DISCLAIMER

While the information contained in the Guide-to-Practice and Pocket Guide ("Guide") was considered to be accurate at the date of its publication, changes in available evidence after the time of publication may affect the accuracy of the information in the Guide. We suggest the Guide be used for educational and information purposes only.

Cancer Care Ontario's Symptom Management Guide-to-Practice: Loss of Appetite

June 2012

Preamble

Ontario Cancer Symptom Management Collaborative

An initiative of Cancer Care Ontario, the Ontario Cancer Symptom Management Collaborative (OCSMC) was undertaken as a joint initiative of the Palliative Care, Psychosocial Oncology and Nursing Oncology Programs. The overall goal of the OCSMC is to promote a model of care enabling earlier identification, communication and documentation of symptoms, optimal symptom management and coordinated palliative care.

The OCSMC employs common assessment and care management tools, including the Edmonton Symptom Assessment System (ESAS) screening tool to allow patients to routinely report on any symptoms they are experiencing. Symptom Management Guides-to-Practice were developed to assist health care professionals in the assessment and appropriate management of a patient's cancer-related symptoms. In addition to the symptom specific Guides-to-Practice, quick-reference Pocket Guides and Algorithms were created. Additionally, for a comprehensive management plan for patients with advanced disease, please refer to the Palliative Care Collaborative Care Plans.

Objective

The objective of this initiative was to produce Guides-to-Practice for the management of patients with cancer-related symptoms. These documents are clinical tools designed to assist health care practitioners in providing appropriate patient care and are not intended to serve as standards of care.

Target Population

The target population consists of adult patients who require symptom management related to cancer. It is outside the scope of these Guides-to-Practice to address in detail the management of patients experiencing acute adverse effects secondary to systemic or radiation therapy. Please visit the Program in Evidence-Based Care for guidelines related to these topics.

Target Users

The Guides-to-Practice will be of interest to health professionals who provide care to patients with cancer-related symptom management needs at various stages of the disease pathway.

Methodology

The Guides-to-Practice were developed by an interdisciplinary Symptom Management Working Group (LOA SMG) which included regional representation from across the province (refer to Post-amble for details). As an alternative to de novo development, the Guides-to-Practice were developed using the ADAPTE guideline adaptation approach that includes identifying existing guidelines, appraising their quality, selecting recommendations for inclusion and obtaining expert feedback (refer to Appendix A and B for details).

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Considerations

The following guidelines were used as the basis for the development of this Guide: BC Cancer Agency's *Nutritional Guidelines for Symptom Management: Anorexia* (1); Dietitians of Australia's *Evidence based practice guidelines for the nutritional management of cancer cachexia* (2); Federation Nationale des Centres de Lutte Contre le Cancer *FNCLCC Standards, Options and Recommendations for the use of appetite stimulants in oncology* (3); Fraser Health's *Symptom Guidelines: Nutrition and Cachexia* (4); National Comprehensive Cancer Network's *Clinical Practice Guidelines in Oncology; Palliative Care* (5); National Health Service (NHS) Fife Area Drug and Therapeutics Committee *Fife Palliative Care Guidelines Guideline for the Management of Anorexia / Cachexia Syndrome in Palliative Care* (6)*;* NHS-Scotland - Lothian's *Palliative Care Guidelines: Anorexia* (7)*;* and Oncology Nursing Society's (ONS) *Putting Evidence Into Practice: Evidence-Based Interventions to Prevent and Manage Anorexia* (8).

Key recommendations are highlighted in shaded boxes. Source documents for each recommendation are denoted according to the symbols shown in Table 1. For example, if derived verbatim from the Fraser Health's *Symptom Guidelines: Nutrition and Cachexia*, it is indicated by the symbol 'Fraser Health'. Recommendations that are derived from the BC Cancer Agency (BCCA) *Nutritional Guidelines for Symptom Management: Anorexia* but have been modified are designated as 'BCCA *Modified'*. Recommendations that have been derived based on the expert opinion of the Loss of Appetite (LOA) Symptom Management Guide (SMG) working group, are indicated by a 'LOA SMG' symbol.

Table 1. Sources of Evidence

Symbol	Definition
BCCA **DAA** **FNCLCC** **Fraser Health** **NCCN** **NHS Fife** **NHS - L** **ONS**	Sections extracted verbatim from guidelines: BC Cancer Agency (BCCA); Dietitians of Australia's (DAA) Federation Nationale des Centres de Lutte Contre le Cancer (FNCLCC); Fraser Health; National Comprehensive Cancer Network (NCCN); NHS- Fife (NHS-F) NHS –Scotland Lothian (NHS-L); Oncology Nursing Society (ONS)
BCCA *Modified* **DAA *Modified*** **FNCLCC *Modified*** **Fraser Health *Modified*** **NCCN *Modified*** **NHS Fife *Modified*** **NHS - L *Modified*** **ONS *Modified***	Sections extracted from guidelines and modified to better reflect the Ontario context.
LOA SMG	Recommended best practice based on the clinical experience of the guide development group.

This Guide-to-Practice should be used to support appropriate assessment and management of loss of appetite. While some references to specific articles are provided, this Guide-to-Practice is not intended to be a comprehensive overview of loss of appetite symptom management; for a more in-depth review the reader is encouraged to seek out the original guidelines. For a quick reference tool on loss of appetite, please refer to the Loss of Appetite Pocket Guide and Algorithm. A discussion regarding the moral and ethical issues related to nutrition support is outside of the scope of this Guide-to-Practice.

Definition of Terms

Introduction

The following section has been derived based on expert opinion and additional references (9-10).

Loss of appetite is one of the most common problems that occurs with cancer and its treatment (11). It can result in the inability to consume optimal nutrition, with resultant weight loss and nutritional deficiencies. Poor nutritional status can reduce tolerance of and recovery from cancer treatments, reduce functional ability and contribute to a decreased quality of life (12).

Loss of appetite must be specifically questioned in order to provide the best clinical care. Loss of appetite may be uncomplicated and caused by anti-cancer treatment, medications or psychosocial distress. Appetite loss is also a universal symptom of a multifactorial syndrome known as Cancer Cachexia. Understanding and assessing appetite in patients with cancer will allow the health care team to treat uncomplicated loss of appetite or may provide evidence that the cachectic process is manifesting. Treatment of loss of appetite requires a thorough assessment of causation. Currently, the wording of the appetite question on the ESAS tool may cause confusion for patients on how to accurately score their appetite. Therefore the first step in managing this symptom will be validation of the score with the patient. Functional status, prognosis, co-morbidities, current medications, side effect profiles and patient preferences should also be considered in the care plan.

