Framework for Effective & Efficient Dietetic Services

An Evidenced-Based Demand Management Toolkit for Dietetic Services

GASTROENTEROLOGY AND LIVER DISEASE
FEEDS Version 3.0
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Queensland Health would like to acknowledge the contributions to the FEEDS Toolkit from Allied Health Professions Office Queensland (AHPOQ) and members of the Dietitians Nutritionist Strategic Coalition (DNSC) network. The DNSC membership includes Queensland Health Nutrition & Dietetic Directors and Heads of Department, Mater Health Services Nutrition & Dietetics Department, Non-Government Organisations, Private and University Sectors.
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Introduction to Evidence Areas

The following Evidence Areas have been compiled by dietitians across Health and Hospital Services (HHS) from within Queensland Health in 2015, and updated in 2017. Details of each chapter update can be found in appendix one (1). These pages represent a combination of up to date evidence and expert clinician opinion in order to inform priorities for dietitians working in clinical settings. The toolkit was endorsed by members of the FEEDS Implementation Steering Group (see appendix two(2)) in March 2017.

It is widely acknowledged that demand on Queensland dietetics services is increasing; collaboration across sectors and innovative thinking are essential in order for clinical dietetics to match increasing demand. Whilst these challenges are by no means new, the impact of a changing workforce through the recent restructuring of public health nutrition services, and the continued uncertainty around the provision of some services, has applied considerable pressure to the existent clinical dietetics workforce. Allied Health Professions Office Queensland (AHPOQ) is committed to expanding the scope of practice for allied health professionals. The Ministerial Taskforce on Expanded Scope recognises if allied health professionals, dietetics included, work to full scope and utilises allied health support staff, then this paves the way for expanding the scope of practice and adding high value services to meet Key Performance Indicators of HHS’s across the state.

Given this current climate, it is imperative that local dietetics services are able to determine clinical priorities and align these with the broader priorities of their local health services, the state and the federal governments. This toolkit cannot displace local guidelines or prioritisation procedures due to the differences that exist between services in their size and complexity. It should be utilised to inform the development and review of these documents in order to ensure that dietetics services provided across the state are evidence-based, safe, equitable and provide a high value to the HHS. It should be used as a tool to assess your local service, and/or models of care against the evidence to enable a realignment of resources from low value priority areas (disinvestment), to high value priority areas. (reinvestment). For additional evidence based recommendations, dietitians are encouraged to consult practice-based evidence in nutrition at www.pennutrition.com

This toolkit is broken up into areas that represent clinical dietitians’ core business, listed out in alphabetical order. The intent is that it contains useful information for dietitians working across the continuum of care; however, some evidence areas may have a larger focus on interventions designed for the acute care setting than others. It is recommended that FEEDS be used in conjunction with a Dietitian and/or the Dietitian Nutritionist Strategic Coalition (DNSC) in determining opportunities, resource advocacy, and service delivery for the nutritional management of clinical conditions, across all areas of practice. This should not be limited to the areas included in this version of the FEEDS Toolkit.
To enable quick referencing, evidence areas have been sub-divided – where relevant – with use of blue rows to communicate evidence that relates to a particular condition or intervention type; paediatrics is identifiable through use of a pink row. Within each evidence area, common interventions requiring the attention of a dietitian have been prioritised in accordance with a three tranche scale; where high priorities have a red banner, medium priorities have an orange banner, and low priorities have a green banner. Some interventions require an organisational approach; these are distinguished with use of a purple banner. Given the differences that are likely to exist between services and their available resources, a timeframe for response to referral has not been included.

Below is an example of how the evidence areas are set-up:

<table>
<thead>
<tr>
<th>Why – reason for dietetic intervention</th>
<th>How</th>
<th>Who</th>
<th>Where</th>
<th>Frequency for intervention</th>
<th>Comments/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of Condition or Intervention Type</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>HIGH PRIORITY</strong></td>
<td>Describes how the intervention should be conducted</td>
<td>Nominates individuals responsible for completing interventions</td>
<td>Describes the setting in which interventions can safely occur</td>
<td>Determines how often the intervention should be conducted</td>
<td>References that should consulted for further information or support in delivering intervention.</td>
</tr>
<tr>
<td><strong>MEDIUM PRIORITY</strong></td>
<td>E.g. Individual patient consults</td>
<td>E.g. Dietitian</td>
<td>E.g. Throughout continuum of care e.g. home, hospital, subacute</td>
<td>E.g. As clinically indicated</td>
<td></td>
</tr>
<tr>
<td><strong>LOW PRIORITY</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>HIGH PRIORITY AT AN ORGANISATIONAL LEVEL</strong></td>
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</tbody>
</table>

