Malnutrition

The skeleton in the hospital closet

Presented by the Dietitian
What is malnutrition?

- Malnutrition is a state in which a deficiency of nutrients such as energy, protein, vitamins and minerals causes measurable adverse effects on body composition, function or clinical outcome\(^1\).
- Malnutrition is both a cause and a consequence of ill health\(^1\).
- Not limited to “third world countries” – it is common in Australian hospitals and in some community groups\(^1\).
- Increases a patient’s vulnerability to disease\(^1\).

Malnutrition in public hospitals

• In Queensland (2002-2003), the incidence of malnutrition in public hospitals was found to be between 30-40%\(^1\).

• Approximately 20% of these patients were severely malnourished\(^1\).

• Other Australian studies have found similar rates of malnutrition in acute hospitals at between 30 – 50% (cited in 1).

• Studies show that prevalence of malnutrition increases as the length of stay increases (cited in 1).

Effects of Malnutrition

- Increases infection rate
- Increases risk of complications – pressure areas/ulcers, sepsis, falls, declining mental health
- Decreases response and/or tolerance to treatment
- Decreases quality of life
- Decreases life expectancy
- Negatively effects treatment outcomes

ALL EQUAL INCREASED HEALTH CARE COSTS!
(increase use of medication, increase length of stay due to complications, readmissions etc.)
Malnutrition results from...

**Decreased intake**
- Poor appetite
- Needing assistance with meals
- Lack of access to food
- Dysphagia
- Alcohol dependence
- Depression

**Increased Requirements**
- Infection
- Post-surgical
- Wound healing
- Pressure ulcers
- Cancer
- Trauma

**Malabsorption/ Nutrient Losses**
- GI diseases
- Bowel resection
- Wounds/drains
Associated factors that may lead to malnutrition

**Physiological**
- Disease
- Dysphagia
- Delirium and dementia
- Medication – smell, taste, diarrhoea
- Surgery (eg NBM)
- Losses – vomiting; skin losses eg burns; fistula losses; peritoneal losses eg ascites tap

**Social**
- Financial constraints
- Lack of support
- Lack of food access
- Alcohol
- Drugs

**Psychological**
- Depression
- Long hospital admissions
Signs/symptoms of Malnutrition

- Loss of appetite
- Decreased food intake
- Unintentional weight loss
- Loss of lean body mass
- Loss of fat stores

*Malnutrition can also occur in overweight or obese people – not just those with an obviously wasted appearance.*
Pressure Areas and Ulcers

• Poor nutritional status is associated with increased risk of pressure areas
• Patients with infections often have poor appetites, resulting in lower nutritional intake
• Patients with pressure areas, ulcers and wounds have higher protein and energy needs, in order to promote wound healing
• Refer to Dietitian as early as possible for immediate nutritional intervention
How is Malnutrition screened?

- All staff can screen (e.g., health staff such as Dietitian/Nutrition Assistant, Nurse and Foodservice) using a nutritional screening tool called the Malnutrition Screening Tool (MST).

- Dietitians can use the tool to assist with prioritising patients.

Malnutrition Screening Tool
(Ferguson, Capra, Bauer, Banks 1999)

<table>
<thead>
<tr>
<th>Question</th>
<th>Option</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you lost weight recently without trying?</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Unsure</td>
<td>2</td>
</tr>
<tr>
<td>If yes, how much weight have you lost? (kilograms)</td>
<td>1.0 - 5.0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6.0 - 10.0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>11.0 - 15.0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>&gt;15.0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Unsure</td>
<td>2</td>
</tr>
<tr>
<td>Have you been eating poorly because of a decreased appetite?</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>1</td>
</tr>
</tbody>
</table>

If score 2 or more – at risk of malnutrition
How is Malnutrition assessed?

- Dietitians use Nutrition Assessment tools, eg
  - Subjective Global Assessment (SGA)
  - Patient-Generated Subjective Global Assessment (PG-SGA)
  - Mini Nutrition Assessment (MNA)
How is Malnutrition assessed?

• These nutrition assessment tools explore:-
  – Weight changes/loss
  – Dietary intake changes
  – Nutrition impact symptoms
  – Physical Assessment

• To make a complete nutritional diagnosis, the assessment is completed using a tool plus other information collected eg, dietary habits, biochemistry, clinical condition/disease, eg pressure areas or ulcers
What can we all do?