The scope of this document is to address loss of appetite in adult cancer patients. To do so, it is relevant to understand the commonalities and differences between cancer-related anorexia and cachexia. The following definitions further characterize the complex trajectory of cancer cachexia.

Please note that the following topics were excluded to maintain the scope of this document: malnutrition, early satiety, thick saliva, dysphagia, esophagitis and nutrition support (i.e. tube feeding, total parental nutrition). Oral mucositis (under Oral Care), diarrhea (under Bowel Care) and, chemotherapy induced nausea and vomiting are being dealt with separately. For these and other guides, please refer to the CCO Symptom Management Tools webpage.

Definitions

Anorexia is the loss of appetite or the desire to eat. Anorexia may be associated with early satiety.

Cancer Cachexia is a multifactorial syndrome characterized by an ongoing loss of skeletal muscle mass (with or without loss of fat mass) that cannot be fully reversed by conventional nutrition support and leads to progressive functional impairment (11,12). The pathophysiology is characterized by a negative protein and energy balance driven by a variable combination of reduced food intake and abnormal metabolism (13). Weight loss is evident. The losses associated with cancer cachexia are in excess of that explained by anorexia alone; however anorexia can hasten the course of cachexia.

Secondary Cachexia is characterized by potentially correctable causes that could explain the syndrome. Once identified, prompt intervention can greatly impact the patient's quality of life and overall prognosis.

Primary Cachexia should only be considered when all secondary causes have been identified and treated.

Pre-cachexia is defined based on the presence of the following:

- Underlying chronic disease (cancer);
- Unintentional weight loss <5% of usual weight during past 6 months;
- Chronic or recurrent systemic inflammatory response (C-Reactive Protein);
- Anorexia or anorexia-related symptoms.(13)

Cachexia is defined based on the presence of the following:

- Weight loss >5% of usual weight over past 6 months *or*, Body Mass Index (BMI) <20 and weight loss >2%, *or* sarcopenia (see definition below) and weight loss >2%;
- Often reduced food intake;
- Loss of skeletal muscle mass - not specific to cachexia therefore ensure not related to sarcopenia of other causes, for example: aging, starvation, malnutrition, bedrest, prolonged physical inactivity etc.;
- Possible systemic inflammatory response (C-Reactive Protein).(13)

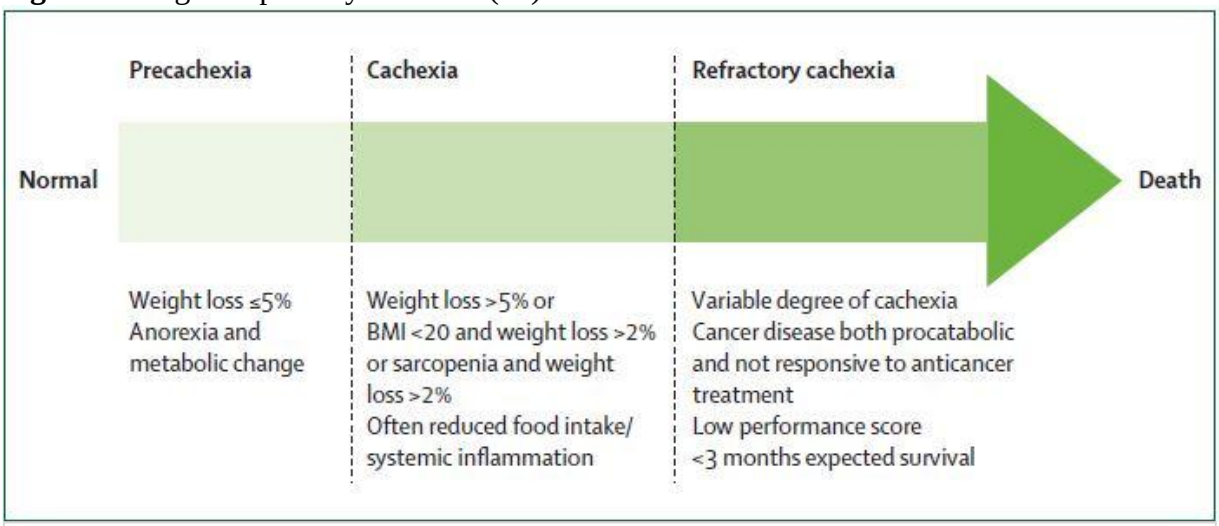
Refractory Cachexia is essentially untreatable and seen in an environment where cancer disease is both procatabolic and not responsive to anticancer treatment. It is associated with low performance score and life expectancy of less than three months. The burden and risks of artificial nutrition support are likely to outweigh any potential benefit in refractory cachexia. (13)

Sarcopenia is a condition characterized by loss of muscle mass and muscle strength. It is most commonly seen as a result of aging, but may also be associated with disuse, malnutrition and cachexia. Patients presenting with loss of muscle mass, but no weight loss, no anorexia, and no measureable systemic inflammatory response may well be sarcopenic. (13) For a more in depth definition and management of sarcopenia please refer to references 13 - 14.

"Sarcopenic obesity is currently defined by increased body mass index associated with depleted lean body mass and function. An obese patient with underlying disease and unintentional 5% weight loss, may well be pre-cachectic, despite his elevated body mass index value. An increase in fat mass may obscure a loss of lean body mass. These patients therefore carry the risk of null or delayed appropriate metabolic intervention." (13)

Recent literature encourages the staging of primary cachexia to support patients and potentially improve the type and timing of treatment modalities (Figure 1) (13,15). Emerging consensus indicates preventive or proactive support is advantageous.

Figure 1: Stages of primary cachexia (13)



Diagnosis

Fraser Health ***modified***

The most significant intervention in the management of loss of appetite is identifying the underlying cause(s) and treating as appropriate according to goals of care.