Paediatrics

The paediatric elements within each chapter have not been categorised in priority level. Instead, please refer to the prioritisation guideline (appendix three(3)).
List of Abbreviations

AHA
Allied Health Assistant

APD
Accredited Practising Dietitian

BGL
Blood Glucose Level

BMI
Body Mass Index

BMR
Basal Metabolic Rate

CDE
Credentialed Diabetes Educator

CHO
Carbohydrate

CKD
Chronic Kidney Disease

CVD
Cardiovascular Disease

EN / EEN
Enteral Nutrition / Exclusive Enteral Nutrition

HPHE
High Protein, High Energy (Diet)

IDNT
International Dietetics & Nutrition Terminology

MDT
Multidisciplinary Team

MJ / kJ
Mega-Joule / kilo-Joule

MNT
Medical Nutrition Therapy

MST
Malnutrition Screening Tool

NGT
Nasogastric Tube

NRV
Nutrient Reference Values

PERT
Pancreatic Enzyme Replacement Therapy

PG-SGA
Patient-Generated Subjective Global Assessment

PICU
Paediatric Intensive Care Unit

PN / TPN
Parenteral Nutrition / Total Parenteral Nutrition

Pt
Patient

QOL
Quality of Life

SGA
Subjective Global Assessment

T1DM
Type I Diabetes Mellitus

T2DM
Type 2 Diabetes Mellitus
### Document Revision History

<table>
<thead>
<tr>
<th>Version No.</th>
<th>Created/Modified by</th>
<th>Date</th>
<th>Content/Amendments details</th>
<th>Approved by</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>Rhiannon Barnes Anna Edwards</td>
<td>03/04/2020</td>
<td>External review and template editing to FEEDS Version 3.0</td>
<td>Rhiannon Barnes</td>
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<tr>
<td>2.0</td>
<td>Rhiannon Barnes Emily Molyneux Melinda Booker</td>
<td>05/07/2016</td>
<td>Reformating the FEEDS Toolkit into separate evidence areas using Queensland Health approved font in preparation for publishing to NEMO</td>
<td>FEEDS Implementation Steering Group</td>
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<tr>
<td>2.0</td>
<td>Rhiannon Barnes</td>
<td>21/06/2017</td>
<td>Rebranding of the FEEDS Toolkit to the ‘purple’ watercolour template</td>
<td>FEEDS Implementation Steering Group</td>
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<tr>
<td>2.0</td>
<td>Rhiannon Barnes</td>
<td>07/06/2017</td>
<td>Development and inclusion of Creative Commons section on page 2 of the FEEDS Toolkit</td>
<td>FEEDS Implementation Steering Group</td>
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<tr>
<td>2.0</td>
<td>Rhiannon Barnes</td>
<td>15/03/2017</td>
<td>Changed evidence area title from Cardiology to Cardiovascular Disease to align with Nutrition Education Materials Online terminology Changed evidence area title from Oncology to Cancer Services to align with Nutrition Education Materials Online terminology Updated chapter areas based on feedback from FEEDS Implementation Steering Group Members</td>
<td>Jan Hill Teresa Brown FEEDS Implementation Steering Group</td>
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<tr>
<td>2.0</td>
<td>Rhiannon Barnes</td>
<td>21/02/2017</td>
<td>Updates to contributors across all FEEDS chapter areas Updates to content across most evidence areas# Update to ‘Introduction Evidence Areas’</td>
<td>FEEDS Implementation Steering Group</td>
</tr>
<tr>
<td>2.0</td>
<td>Rhiannon Barnes</td>
<td>22/02/2017</td>
<td>Added new FEEDS Sub-Acute Evidence Area developed by Jillian Ross, Zoe Walsh and the Metro North Dietetic CISS team</td>
<td>FEEDS Implementation Steering Group</td>
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<tr>
<td>2.0</td>
<td>Rhiannon Barnes</td>
<td>22/02/2017</td>
<td>Updates to the ‘Introduction Evidence Areas’ to include a statement on directing dietitians to PEN for additional evidence areas</td>
<td>FEEDS Implementation Steering Group</td>
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<td>Diabetes</td>
<td>Lindsey Johnson</td>
<td>06/05/2015</td>
<td>Updates to contributors and modifications to include accepted terminologies</td>
<td>Jacqueline Cotungo</td>
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<td>Malnutrition</td>
<td>Lindsey Johnson</td>
<td>03/03/2015</td>
<td><em>Malnutrition in the Frail Elderly</em> revised and changed to <em>Malnutrition</em> with some associated content changes</td>
<td>Jan Hill</td>
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<tr>
<td>Oncology</td>
<td>Lindsey Johnson</td>
<td>04/03/2015</td>
<td>Amendment to listed references</td>
<td>Melina de Corte</td>
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<td>Renal</td>
<td>Lindsey Johnson</td>
<td>06/03/2015</td>
<td>Formatting updated and minor content changes to <em>Renal</em></td>
<td>Kylie Boyce &amp; Simone McCoy</td>
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<td>Respiratory Disease</td>
<td>Lindsey Johnson</td>
<td>04/03/2015</td>
<td>Phrasing within <em>Respiratory Disease</em> changed in order to improve accuracy</td>
<td>Jenna Stonestreet</td>
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# The details on content changes/additions between FEEDS Toolkit version 1.2 and version 2.0 can be found in appendix 1 with names of the evidence area review team members
Evidence Area: Gastroenterology and Liver Disease