• Screen patients on admission using a screening tool
• Refer patients to a Dietitian who:-  
  – have an MST score of 2 or higher  
  – have a high waterlow score  
  – have pressure areas, ulcers or wounds  
  – have experienced weight loss  
  – are not eating at meal times  
• Encourage patients with prescribed supplements and extras  
• Advise the Dietitian if patients are not eating well at meals or drinking supplements  
• Offer and provide assistance to patients at meal times  
• Weigh patients on admission, and at least weekly
Improving nutrition via meals

• Encourage patients to…
  – drink nutritious drinks (eg, nutritional supplements, milk, juice) before non-nutritious drinks, eg tea, coffee or water
  – Eat meat and dairy desserts before vegetables
  – Eat small meals frequently

• Identify and address possible reasons for poor intake (eg. nausea, poor appetite, problems chewing or swallowing, dislike of menu choices, pain, anxiety, depression)

• Make eating easier by setting the patient up for meals

• Discuss with the patient the importance of good nutrition

• Use ‘Mealtime Assistance’ guide on NEMO to assist patients with improving food intake
### Sample HPHE Meal Plan

#### Standard Meal

<table>
<thead>
<tr>
<th>Time</th>
<th>Meal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breakfast</strong></td>
<td>Rice Bubbles (+2 sugar) + reduced fat milk</td>
<td>White bread roll with margarine and vegemite Apple juice Tea + 2 sugar</td>
</tr>
<tr>
<td><strong>Morning Tea</strong></td>
<td>Coffee (+2 sugar) + 2 sweet biscuits</td>
<td></td>
</tr>
<tr>
<td><strong>Lunch</strong></td>
<td>Carrot soup Garden salad (no meat) Slice of white bread + margarine Apple Juice Banana</td>
<td></td>
</tr>
<tr>
<td><strong>Afternoon tea</strong></td>
<td>Coffee (+2 sugar) + 2 sweet biscuits</td>
<td></td>
</tr>
<tr>
<td><strong>Dinner</strong></td>
<td>Spaghetti bolognese Pumpkin + beans Fruit salad Orange juice</td>
<td></td>
</tr>
<tr>
<td><strong>Supper</strong></td>
<td>Tea (+2 sugar) + 2 sweet biscuits</td>
<td></td>
</tr>
</tbody>
</table>

**Provides 8400kJ and 55g Protein**

#### High Protein; High Energy Meal

<table>
<thead>
<tr>
<th>Time</th>
<th>Meal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breakfast</strong></td>
<td>Porridge (+2 sugar) + full cream milk + cream</td>
<td>White bread roll with margarine and jam Apple juice Tea (+2 sugar)</td>
</tr>
<tr>
<td><strong>Morning Tea</strong></td>
<td>Iced coffee Breka + cheese &amp; crackers</td>
<td></td>
</tr>
<tr>
<td><strong>Lunch</strong></td>
<td>High protein soup Quiche or meat + salad Slice of white bread + margarine Banana + custard Flavoured milk</td>
<td></td>
</tr>
<tr>
<td><strong>Afternoon tea</strong></td>
<td>Breka + yoghurt &amp; fruit</td>
<td></td>
</tr>
<tr>
<td><strong>Dinner</strong></td>
<td>Spaghetti bolognese Pumpkin + beans Dairy dessert / pudding Lemonade</td>
<td></td>
</tr>
<tr>
<td><strong>Supper</strong></td>
<td>Milo (on milk) + fruit cake</td>
<td></td>
</tr>
</tbody>
</table>

**Provides 14 000kJ and 105g Protein**

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This is a consensus document from Queensland Health Dietitian/ Nutritionists.  
Developed: October 2009  Review: October 2011
High Protein, High Energy Food/Extras*

• Breaka Flavoured milk (250ml) (950kJ, 9g protein)
• Cheese (20g) and 3 crackers (500kJ, 6g protein)
• Yoghurt (200g) (800kJ, 8g protein)
• Custard (150g) (560kJ, 5g protein)
• Enriched milk (full cream milk + milk powder)
• Commercial nutritional supplements, eg, Sustagen, Resource Plus, Ensure, Novasource

*Refer to High Protein High Energy resources on NEMO for more information.
Any Questions?