An understanding of primary cachexia and how it differs from anorexia is needed to establish whether you are dealing with anorexia, secondary cachexia or the more complex spectrum of primary cachexia. As a starting point, use the table below to establish whether the loss of appetite is related to treatment side effects (e.g. radiation therapy, chemotherapy, or surgical treatment) which can hopefully be identified and addressed. Medication and/or psychosocial factors can also be investigated. If these factors are not deemed to be causative, then tumor related factors may be at work and determination of the physical vs. metabolic factors should be further considered. If primary cachexia is suspected, then a more in-depth assessment that considers illness trajectory with clinical goals of care, weight and diet history, physical assessment, and laboratory investigations will help to determine the stage of primary cachexia, and the treatment plan (refer to the next section on assessment). The intent of this symptom management guide is to provide evidence-based treatment for loss of appetite that will support the patient during treatment, not burden the patient and family with interventions that may not support quality of life or improved outcomes.

Understanding the potential causes of anorexia and secondary cachexia is critical to interpreting loss of appetite and how best to intervene for patient care. Assessment of the symptom should incorporate questions that address these potential causes and guide the health care provider to an understanding of what they are dealing with and how best to proceed. Table 2 offers a number of potential causes of anorexia and secondary cachexia, however it is not meant to be an exhaustive list.

BCCA
Modified

Table 2: Causes of Anorexia, and Secondary Cachexia

Cause	Description	Anorexia	Secondary Cachexia
Tumour related	Factors secreted by tumour (e.g. tumour necrosis factor/cachectin, interleukin-6, lipid-mobilizing factor, proteolysis-inducing factor)	√	
	Metabolic and hormonal abnormalities (e.g. alterations in carbohydrate, lipid and protein utilization synthesis and breakdown)	√	
	Taste and smell abnormalities or food aversions	√	√
	Dysphagia		√
	Dyspnea		√
	Fatigue / malaise and asthenia (cycle can occur in which decreased intake leads to lethargy and weakness, leading to a further decrease in oral intake)	√	√
	Gut involvement (e.g. intraluminal gastrointestinal malignancy, gut atrophy, partial bowel obstruction, decreased production of digestive secretions, decreased peristalsis, constipation)	√	√
	Malabsorption Syndrome (fats and carbohydrates not metabolized/ absorbed)		√
	Pain	√	√
	Infection (e.g. low grade sepsis) (16)	√	
	Early satiety (14)	√	
Surgical, Systemic and Radiation Treatment related	Constipation	√	√
	Diarrhea (e.g. cytotoxic effects on the gut mucosa/ radiation enteritis/ short bowel syndrome)	√	√
	Dysphagia		√
	Fatigue	√	√
	Nausea/Vomiting	√	√
	Pain	√	√
	Taste and Smell abnormalities	√	√
	Xerostomia (e.g. mucositis, infection, poor hygiene, dehydration, medication, taste bud alternation)	√	√
	Palliative gastrectomy (17)	√	√
Commonly used Medications	Opioids	√	
	Systemic antineoplastic drugs (e.g. chemotherapy, targeted therapy, interferon)	√	
	Antimicrobial agents	√	
	Antidepressants (e.g. selective serotonin reuptake inhibitors such as fluoxetine, sertraline, escitalopram, paroxetine; atypicals such as bupropion)	√	

Cause	Description	Anorexia	Secondary Cachexia
Psychosocial factors	Anxiety	√	√
	Depression	√	√
	Delirium		√
	Fear of eating because of possibility of making symptoms worse (e.g. pain, incontinence, diarrhea, constipation) or because of certain beliefs that eating will make the cancer, symptoms, or health worse.	√	
	Lack of emotional support	√	√
	Lack of functional support/independence	√	√
	Lack of financial resources/support	√	√

The **causes of primary cachexia** are also tumour-related causes of anorexia and this can confuse the clinical picture for the health care provider. These causes include:

- factors secreted by tumour (e.g. tumour necrosis factor/cachectin, interleukin-6, lipid-mobilizing factor, proteolysis-inducing factor) , and
- metabolic and hormonal abnormalities (e.g. alterations in carbohydrate, lipid and protein utilization synthesis and breakdown), that are also found in the table above, supporting diagnosis of anorexia.

Assessment

Fraser Health ***Modified***

Ongoing comprehensive assessment will help to determine the etiology of anorexia, relevant stage of cachexia, and treatment plan. An in-depth assessment should include:

- **review of medical history with current medication(s),**
- **review of treatment plan/effects and clinical goals of care,**
- **weight and diet history,**
- **physical assessment,**
- **available laboratory investigations, and**
- **review psychosocial and physical environment.**

The assessment OPQRSTUVW acronym (Table 3) is a starting point to validate the ESAS scores and to support diagnosis of anorexia, secondary cachexia and/or primary cachexia.

Table 3: OPQRSTUVW Assessment Acronym for Loss of Appetite (4, 8,18,19**)**

Fraser Health *Modified*

Onset	When did you notice your lack of appetite? Is it there all the time?
Provoking / **P**alliating	Is there a time of day when your appetite is better/worse? What do you think may cause your lack of appetite? Have you had any recent surgery or treatment that you think is affecting your ability to eat? Are you taking any medications that are affecting your ability or desire to eat?
Quality / Quantity	Compared to your normal food intake, are you eating the same amount? More than usual? Less than usual? Are you drinking enough fluid?
Related Symptoms	Are there other symptoms that affect your ability to eat? (e.g. Nausea/vomiting, constipation/diarrhea, sore or dry mouth, taste changes, bothersome food odours, problems swallowing, early feelings of fullness, pain, shortness of breath, depression)
Severity	How much is your lack of appetite affecting your activities of daily living or ability to function?
Treatment	Are you doing anything to help manage your loss of appetite (e.g. any physical activity, medications, or changes to your diet)? Is it working?
Understanding / Impact on **You**	How is your lack of appetite affecting you and/or your family? Do you feel distressed about your inability to eat? Have you experienced feelings of pressure, guilt or relational stress with regard to food intake and weight loss?
Values	Are there any other views or feelings about this symptom that are important to you or your family?
Weight	Have you lost weight recently without trying? If yes, how much? Over what time frame? Have you been eating poorly because of a decreased appetite?