Malnutrition is a significant problem in particular areas of Gastroenterology (e.g. IBD, Pancreatitis, SBS) and requires early intervention to prevent worsening and debilitating complications. This is a well-documented concern outlined in many of the attached resources.

The Dietitian’s role is to promote and advocate for early nutritional support, to lead the development of specific algorithms and protocols at a local level, and evaluate and implement changes as clinical evidence develops.

Attendance at ward rounds to facilitate communication regarding nutritional issues with the treating team should be attended where possible. If this is not possible, a regular line of communication with the treating team should be established to facilitate timely communication regarding nutritional issues and concerns.

Ideally the algorithm should include management strategies for initiation of specific sips feeds (supplementary or exclusive), specific diets to ensure dietary adequacy and to prevent acute and chronic micronutrient deficiencies.

All Dietitians, irrespective of experience, should advocate for nutritional therapy for their patients independent of nutritional status in order to prevent nutritional decline.

The following clinical features represent examples of higher nutritional risk:

- BMI <25kg/m2 or BMI >35kg/m2
- Patients with recurrent relapses in a short period of time
- Patients who present with >10% unintentional weight loss over the preceding 3-6 months
- Patients who present with anaemia
- Patients who are undergoing prolonged steroid therapy
- Patients who have prolonged hospital stay & maybe at risk of malnutrition as a result
## Why – reason for dietetic intervention

<table>
<thead>
<tr>
<th>Why – reason for dietetic intervention</th>
<th>How</th>
<th>Who</th>
<th>Where</th>
<th>Frequency for intervention</th>
<th>Comments/ Evidence</th>
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</thead>
<tbody>
<tr>
<td>COELIAC DISEASE</td>
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<tr>
<td>A Dietitian should oversee:</td>
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<td></td>
</tr>
<tr>
<td>• Any pre-diagnosis test diets</td>
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<td>• Any post-diagnosis initial education</td>
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<tr>
<td>• Any recommendations made to manage nutritional deficiencies (e.g. Iron, Vit D, Calcium)</td>
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</tbody>
</table>
| • The optimisation of nutritional status for patients with newly diagnosed coeliac disease with moderate to severe malnutrition. | Individual patient consults | Dietitian | Throughout continuum of care e.g. home, hospital, subacute | As clinically indicated | Coeliac Australia [www.coeliac.org.au](http://www.coeliac.org.au)
| Monitoring of nutritional adequacy and nutrition risk factors (e.g. bone mineral density) of the gluten free diet in patients with previously diagnosed coeliac disease. Providing support and assistance with meal plans, recipes and ingredients for patients where adherence to the gluten | Individual patient consults | Dietitian | Throughout continuum of care e.g. home, hospital, subacute | As clinically indicated | DAA Journal compilation, Continuing Education: Coeliac Disease, Nutrition & Dietetics 2008 vol 65:302-306. Rubio-Tapia A, Hill ID, Kelly CP, Calderwood AH, Murray JA; American |
free diet has proven difficult for the patient.

