them. > Fried and high fat foods should be minimised to promote appropriate weight loss. > Low fat milk is a better option for patients wishing to lose weight. > Unsaturated fat is preferable to saturated fat, for example margarine is preferable to butter, for cardiovascular disease. > The Standards limit the amount of salt in some dishes which are often high in salt, such as soup, and limit the number of times high salt hot dishes can be served. One of the 2 hot choices should be suitable for patients needing or wanting to avoid high salt foods.

*University of Sydney. The GI Index and GI database. [accessed 29 July 2014]; Available at: <http://www.glycemicindex.com/foodSearch.php>

Poor Eaters

BACKGROUND/RATIONALE	CONSIDERATIONS FOR MENU PLANNING
<p>Patients are considered 'poor eaters' if they do not regularly eat all of their meals or are assessed to be at risk of malnutrition on admission to hospital.</p> <p>Malnutrition is linked to increased mortality, morbidity and length of stay (LOS), delayed recovery, increased complications and resultant increases in healthcare costs.^{1,2} Malnutrition is also linked to apathy and depressed mood, which in itself can inhibit adequate oral intake, mobilisation and rehabilitation. Patients at risk of malnutrition are likely to have a longer length of stay.</p> <p>Nutritional status deteriorates in a significant proportion of individuals over the course of admission in the acute care setting.^{3,4,5,6,7,8} Elderly people who lose weight during an illness do not regain weight as easily as younger people^{9,10}, emphasising the significance of avoiding weight loss. Even people who are overweight can become malnourished through poor nutritional intake.</p> <p>Patients' food intake should be monitored and those who regularly do not finish their meals should be enabled to select suitable high-energy, high-protein choices from the menu as well as high-energy, high-protein mid-meals and fluids.¹¹ Elderly patients who have smaller but energy and protein enriched meals can significantly improve energy and nutrient intakes¹⁰.</p> <p>Poor eaters often need encouragement to eat. These patients may need assistance with opening food containers and with feeding at meals and mid-meals. Patients need to be reassured that eating between meals will not "ruin their appetite" as studies have shown that discretionary intake at meals is not decreased by mid-meal supplements¹².</p> <p>Toddlers and young children can be particularly fussy when they are in unfamiliar environments and out of their usual routine.</p>	<ul style="list-style-type: none"> > Due to small amounts eaten, nutrient-dense mid meals of at least 500kJ/serve should be encouraged. Suitable items could include cheese and biscuits, cakes or muffins and flavoured milks > Offer well-liked, easy-to-eat, high-energy, high-protein foods such as hearty soups, wet dishes and milk-based desserts > Fortification of starchy vegetables, sauces and soups with additional margarine and/or cream will improve patients energy intake without decreasing the amount they eat overall (Olin et al) > Use whole milk and encourage patients to have at least 2 serves per day > Limit low energy, low protein foods, such as broth > Milk-based drinks, juice or cordial should be encouraged rather than tea, coffee or water > Desserts are often well accepted and can make a significant contribution nutritionally > Low fat, low sugar products are unsuitable > Some patients often eat better early in the day and may benefit from a hot breakfasts > Some patients' are negatively affected by large serves of food. Where small serves are offered, patients will require nourishing mid-meals to meet their nutritional requirements > Patients who need assistance with meal set-up or eating should receive assistance with all meals, drinks and mid meals > Monitor food intake and refer patients for dietetic support if intake remains poor. > Encourage poor eaters to eat more. > For children, familiar or child-friendly foods may help them meet often increased nutritional demands. The use of fortified dishes and supplements and nutrient-dense snacks is another practical option. (refer to the ACI Nutrition Standards for Paediatric Inpatients in NSW Hospitals for further information). Please note for paediatric clients requiring texture modified diets please refer to the Australian standardised definitions and terminology for texture-modified foods and fluids (http://dmsweb.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Appendix.pdf)

The sample menu for poor eaters on the following page is based on half serves of most meal components except for soup and dessert, which are usually well tolerated. The menu includes energy/protein dense choices - full cream milk at breakfast, high protein soup, a soft main meal and milk-based desserts at both lunch and tea. For paediatric patients, please refer to further supplementary guidelines at (http://www.aci.health.nsw.gov.au/_data/assets/pdf_file/0005/160556/Nutrition-standards-for-paediatric-inpatients-in-NSW-hospitals.pdf)

The analysis demonstrates that even using energy dense choices that small serves at meals provide a very deficient diet and that nourishing mid-meals and 2 serves of milk a day are necessary.

Menu Model - Poor Eaters

Breakfast

Juice, orange, commercial, unsweetened	110 ml
Breakfast Cereal, Bisc, Reg, Whl Wheat, Low Sug, B Vits, Folate, Iron	2 biscuit
Milk, Full Cream	150 ml
OR Bread, Wholemeal	1 slice
Margarine	10 g
Egg, scrambled (½ serve)	55 g
Peach, canned in pear juice	60 g
Tea, black, brewed for leaf/teabags, regular	180 ml
Milk, Fluid, Whole	15 ml

Lunch

Soup, Lentil (representing a high protein soup)	180 ml
Average sandwich	½ serve
Milk-based dessert	160 g
Juice, orange, commercial, ns	110 ml