In-depth Assessment

LOA SMG

Further assessment to validate the ESAS appetite score may be necessary to identify the extent of nutritional depletion and to differentiate anorexia, secondary cachexia, and primary cachexia. A validated higher appetite score alerts the health care team that nutritional status may be compromised, and an in-depth assessment that factors in trajectory of disease will help determine the best plan of care. Severe malnutrition is a clinical reality in many cancer patients and is a significant prognostic variable. Early recognition and detection of nutritional status allows timely and appropriate nutrition interventions. Being proactive in the identification of patients who have a poor appetite, in addition to weight loss and poor oral intake, is imperative to improve patient care outcomes and quality of life.

To determine nutritional status and explore the extent/severity of anorexia and cachexia, consideration should be given to the following:

BCCA *Modified*

- A diet history to assess adequacy of macro and micro nutrient intake (both food and fluids) as well as any pattern of food avoidance/aversions;
- Pre-existing diets, e.g. a restrictive diet that limits high energy high protein foods necessary to help maintain nutritional status;

- Alternative diets may require the elimination of many foods and/or the intake of dietary supplements which have side effects and/or which interrupt meals and snacks;
- The aggressiveness of any planned nutritional interventions. In patients with palliative care needs, the quality of life takes precedence over maintaining nutrition status when adequate nutrition intake becomes too difficult.

LOA SMG

The following tools support a more in-depth screening of weight loss and oral intake (20):

- Malnutrition Screening Tool (MST) (refer to Appendix C for a copy of the tool). The MST is a short and easy screening tool that asks questions about appetite and unintentional weight loss. It is well validated in cancer patients receiving chemotherapy and radiation. MST scores >2 indicate significant nutritional risk and where possible should be followed up with a referral to a Registered Dietitian. (18)
- Patient Generated Subjective Global Assessment (PG-SGA) (refer to Appendix C for a copy of the tool). The PG-SGA has been validated as an assessment tool in the oncology setting. Many cancer care facilities use the patient generated component (Abridged PG-SGA) as a screening tool (which excludes the physical assessment).(21, 22) The PG-SGA is more comprehensive than the MST, and looks at: weight loss, changes in food intake, symptoms that are affecting food intake, functional status, disease / metabolic stressors and physical components of assessment. Based upon the score, a referral to a Registered Dietitian or symptom management professional(s) should be considered.
- Weight Loss. The percentage of weight a cancer patient loses in relation to time is a hallmark criteria used to evaluate the likelihood of malnutrition in cancer patients.
    - > or equal 5% loss of usual body weight in one month.
    - > or equal 7.5% loss of usual body weight in 3 months.
    - > or equal 10% loss of usual body weight in 6 months.

Physical Assessment

LOA SMG

There is an important role for a focused physical examination (refer to Table 4) to:

1. assess for potentially reversible causes of anorexia, and
2. document the nutritional and overall physical status at the time of the patient visit, including potential complications of cachexia.

A physical assessment should be conducted by a trained professional.

Table 4: Physical Assessment (19,23)

Area	Description
General	Anthropometry: Height, weight, vital signs
	Severity of wasting (e.g. temporal, clavicular and quadriceps areas)
	Skin turgor, mid-arm circumference and skin fold thickness
	Overall appearance and posture
	Hepatic or uremic fetor
	Skin colour (e.g. paleness, jaundice)
	Edema
Neuro-muscular	Observe gait and rising from chair
	Screening examination of gross muscle strength
	6 min. or 2 min. walking test

Area	Description
Head & Neck	Mucositis, dry mucous membranes, thrush, poor dentition, bleeding
	Neck masses (which might impair swallowing)
Cardio-respiratory	Signs of congestive heart failure
	Postural hypotension, tachycardia (hydration status)
	Oxygen saturation
Abdomen	Ascites, bowel distention
	Increased or decreased bowel sounds, fecal impaction
	Hepatosplenomegaly, masses

Available Laboratory Investigations

DAA *Modified*

The following laboratory tests may be useful in assessing nutritional status, anorexia and cachexia:

- Complete Blood Count with differential (incl. total lymphocyte count);
- Blood glucose;
- Electrolytes, Calcium, Magnesium, Phosphate;
- Liver function;
- Renal function;
- Thyroid function;
- C-reactive protein (CRP) (13,24): A non-specific but sensitive marker of inflammation that is associated with decreased appetite (25), performance status (25,26) and survival (26), and is positively correlated with PG-SGA scores (27). Consideration of CRP in conjunction with other factors such as weight loss and low food intake may aid in the discrimination of anorexia versus primary/secondary cachexia and determine appropriate intervention strategies.

LOA SMG

- Serum Albumin-hypoalbuminemia: may be an early marker of pre-cachexia, and severe hypoalbuminemia may be seen in late stage cachexia.

Non- Pharmacological Treatment

LOA SMG

The suggested non-pharmacological treatments are applicable to anorexia and the stages of cachexia; additional strategies are suggested for refractory cachexia. Stage of disease and progression of the disease and Palliative Performance Scale (PPS), or functional status, should be considered when determining goals of care and treatment plans. Non-pharmacological treatment requires an interdisciplinary model of care to best meet the diverse needs of patients. Early consultation with the palliative care or supportive care team for additional advice should be considered.

Psychosocial Strategies

LOA SMG

Screen, assess and manage psychosocial issues routinely.

BCCA *Modified*

- Provide emotional support to patient and family.
- Consider the importance of food in the social context and the impact on quality of life.
- Consider cultural issues re: food beliefs (e.g. Chinese "hot" and "cold" foods) as some foods may be deemed to be cancer promoting or "unhealthy".

NCCN *Modified*

- Consider patient's accessibility to food. Are they able to obtain groceries and/or participate in meal preparation? Is there a lack of financial resources?
- Referral to other health care professionals where appropriate (e.g. doctor, nurse, dietitian, pharmacist, social worker, counselor, home care, home making).

Nutrition Education Strategies

LOA SMG

Patient education materials that could help the patient and family to address loss of appetite can be provided by the health care team and should be available in simple language.

Fraser Health *Modified*

Provide supportive nutrition-focused patient education for self-management early in the symptom trajectory with a goal to improve or maintain nutritional and functional status via oral nutrition. The patient and family should be encouraged to self-manage symptoms to prevent them from worsening.