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<tbody>
<tr>
<td>Nutrition assessment and support should be initiated for patients with gastrointestinal bleeding, diverticular abscess or perforation, particularly those restricted to NBM/Clear fluids only for &gt;3 days, or for patients who are malnourished.</td>
<td>Individual patient consults</td>
<td>Dietitian in collaboration with the treating team</td>
<td>Acute care setting</td>
<td>As clinically indicated</td>
<td>World gastroenterology organisation practice guidelines 2007. Available from: <a href="https://www.worldgastroenterology.org/guidelines/global-guidelines/diverticular-disease">https://www.worldgastroenterology.org/guidelines/global-guidelines/diverticular-disease</a></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>Individual patient consult</th>
<th>Dietitian</th>
<th>Acute care setting</th>
<th>One occasion of service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition assessment and education for patients post-operatively should be dependent on complexity of the surgical intervention.</td>
<td></td>
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</tr>
<tr>
<td>Education for patients with a new diagnosis, or previously educated patients who have had an acute episode. Education on long term high fibre diet (meeting the nationally recommended intake for gender and age).</td>
<td>Provide written information</td>
<td>Nurse/Dietitian</td>
<td>Throughout continuum of care e.g. home, hospital, subacute</td>
<td>N/A</td>
</tr>
<tr>
<td>INFLAMMATORY BOWEL DISEASE (IBD)</td>
<td></td>
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<tr>
<td>All IBD Patients should be screened for malnutrition upon admission.</td>
<td>Individual patient consult using validated screening tool (e.g. MST)</td>
<td>Nutrition Assistant Nursing staff</td>
<td>Acute care setting</td>
<td>One occasion of service</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Nutrition assessment and support is required for patients:
- with moderate to severe malnutrition
- those referred for exclusive enteral nutritional support.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Patient Consult</th>
<th>Team</th>
<th>Setting</th>
<th>Indicated by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition assessment and support</td>
<td>Individual patient consult</td>
<td>Dietitian in conjunction with gastroenterologist</td>
<td>Throughout continuum of care e.g. home, hospital, subacute</td>
<td>As clinically indicated</td>
</tr>
<tr>
<td>New diagnosis of IBD</td>
<td>Individual patient consult or group education</td>
<td>Dietitian</td>
<td>Acute care setting or outpatient setting</td>
<td>As clinically indicated</td>
</tr>
</tbody>
</table>


Patients referred without nutrition risk requiring general healthy diet education.

<table>
<thead>
<tr>
<th>Individual patient consult</th>
<th>Dietitian</th>
<th>Throughout continuum of care e.g. home, hospital, subacute</th>
<th>As clinically indicated</th>
</tr>
</thead>
</table>

- Exclusive Enteral Nutrition (EEN) is recommended as the first line therapy for inducing remission in children with active Crohn’s Disease.
- Nutrition assessment and intervention is required for all patients commencing EEN to ensure optimal growth is achieved during and after the duration of EEN.
- All patients should receive nutrition assessment upon diagnosis.

Reference:

**IRRITABLE BOWEL SYNDROME**

<table>
<thead>
<tr>
<th>Nutrition assessment, clinical assessment, diagnosis, intervention, monitoring and education is required for patients who present:</th>
<th>Individual patient consults</th>
<th>Dietitian with experience in gastroenterology</th>
<th>Throughout continuum of care. Some intervention(s) (e.g. starting therapeutic diets) may be more appropriate to be commenced in an outpatient setting</th>
<th>As clinically indicated (note that patients commenced on food elimination diets (e.g. low FODMAP) will require a planned and systematic reintroduction of foods to personal threshold levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>• with severe symptoms significantly impacting quality of life</td>
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<tr>
<td>• with moderate to severe malnutrition</td>
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<tr>
<td>• requiring a strict elimination, empirical or FODMAP restricting diet</td>
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<tr>
<td>Note that the decision to commence an elimination, empirical or low FODMAP diet should be made by an experienced Dietitian, Gastroenterologist, or GP, and should only be initiated after confirmation of an IBS diagnosis and where first-line interventions (e.g. dietary fibre, fluid, fatty food, caffeine, spicy food, alcohol modifications) have failed to provide adequate symptom improvement.</td>
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</table>