Dinner

Lamb casserole (½ serve)	90 g
Potato, mashed (½ serve)	45 g
Carrot, mature, peeled boiled (½ serve)	30 g
Broccoli, boiled (½ serve)	30 g
Milk-based dessert	160 g
Tea, black, brewed for leaf/teabags, regular	180 ml
Milk, Fluid, Whole	15 ml

Snacks

Milk, Fluid Whole	150 ml
Milo	2 tsp
Biscuits, Jatz, 1 PC pack	31 g
Cheese	30 g
Fruit cake	85 g
Snack Pack custard	140 g
Flavoured milk	200 ml

Nutrient Analysis - Poor Eaters

	Without snacks/ egg at breakfast	With snacks/ egg at breakfas	EAR, EAR (%)
Energy (kJ)	3,988	7,401	(97% ref person req't)
Protein (g)	44	72	65 (110%)
Total fat (g)	34	73	
Saturated fat (g)	13	33	
Polyunsaturated fat (g)	6	8	
Monounsaturated fat (g)	10	22	
Carbohydrate (g)	115	206	
Sugars (g)	59	134	
Dietary fibre (g)	12	15	
Thiamin (mg)	0.8	1.2	1 (100%)
Riboflavin (mg)	1.3	2.2	1.3 (169%)
Niacin equivalents (mg)	20	27	12 (225%)
Vitamin C (mg)	116	182	30 (369%)
Total Vitamin A equivalents (ug)	1,176	1,566	625 (250%)
Magnesium (mg)	146	230	350 (911%)
Calcium (mg)	518	1,195	1,100 (109%)
Phosphorus (mg)	720	1,330	580 (195%)
Iron (mg)	7	10	6(M)/8(F) (167% M/125% F)
Zinc (mg)	2	8	12 (67%)

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12. Using the Standards in Menu Development

The goal of hospital menu planning is to offer food that is appropriate to the nutrition needs and medical circumstances of the patients. Hospital menu design has been identified as a contributing factor to high food wastage and poor/inadequate nutritional intake.

The following section highlights aspects of the menu design process that need to be considered at each site as they can affect intake and subsequently nutritional status.

Identify the patient profile

Prior to developing the menu, the population profile for each hospital needs to be documented to confirm nutritional requirements and menu content. Age, gender, length of stay, along with cultural and religious backgrounds, are all factors that determine the nutritional requirements of patients and influence menu design in the public hospital sector.

Define the menu format

Considering the fact that acutely ill patients' with a lack of appetite find it difficult to eat enough to meet their nutritional requirements, the menu provided in hospital needs to be designed to support adequate consumption of food for the hospital patient.

This means, among other considerations, that the menu must provide adequate choice, a menu cycle of an appropriate length, a variety of food items including mid meals and foods with a significant nutrient density.

A typical hospital menu would offer patients 3 meals and 3 mid meal snacks from which to obtain energy and nutrients. The menu pattern described in these Standards is based upon a traditional cycle menu with choice at each meal. With respect to cycle menus, the length of the menu cycle typically reflects the patient population and average length of stay. Average length of stay >7days (e.g. hospitals with rehabilitation or mental health units) may require a longer menu cycle.

Using seasonal foods where possible will enhance quality and variety and reduce menu monotony over long periods.

Identify patients with a poor appetite

The minimum Standards reflect the needs of the patient with a reasonable appetite and intake. A proportion of patients will experience a decrease in appetite, nausea, changes in taste perception and have illnesses or treatments that increase their nutrition needs and create the potential for the patient to become malnourished, impacting on their recovery and length of stay.

The menu needs to incorporate strategies to accommodate patients with varying food preferences, eating habits and appetite (see page 17, *Nutritional Issues for Specific Patient Groups – Poor eaters*).

Furthermore, hospital systems need to provide a mechanism for identifying these patients, ideally before their nutritional situation affects their recovery. Malnutrition screening tools and monitoring of patients' nutritional intake along with strategic use of menu monitors and nutrition assistants can assist in identifying and monitoring these patients.

Factors that affect intake – Menu-based

Menus must accommodate varying food preferences, eating habits and appetite by offering patients adequate choice to achieve their energy and nutrient goals. To meet energy and nutrient requirements the daily menu is to include 3 meals and 3 mid meal snacks.

The menu cycle length and degree of repetition must consider length of stay and the number of menu choices. Repetition within specific menu items also needs to consider average length of stay noting that there may be groups of patients with an extended length of stay within a hospital with a short average length of stay.

Studies have shown the recommended energy and protein targets have been achieved by using smaller portions of increased energy/protein density foods, a cooked, hot breakfast and between meal snacks^{12, 4, 17} and by providing menu choice.^{11, 12}

Factors that affect intake – Non-menu

Other aspects of menu design and food service operations that can influence patient satisfaction, nutrient intake and nutritional status include:

- > Optimising plate presentation with respect to combinations of flavour, texture, colour and shape
- > Limiting the length of time between meals
- > Patients regularly miss meals (11-27% meals)¹⁴, have limited access to other foods and can be subject to an unusually long night fast. These Standards require a limit of not more than 14 hours between the evening meal and breakfast¹³
- > As far as possible avoid interruption of meal periods by appointments and consultations or, if necessary provide food at an alternative time
- > Provide packaging that is easy-to-open. Alternately arrange for staff or volunteers to assist patients during the meal service
- > Ensure the system supports all staff involved with the meal service in their efforts to encourage patients to eat and to respond to their individual requests.

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