BCCA *Modified*

The following strategies can be recommended by health care team members and are found in the Patient Education Materials (Appendix D):

- Suggest eating small, frequent meals and choosing high energy, high protein foods. Provide a list of high energy/protein foods and strategies to increase intake.
- Ensure adequate hydration, preferably through energy and protein containing liquids that can be sipped throughout the day.
- Suggest making mealtimes as relaxing and enjoyable as possible.
- Suggest convenience foods, deli or take-out foods, Meals on Wheels® or catering services, Home Making services, or asking friends/family to help out if fatigue or meal preparation is a problem.
- Taking medication with a high calorie / protein fluid such as milkshakes or nutrition supplements can also increase nutritional intake. This should be reviewed by a dietitian and/or pharmacist because of potential drug/nutrient interaction(s).
- Nutritional supplements, as recommended by a dietitian and/or pharmacist, may help augment nutrition intake.
- Patient and/or family may be referred to a Registered Dietitian.

BCCA *Modified*

See Appendix D for links to the following Patient Education tools:

- Healthy Eating Using High Energy, High Protein Foods
- High Energy and High Protein Menu items
- Food ideas to help with poor appetite

- Increasing Fluid Intake
- Suggestions for Increasing Calories and Protein
- Eating Well When You Have Cancer
- Canada's Food Guide

LOA SMG

Exercise Strategies

- Evidence suggests that exercise regulates appetite. Repeated or regular exercise may enhance the quality of life of patients with cancer cachexia. Repeated physical activity may decrease the side effects of cancer therapy and prevent or reverse cachexia through suppression of inflammatory process and enhancement of insulin sensitivity, protein synthesis, and antioxidant activities (24).

NCCN *Modified*

- Encourage exercise, as tolerated by patient. Walking fifteen minutes a day can help regulate appetite. The patient should start the exercise regimen slowly, and gradually increase intensity (28). Exercise can be initiated at most levels above PPS 30-40% but caution should be the guiding principle, as well as presence of bony metastases and low blood counts.

LOA SMG

- One important strategy that counters sarcopenia is strength conditioning. Resistance exercise results in a decrease in nitrogen excretion, lowering dietary protein needs. This increased efficiency of protein use may be important for wasting diseases, such as cancer (29, 30).

Referral to a Registered Dietitian

Fraser Health *Modified*

Referral to a Registered Dietitian may be based on criteria of weight loss, and/or the presence of significant symptoms that are affecting intake, and cannot be addressed adequately by self-management and/or general patient education tools. Registered Dietitians can make a nutrition diagnosis and design appropriate and evidence-based nutrition interventions that target actual or potential causes of anorexia and cachexia.

ONS

Individualized dietary counseling has been shown to reduce the incidence of anorexia and improve nutritional intake and body weight, as well as improve the quality of life for the patient.

Non-Pharmacological Treatment Specific to Primary Cachexia: Refractory Stage

LOA SMG

- Consideration of Palliative Performance Scale (PPS) scores, in conjunction with the ESAS scores, may be helpful in determining the appropriateness and aggressiveness of interventions.

Fraser Health *Modified*

- Assist families and caregivers to understand and accept the benefits and limits of treatment interventions and to look at alternate ways to nurture the patient (oral care, massage, reading, conversing). This will help to decrease the feelings of helplessness for these individuals.

BCCA *Modified*

- While underlying cause(s) may be evident, treatment may not be indicated.
- Ice chips, small sips of beverages and good mouth care becomes the norm.
- Consider symbolic connection of food and eating with survival and life. It is one area that family members feel they can contribute to the patient's wellbeing and recovery. They often encourage their loved one to eat and spend much time and effort to prepare favourite foods only to be disappointed when the patient takes only very small amounts of food. This can

lead to feelings of rejection of the caregiver's love. It can also lead to feelings that the patient is not doing enough to keep well or recover. Food may become a source of emotional distress experienced by both the family and the patient.

- It is important to educate that a person may naturally stop eating and drinking as part of the illness progression and the dying process. Encouraging or pressuring intake at this time may not only be inappropriate, but may also be harmful by increasing anxiety and stress and can worsen symptoms of nausea and vomiting.

NHS-Fife *Modified*

- The focus should be on patient comfort and reducing patient and caregiver anxiety, as reversal of refractory cachexia is unlikely.

NCCN *Modified*

- Recognize that the discontinuation of nutrition is a value-laden issue. Consider consultation with the Registered Dietitian, spiritual counselor or bioethicist, to clarify clinical goals.
- Referral to other health care professionals where appropriate (e.g. doctor, nurse, dietitian, pharmacist, social worker, counselor, home care, home making).

Pharmacological Treatment

FLCNCC *Modified*

The following pharmacological treatments are suggested to alleviate the symptom of loss of appetite. They may improve quality of life (if appetite is a goal of care) and affect weight gain; however weight gain may be attributable to water retention and/or fat, not muscle gain. Appetite stimulants can be used in combination with or after failure of oral nutritional management (recommendation, expert agreement – refer to Appendix E for Evidence level legend). The use of appetite stimulants is particularly warranted in patients with incurable disease (recommendation, level of evidence: C). Appetite stimulants can be administered to patients with any type of tumour (recommendation, expert agreement). The optimal mode of administration for these products is not known. Please refer to the drug table (Table 5) for dosing recommendations. In some cases, there is anecdotal evidence to suggest efficacy at higher doses; please check with your local pharmacist to confirm the safety of higher doses.

FLCNCC

LOA SMG

Corticosteroids

FLCNCC *Modified*

Corticosteroids, Megestrol acetate and Medroxyprogesterone acetate can be used in the treatment of anorexia and weight loss in patients with cancer (recommendation, level of evidence: B1).

Corticosteroids are appetite stimulants (level of evidence: B1). There is insufficient information available to define the optimal dose and scheduling of delivery (recommendation).

Synthetic Progestogens

FLCNCC

Megestrol acetate is an appetite stimulant (level of evidence: B1). It results in a significant increase in appetite and there is a beneficial effect on body weight in patients with cancer (standard, level of evidence: B1); however weight gain is attributable to water retention not muscle gain.

NHS-Fife

Medroxyprogesterone acetate is an appetite stimulant (level of evidence: B1). It results in a significant increase in appetite (level of evidence: B1). The effect on weight gain has not been confirmed (level of evidence: C).

Prokinetics

FLCNCC

Prokinetics may be useful for patients with anorexia related to early satiety and nausea.