<table>
<thead>
<tr>
<th>Nutrition assessment, diagnosis, intervention, monitoring and education is required for patients who present:</th>
<th>Individual patient consults</th>
<th>Dietitian</th>
<th>Throughout continuum of care. Some intervention(s) (e.g. starting therapeutic diets) may be more appropriate to be commenced in an outpatient setting</th>
<th>As clinically indicated (note that patients commenced on food elimination diets (e.g. low FODMAP) will require a planned and systematic reintroduction of foods to personal threshold levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>• with chronic symptoms</td>
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<tr>
<td>• with mild to moderate malnutrition</td>
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<tr>
<td>• with recent exacerbation</td>
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<td></td>
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<tr>
<td>• those referred for supplementary nutritional support</td>
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</table>


| Chronic but stable symptoms previously investigated with no recent exacerbation or unintentional weight loss in patients who are otherwise well-nourished. | Individual patient consults, May be appropriate for group education sessions, telehealth or web-based symptom measuring (alongside dietitian counselling) | Dietitian | Community or outpatient setting | As clinically indicated | Abstract available from: https://pubmed.ncbi.nlm.nih.gov/29336079/

| IBS Symptoms where first-line (healthy eating advice) can be explored. | Individual or group consultations | Any trained health professional | Community setting | As clinically indicated Aim for adequate symptom improvement so patients can be discharged for long term self-management | | |
Patients with intestinal failure are at high risk of malnutrition, therefore nutrition screening and assessment practices are essential for the optimal management of this condition. Patients with newly diagnosed intestinal failure may require parenteral feeding or intensive nutrition support to help stabilise and improve nutrition status. These patients are also susceptible to electrolyte disturbances requiring monitoring and treatment. A multidisciplinary approach to management is essential.

<table>
<thead>
<tr>
<th>Patients with intestinal failure and poor oral intake or with recent weight loss of up to 5% should be referred to the Dietitian for nutrition assessment and consideration of nutrition support. A multidisciplinary approach to management is essential.</th>
<th>Individual patient consults patient</th>
<th>Dietitian Gastroenterologist Pharmacist Nurses Surgeon</th>
<th>Throughout the continuum of care e.g. home, hospital, subacute</th>
<th>As clinically indicated to prevent decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with intestinal failure and poor oral intake or with recent weight loss of up to 5% should be referred to the Dietitian for nutrition assessment and consideration of nutrition support. A multidisciplinary approach to management is essential.</td>
<td>Individual patient consults</td>
<td>Dietitian Gastroenterologist Pharmacist Nurses Surgeon</td>
<td>Acute care setting</td>
<td>Intensive monitoring until stable or gut adaptation has occurred</td>
</tr>
</tbody>
</table>


### LIVER DISEASE

In liver cirrhosis patients who are malnourished, or have advanced disease (decompensation/complications), an increased energy and protein intake is recommended.

It is important to minimise fasting periods, by including regular meals with a late evening snack to improve total protein status.

Patients with cirrhosis should avoid hypomobility and increase physical activity, where possible, to prevent/ameliorate sarcopenia.

The capacity for completing an assessment of sarcopenia and/or muscle function within the nutritional assessment - see guidelines for specific recommendations.

<table>
<thead>
<tr>
<th>Dietitian</th>
<th>Throughout continuum of care e.g. home, hospital, subacute</th>
<th>Inpatients on admission and periodically through admission; outpatients 1-6 monthly or as clinically indicated.</th>
</tr>
</thead>
</table>

A sodium restricted diet (80mmol/day) should be implemented, with caution, in liver cirrhosis patients with ascites.

In overweight or obese patients with cirrhosis, increased energy intake is not recommended, but protein needs are elevated.

<table>
<thead>
<tr>
<th>Dietitian</th>
<th>Throughout continuum of care e.g. home, hospital, subacute</th>
<th>As clinically indicated</th>
</tr>
</thead>
</table>

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Lifestyle intervention aiming for progressive weight reduction (5-10%) can be implemented for obese patients with compensated cirrhosis.