Metoclopramide has not been shown to have any appetite-stimulating effects (level of evidence: C).

Other Alternative Medications

Dronabinol, eicosapentanoic acid (or fish oil supplementation), erythropoietin, ghrelin, interferon, melatonin, nandrolone, nonsteroidal anti-inflammatory drugs, and pentoxifylline have been studied in randomized control trials. They do not have enough evidence to justify routine use as appetite stimulants (10). Alternative or herbal remedies lack levels of evidence and cannot be recommended at this time.

Table 5: Drug Table

Source	Drug Class	Indication	Dosing	Side Effects
Fraser Health **NHS - Fife** **NHS - L**	Corticosteroids	may increase appetite, strength and promote a sense of well-being; effects last about 2 to 4 weeks.	Initial dose : dexamethasone 4mg daily OR prednisolone 30mg daily in the morning. Prescribe for 1 week, if no benefit, stop. If helpful, increase or decrease to most effective dose; review regularly and withdraw if no longer improving symptoms. Other Considerations: Assess need for a proton pump inhibitor (i.e. pantoprazole, rabeprazole)	-peripheral edema; -candidiasis; -gastric irritation; -hyperglycaemia; -insomnia; -catabolic effect in reducing muscle mass and function.
Fraser Health	Prokinetics	may be useful when chronic nausea occurs in association with cachexia because of the high incidence of autonomic failure with resulting gastroparesis.	metoclopramide 10 mg q4 to 8h. (higher doses can cause extrapyramidal symptoms) OR domperidone 10mg TID to QID Note: The risk of serious abnormal heart rhythms or sudden death (cardiac arrest) may be higher in patients taking domperidone at doses greater than 30 mg a day, or in patients who are more than 60 years old, based on results from recent studies.	- restlessness; - drowsiness; - extrapyramidal symptoms; - diarrhea; - weakness.
Fraser Health **FLCNCC**	Synthetic Progestogens	may be useful in treating anorexia, improving appetite and increasing weight.	megestrol acetate: minimum efficacious dose = 160 mg daily and titrate to effect maximum dose = 480 mg/ day OR medroxyprogesterone acetate (MPA): 200 mg daily	-edema; -venous thromboembolic events; -hypertension.

Appendices

Appendix A: Methodology

The Standards, Guidelines and Indicators Sub-group of the Re-Balance Focus Action Group, established under the Canadian Cancer Control Strategy, performed a literature review and environmental scan.

This review was used by the Loss of Appetite SMG working group as a source from which to identify existing guidelines relative to the loss of appetite symptom. Additionally, SMG members reached out to programs in Ontario, searched the Cancer Care Ontario Program in Evidence-based website and their own personal sources for any relevant guidelines.

The Re-Balanced Focus Action Group used the following search criteria in their review:

Inclusion Criteria

1. Standards focused on care delivered by cancer organizations; and/or processes of care; and/or professional practice standards specific to cancer.
2. Guidelines focused on clinical practice of practitioners relevant to psychosocial, supportive or palliative care provision to cancer patient populations.
3. Guidelines that were more generic in focus but relevant to supportive care aspects of cancer populations in areas such as prevention and screening were also included.

Exclusion Criteria

1. Guidelines that did not base the development of substantive statements/recommendations on a review of evidence from the literature and/or were not based on a source that used evidence to support the guideline development process.
2. Guidelines that were focused on providing direction to patients and families for which it was not clear that the guideline statements or recommendations were based on a review of evidence from the literature and/or were not based on a source that used evidence to support the guideline development process.

Databases Searched

Health Sciences literature databases used in this scan include HealthStar, Medline, CINAHL, Embase and PsycINFO. The internet search engine Google Scholar was utilized for the grey literature search for scientific and non-scientific sources. Databases for the following organizations were also reviewed: a) All oncology professional associations and organizations for Psychosocial Oncology and Palliative Care inclusive of Oncology Social Workers, Clinical Oncology; b) All Canadian Provincial Cancer Care Organizations within provinces; c) International organizations or agencies or associations whose mandate is focused on systematic reviews or guideline development. The literature search and environmental scan was updated in December 2008 and again in January 2009. The National Guideline Clearinghouse website, CPAC's Cancer Guidelines Resource Centre website, and the Google search engine were also consulted in September 2010.

Results

Based on the literature review and environmental scan described above, the Loss of Appetite SMG working group identified 19 'Nutrition' related guidelines. 11 guidelines were rejected at the onset by the group because they fell outside of the scope of the Guide-to-Practice. The remaining 8 guidelines: BC Cancer Agency's *Nutritional Guidelines for Symptom Management: Anorexia* (1); Dietitians of Australia's *Evidence based practice guidelines for the nutritional management of cancer cachexia* (2); Federation Nationale des Centres de Lutte Contre le Cancer *FNCLCC Standards, Options and Recommendations for the use of appetite stimulants in oncology* (3); Fraser Health's *Symptom Guidelines: Nutrition and Cachexia* (4); National Comprehensive Cancer Network's *Clinical Practice Guidelines in Oncology; Palliative Care* (5); National Health Service (NHS) Fife Board's *Fife Palliative Care Guidelines Guideline for the Management of Anorexia / Cachexia Syndrome in Palliative Care* (6)*;* NHS-Lothian's *Lanarkshire Palliative Care Guidelines* (7)*;* and Oncology Nursing Society's (ONS) *Putting Evidence Into Practice: Evidence-Based Interventions to Prevent and Manage Anorexia* (8) were screened and assessed for quality, currency, content, consistency, and acceptability/applicability, using the Appraisal of Guidelines Research and Evaluation AGREE II instrument. Taking into consideration the AGREE II scores and expert consensus, the working group chose the most applicable and relevant recommendations from the eight guidelines to be included in the Guide-to-Practice (Table 6).

The ADAPTE process was then used to systematically endorse or modify applicable components of the eight guidelines. The guideline development process, utilizing ADAPTE, proceeds under the assumption that the original recommendations are reasonable and supported by the evidence. Confidence in this assumption is fostered from satisfactory AGREE scores. In situations where evidence was not available or not applicable to specific clinical situations, systems and contexts recommendations were modified based on the expert consensus of the working group. It is beyond the scope of the Guide-to-Practice development process, and this document, to make the connection between the recommendations and the original key evidence. For those who wish to do so, please refer to original guidelines in the References section.

Table 6. AGREE Scores

	Guideline Authors								
	Fraser Health	**NHS - Fife**	**NHS-Lothian**	**DAA**	**BC Cancer**	**ONS**	**NCCN**		**FNCLCC**
# of appraisers	4	3	2	4	4	2	3	3	2
Domain 1	83%	54%	42%	78%	60%	63.9%	85.2%	44.4%	83.30%
Domain 2	39%	24%	50%	72%	28%	50.0%	41.7%	27.8%	63.90%
Domain 3	44%	19%	22%	74%	9%	58.3%	38.1%	27.0%	82.30%
Domain 4	58%	59%	89%	76%	57%	83.3%	77.8%	61.1%	80.60%
Domain 5	16%	15%	40%	58%	26%	25.0%	22.2%	7.4%	60.40%
Domain 6	10%	22%	13%	79%	10%	20.8%	77.8%	50.0%	79.20%
(AGREE II) Overall /7	3	3	5	5	3				
Acceptance	Accepted with provisos	Accepted with provisos	Accepted with provisos	Accepted with provisos	Accepted with provisos	Accepted with provisos	Accepted with provisos		Accepted with provisos

Appendix B – Peer Review Summary

Expert feedback was obtained through an internal and external review.

Internal Review

The internal review consisted of an appraisal of the Guides-to-Practice by members from each of the working groups. The intent of this review was to ensure that the development process was methodologically rigorous; the recommendations were supported by the evidence in a transparent way; and that the guide was clinically relevant and applicable to practice.

A total of 39 online surveys were collected during the internal review. Thirteen participants completed the Loss of Appetite Guide survey. The feedback was thoroughly reviewed by each of the corresponding working groups and, where appropriate, changes were made.

Table 7. Responses to 16 key questions on the Loss of Appetite Internal Review survey (13 respondents)

Question	Strongly Agree (Response count)	Agree (Response count)	Disagree (Response count)	Strongly Disagree (Response count)
The methodology used to search for evidence is clearly described.	46%(6)	54% (7)	0%	0%
The methods for formulating the recommendations are clearly described.	46%(6)	54% (7)	0%	0%
The symptom definition(s) are clear and comprehensive.	54% (7)	46%(6)	0%	0%
There is an explicit link between the supporting evidence and the recommendations.	31% (4)	69% (9)	0%	0%
Recommendations based on SMG expert consensus are clearly identified.	38% (5)	54% (7)	8% (1)	0%
The source from which the recommendations are extracted is clearly identified.	54% (7)	46% (6)	0%	0%
The recommendations are in agreement with my understanding of the evidence.	15% (2)	85% (11)	0%	0%
The recommendations are specific and unambiguous.	15% (2)	69% (9)	15% (2)	0%
The recommendations are easily identifiable.	31% (4)	62% (8)	8% (1)	0%
The recommendations are achievable.	23% (3)	69% (9)	8% (1)	0%
The different options for management of the condition are clearly presented.	23% (3)	62% (8)	15% (2)	0%
The Guide-to-Practice is supported with tools for application.	23% (3)	77% (10)	0%	0%
The Guide-to-Practice is user friendly.	23% (3)	69% (9)	8% (1)	0%
The working group includes individuals from all the relevant professions.	31% (4)	54% (7)	15% (2)	0%

Question	Very Likely (Response count)	Not Very Likely (Response count)	Not Applicable (Response count)
How likely would you be able to apply these recommendations to the clinical care decisions for which you are professionally responsible?	92% (12)	0%	8% (1)

Question	Differ greatly (Response count)	Differ slightly (Response count)	In Line (Response count)	Not Applicable (Response count)
How do the recommendations compare to your current clinical practice?	8% (1)	15% (2)	69% (9)	8% (1)

External Review

The external review process consisted of: I) a Targeted Peer Review intended to obtain direct feedback on the draft guides from a small number of specified content experts and, II) a Professional Consultation that intended to disseminate the draft guide as widely as possible to its intended readership, provide a forum for recipients to explain any disagreement with the recommendations, and to further ensure the quality and relevance of the document.

I) Targeted Review

16 reviewers were invited to participate in the external target review and 10 provided responses (only 9 of the 10 completed a survey) (refer to Table 8 and 9 for details).

Table 8. Overview of the Targeted Peer Reviewers

Profession	Count
Administrator	1
Biochemist	1
Bioethicist	1
Dietitian	2
Nurse	2
Physician	2
Radiation Therapist	1
Total:	**10**

Table 9. Responses to key questions on the Loss of Appetite Guide Peer Review survey (9 respondents)

Question	**1 Lowest Quality** % (Response count)	**2** % (Response count)	**3** % (Response count)	**4** % (Response count)	**5 Highest Quality** % (Response count)
Rate the Guide-to-Practice development methods.	0%	0%	11% (1)	**56% (5)**	33% (3)
Rate the Guide-to-Practice presentation.	0%	11% (1)	0%	**67% (6)**	22% (2)
Rate the Guide-to-Practice recommendations.	0%	0%	33% (3)	0%	**67% (6)**
Rate the completeness of the reporting.	0%	0%	22% (2)	**67% (6)**	11% (1)
Rate the overall quality of the Guide-to-practice.	0%	0%	22% (2)	**56% (5)**	22% (2)
Question	**1 Strongly Disagree** % (Response count)	**2** % (Response count)	**3** % (Response count)	**4** % (Response count)	**5 Strongly Agree** % (Response count)
I would make use of this Guide-to-Practice in my professional decisions.	0%	0%	33% (3)	33% (3)	33% (3)
I would recommend this Guide-to-Practice for use in practice.	0%	11% (1)	22% (2)	11% (1)	**56% (5)**

II) Professional Consultation

The Professional Consultation consisted of a sample of approximately 1000 health care practitioners, including palliative care physicians, family physicians, radiation oncologists, medical oncologists, surgeons, dietitians, nurses, pharmacists, radiation therapists, physiotherapists and administrators. Participants were contacted by email and asked to read the guides and complete a brief corresponding electronic survey. One hundred and nineteen responses were received for all three guides (bowel care, oral care and loss of appetite) under evaluation. Forty responses were received for the loss of appetite symptom management guide to practice (Table 10 & 11).