A tailored, moderately hypocaloric (500-800kcal) diet, with adequate protein (>1.5g) can be adopted to achieve weight loss without compromising protein stores.

<table>
<thead>
<tr>
<th>In overweight/obese patients with NALFD/NASH, a weight-loss of 7-10% can improve steatosis, and a weight loss of &gt;10% can improve fibrosis and may result in full resolution of NASH.</th>
<th>Individual patient consults</th>
<th>Dietitian</th>
<th>Outpatient setting</th>
<th>As clinically indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>To achieve weight-loss, a hypocaloric diet should be followed in accordance with current obesity guidelines, irrespective of macronutrient composition.</td>
<td>May be appropriate for group education</td>
<td>For lifestyle interventions consider MDT input from exercise physiologists and psychologists</td>
<td></td>
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</tr>
<tr>
<td>A Mediterranean dietary pattern should be recommended for patients to improve steatosis and insulin sensitivity. This effect is independent of weight loss when compared to current dietary advice.</td>
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</tr>
<tr>
<td>Consistent with lifestyle interventions leading to weight-loss, patients should be advised to exercise, leading to reduction in hepatic fat content, insulin resistance and steatosis.</td>
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</tr>
</tbody>
</table>


### PAEDIATRICS – LIVER FAILURE

<table>
<thead>
<tr>
<th>Growth faltering is common in patients with liver failure. Nutrition intervention is essential in the management of children with liver disease to:</th>
<th>Individual consults</th>
<th>Dietitian</th>
<th>Throughout continuum of care</th>
<th>As clinically indicated</th>
</tr>
</thead>
</table>
| • maintain growth  
• prevent and treat malnutrition  
• minimise liver disease-related complications  

### PANCREATITIS

<table>
<thead>
<tr>
<th>All patients with pancreatitis should be classified as having a moderate to high nutritional risk because of the complex disease process and the subsequent impact on nutritional status, particularly individuals with concurrent alcoholism.</th>
<th>Individual patient consults</th>
<th>Dietitian in collaboration with the treating team</th>
<th>Acute care setting</th>
<th>As clinically indicated</th>
</tr>
</thead>
</table>
Nutritional assessment of these patients should occur within the first 24 to 48 hours post-admission.

Early EN provided within 24 hours of admission is safe and effective in maintaining/improving nutritional status in patients with predicted severe or severe acute pancreatitis, but not for patients with mild to moderate pancreatitis.

Enteral feeding via a naso-gastric tube provides a similar outcome to naso-jejunal feeding, so should be initiated and tolerance assessed prior to the administration of naso-jejunal feeding. Patients who develop pain with feeding; who suffer delayed gastric emptying; and/or persistent nausea and/or vomiting should be considered for najo-jejunal feeding.

EN can significantly decrease mortality and reduces the risk of infections and complications compared to PN. Therefore, PN should only be used in patients if EN is contraindicated or not tolerated.

Patients with mild acute pancreatitis may be started on a low-fat oral diet post-admission, although an initial period of fasting is still reasonable.

- Individual patient consults
- Dietitian in collaboration with the treating team
- Acute care setting
- As clinically indicated


### For those patients who develop pancreatic exocrine insufficiency:
- Patients with acute pancreatitis who have continuing symptoms suggestive of ongoing malabsorption should be considered for pancreatic enzyme replacement therapy (PERT). Consider the use of PERT in any patient for up to two years after severe acute pancreatitis.
- For patients with chronic pancreatitis, PERT is indicated in the presence of steatorrhoea, or laboratory signs of malabsorption (nutritional deficiencies).
- Screening for a deficiency of proteins, fat-soluble vitamins (A, D, E and K), zinc and magnesium should be also considered.

<table>
<thead>
<tr>
<th>Individual patient consult</th>
<th>Dietitian in collaboration with the treating team</th>
<th>Throughout continuum of care e.g. home, hospital, subacute</th>
<th>As clinically indicated</th>
</tr>
</thead>
</table>


### ACUTE BOWEL CONDITIONS (INCLUDING OBSTRUCTION & RESECTION)

|---|---|---|---|---|---|


### FUNDOPLICATION

The requirement for dietetics intervention is dependent on the nutritional status of the patient. Individual patient consult Dietitian Acute care setting One occasion of service, dependent on nutrition status One occasion of service, dependent on nutrition status de Menezes HL, Fireman PA, Wanderley VE, de Menconça AM, Bispo RK, Reis MR. Randomized study for assessment of hypolipidic diet in digestive symptoms

### CHOLECYSTECTOMY

Well-nourished patients undergoing cholecystectomy or hernia repairs have little requirement for dietetic input. Individual patient consults Dietitian Acute care setting One occasion of service or as clinically indicated. One occasion of service or as clinically indicated. de Menezes HL, Fireman PA, Wanderley VE, de Menconça AM, Bispo RK, Reis MR. Randomized study for assessment of hypolipidic diet in digestive symptoms
Patients may be referred for low-fat diet education prior to a cholecystectomy to assist with symptom management.

There are no specific diets recommend post gallbladder removal, however, nutritional advice should be followed depending on individual symptoms (i.e. diarrhoea, abdominal pain, nausea and vomiting) or in the presence of other existing comorbidities (i.e. obesity, metabolic syndrome, NAFLD etc.) Throughout continuum of care immediately following laparoscopic cholecystectomy. Rev Col Bras Cir. 2013;40(3):203–207. Abstract available from: https://pubmed.ncbi.nlm.nih.gov/23912367/


### WHIPPLES PROCEDURE

This procedure carries inherent nutrition risk due to the high frequency of acute and chronic symptoms suffered by patients. Symptoms may be present prior to surgery depending on the underlying condition and indication for surgery. Common risk factors that require dietetic management include:

- Gastroparesis
- Dumping syndrome
- Steatorrhoea requiring PERT

Patients should be allowed a normal diet after surgery without restrictions. EN should be given only on specific indications, and PN only in the event EN is contraindicated.

Individual patient consults, both pre- & post-operatively

Dietitian with experience in gastroenterology

Throughout continuum of care dependent on patient status

As clinically indicated


### Appendix One: Summary of Edits

**Summary of gastroenterology and liver disease evidence chapter review edits from the update to volume 2.0**

<table>
<thead>
<tr>
<th>Added</th>
<th>Changes to the FEEDS chapter as per the adult review teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Coeliac Disease: 3 extra references including around specific management of nutrient deficiencies managing nutritional deficiencies and adherence.</td>
<td></td>
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<tr>
<td>• Diverticular Disease: Education on long term high fibre diet (meeting the nationally recommended intake for gender and age).</td>
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<tr>
<td>• Inflammatory Bowel Disease: assessment and support of all patients with nutrition impact symptoms, on restrictive diets or newly diagnosed.</td>
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<tr>
<td>• Irritable Bowel Syndrome: the decision to commence an elimination, empirical or low FODMAP diet should be made by an experienced Dietitian or gastroenterologist, or GP and should only be embarked on after confirmation of IBS diagnosis and where first-line interventions (e.g. dietary fibre, fluid, fatty food, caffeine, spicy food, alcohol modifications) have failed to provide adequate symptom improvement. IBS Symptoms where first-line (healthy eating advice) can be explored can be administered by any trained health professional in the community setting.</td>
<td></td>
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<tr>
<td>• Intestinal Failure: A multidisciplinary approach to management is essential.</td>
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<tr>
<td>• Acute Bowel Conditions: Enteral feeding could be considered in patients with upper (e.g., stomach and duodenum) or more localised gastrointestinal tract impairment.</td>
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<tr>
<td>• Cholecystectomy: There are no specific diets to recommend after removal of the gallbladder, some nutritional advice should be followed depending on individual nutrition impacting symptoms post operatives (i.e. diarrhoea, abdominal pain, nausea and vomiting) and other existing comorbidities (i.e. obesity, metabolic syndrome, NAFLD etc.)</td>
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<tr>
<td>• Liver disease: Increased energy and protein intake is recommended for liver cirrhosis; minimise fasting and have a late evening snack; avoid hypomobility; assess sarcopenia; 80mmol/day sodium restriction; overweight/obese patients should not increase their energy intake but have elevated protein needs; 5-10% weight reduction for obese patients with cirrhosis; 7-10% weight loss for obese patients with NASH/NAFLD.</td>
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<tr>
<td>Added</td>
<td>Changes to the FEEDS chapter as per the paediatric review teams</td>
</tr>
<tr>
<td>• Paediatric Inflammatory Bowel Disease: all patients should receive nutrition assessment on diagnosis.</td>
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<tr>
<td>• Intestinal Failure Paediatrics: Paediatric patients with intestinal failure must be under the care of a Dietitian, they require close monitoring of weight, feed tolerance and electrolyte levels. Patients with new diagnosis of intestinal failure may require parenteral nutrition.</td>
<td></td>
</tr>
<tr>
<td>Changed</td>
<td>Nil</td>
</tr>
<tr>
<td>Removed</td>
<td>Nil</td>
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</tbody>
</table>
Pancreatitis: all patients should be assessed within the first 24-48hrs of admission. Early enteral nutrition within the first 24hrs for acute severe pancreatitis. Mild acute pancreatitis should be started on a low fat diet.

Evidence:
- Carabotti M et al Role of fiber in symptomatic uncomplicated diverticular disease: a systematic review. Nutrients 2017, 9, 161; doi:10.3390/nu9020161

**Changed**

- Acute Bowel Conditions: not seen daily until stable for patients with previous bowel resections suffering from obstructive symptoms, or those undergoing stoma formation in addition to resection: seen as clinically indicated.

**Evidence**

- GESA clinical update, 2012

**Removed**

- Inflammatory Bowel Disease: nutrition support is required for those with a CRP > 100 or those awaiting imminent surgery.
- Hernia Repair

**Evidence**

- Quality Care: Service Standards for the healthcare of people who have Inflammatory Bowel Disease (IBD). The IBD Standards Group 2009
- "Low fibre diet for the prevention of Bowel Obstruction" NEMO 2013
- Moraes JM, et al. A full solid diet as the initial meal in mild acute pancreatitis is safe and results in a shorter length of hospitalization; results from a prospective, randomized, controlled, double-blind clinical trial. *J Clin Gastroenterol* 2010;44:517–22
Appendix Two: Members of the FEEDS Implementation Steering Group

Chair: Jan Hill, Director Nutrition & Dietetics, Princess Alexandra Hospital, Metro South Hospital & Health Service
Secretary & Project Officer: Rhiannon Barnes, Statewide Program Manager Clinical Education & Training, Nutrition & Dietetics, Royal Brisbane & Women’s Hospital, Metro North Hospital & Health Service

Members:
- Dr Adrienne Young, Research Coordinator Nutrition & Dietetics, Royal Brisbane & Women’s Hospital, Metro North Hospital & Health Service
- Alan Spencer, Director Nutrition & Dietetics Gold Coast University Hospital, Gold Coast Hospital & Health Service
- Annabel Biven, Senior Dietitian, Ipswich Hospital, West Moreton Hospital & Health Service
- Cristal Newman, Senior Dietitian, Roma Hospital, South West Hospital & Health Service
- Kate Rose, Senior Dietitian, Longreach Hospital, Central West Hospital & Health Service
- Katie Barwick, Senior Dietitian, Lady Cilento Children’s Hospital, Children’s Health Queensland Hospital & Health Service
- Liza-Jane McBride, Team Leader, Allied Health Professions’ Office Queensland
- Sally McCray, Director Nutrition & Dietetics, Mater Group
- Dr Merrilyn Banks, Director Nutrition & Dietetics, Royal Brisbane & Women’s Hospital, Metro North Hospital & Health Service
- Mia Hemingbrough, Director Nutrition & Dietetics Central Queensland Hospital & Health Service
- Dr Rachel Stoney, Director Nutrition & Dietetics, Redland Hospital & Wynnum Health Service, Metro South Hospital & Health Service
- Rosemary Sander, Professional Lead Nutrition & Dietetics, Sunshine Coast Hospital & Health Service
- Sally Courtice, Director Nutrition & Dietetics, QEII Hospital, Metro South Hospital & Health Service
- Zoe Walsh, Team Leader, Community Indigenous & Subacute Services, Metro North Hospital & Health Service
Appendix Three: Prioritisation Guidelines for Nutrition Management for Paediatric Patients