Table 10. Overview of the Professional Consultation Sample

Profession	Count
Family Physician	14
Dietitian	6
Nurse	6
Medical Oncologist	3
Administrator	2
Physiotherapist	2
Nurse Practitioner	2
General Surgeon	1
Palliative Care Physician	1
Radiation Oncologist	1
Radiation Therapist	1
Nurse Manager	1
Total	40

Table 11. Responses to key questions on the Professional Consultation survey (40 respondents)

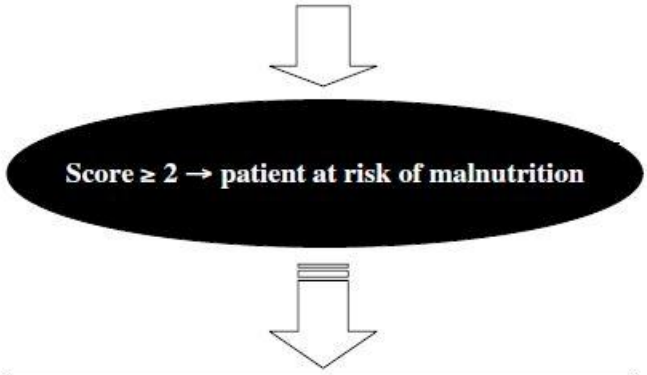
Question	**1 Strongly Disagree** % (Response count)	**2** Percent (Response count)	**3** Percent (Response count)	**4** Percent (Response count)	**5 Strongly Agree** % (Response count)
I would make use of this Guide-to-Practice in my professional decisions.	0%	5% (2)	10% (4)	**45% (18)**	40% (16)
I would recommend this Guide-to-Practice for use in practice.	0%	3% (1)	13% (5)	38% (15)	**48% (19)**
Question	**1 Lowest Quality** % (Response count)	**2** Percent (Response count)	**3** Percent (Response count)	**4** Percent (Response count)	**5 Highest Quality** % (Response count)
Rate the overall quality of the Guide-to-Practice.	0%	3% (1)	5% (2)	**48% (19)**	45% (18)

Appendix C: Assessment Tools

Malnutrition Screening Tool (MST) (15,18)

LOA
SMG

Questions	Score
1. Have you lost weight recently without trying?	
No	0
Unsure	2
If yes, how much weight (kg) have you lost?	
1-5	1
6-10	2
11-15	3
16-20	4
Unsure	2
	Weight loss score =
2. Have you been eating poorly because of decreased appetite?	
No	0
Yes	1
	Appetite Score =
	Total Score =



Action flowchart
1. **Refer** to dietician for full assessment and intervention
2. **Document**
3. **Weigh** patients on admission and • weekly (acute) • monthly (long-term care)
4. **Rescreen** patients • weekly (acute) • monthly (long-term care)

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LOA
SMG

Patient Generated Subjective Global Assessment (PG-SGA) (19). For scoring instructions please refer to the ADA Nutrition screening and assessment in oncology (31).

Scored Patient-Generated Subjective Global Assessment (PG-SGA)

Patient ID Information

History (Boxes 1-4 are designed to be completed by the patient.)

1. Weight *(See Worksheet 1)*

In summary of my current and recent weight:

I currently weigh about _____ pounds
I am about _____ feet _____ tall

One month ago I weighed about _____ pounds
Six months ago I weighed about _____ pounds

During the past two weeks my weight has:
☐ decreased (1) ☐ not changed (0) ☐ increased (0)

Box 1 ☐

2. Food Intake: As compared to my normal intake, I would rate my food intake during the past month as:

☐ unchanged (0)
☐ more than usual (0)
☐ less than usual (1)
I am now taking:
☐ *normal food* but less than normal amount (1)
☐ little solid food (2)
☐ only liquids (3)
☐ only nutritonal supplements (3)
☐ very little of anything (4)
☐ only tube feedings or only nutrition by vein (0)

Box 2 ☐

3. Symptoms: I have had the following problems that have kept me from eating enough during the past two weeks (check all that apply):

☐ no problems eating (0)
☐ no appetite, just did not feel like eating (3)
☐ nausea (1)
☐ constipation (1)
☐ mouth sores (2)
☐ things taste funny or have no taste (1)
☐ problems swallowing (2)
☐ pain; where? (3)_____
☐ other** (1) _____
☐ vomiting (3)
☐ diarrhea (3)
☐ dry mouth (1)
☐ smells bother me (1)
☐ feel full quickly (1)
☐ fatigue (1)

** Examples: depression, money, or dental problems

Box 3 ☐

4. Activities and Function: Over the past month, I would generally rate my activity as:

☐ normal with no limitations (0)
☐ not my normal self, but able to be up and about with fairly normal activities (1)
☐ not feeling up to most things, but in bed or chair less than half the day (2)
☐ able to do little activity and spend most of the day in bed or chair (3)
☐ pretty much bedridden, rarely out of bed (3)

Box 4 ☐

Additive Score of the Boxes 1-4 ☐ **A**

The remainder of this form will be completed by your doctor, nurse, dietitian, or therapist. Thank you.

Scored Patient-Generated Subjective Global Assessment (PG-SGA)

Worksheet 1 - Scoring Weight (Wt) Loss

To determine score, use 1 month weight data if available. Use 6 month data only if there is no 1 month weight data. Use points below to score weight change and add one extra point if patient has lost weight during the past 2 wk.

Wt loss in 1 month	Points	Wt loss in 6 months
10% or greater	4	20% or greater
5-9.9%	3	10 -19.9%
3-4.9%	2	6 - 9.9%
2-2.9%	1	2 - 5.9%
0-1.9%	0	0 - 1.9%

Numerical score from Worksheet 1 ☐

Additive Score of the Boxes 1-4 (See Side 1) ☐ A

5. Worksheet 2 - Disease and its relation to nutritional requirements

All relevant diagnoses (specify) _____

One point each:

☐Cancer ☐AIDS ☐ Pulmonary or cardiac cachexia ☐ Presence of decubitus, open wound, or fistula
☐Presence of trauma ☐ Age greater than 65 years ☐ Chronic renal insufficiency

Numerical score from Worksheet 2 ☐ B

6. Work Sheet 3 - Metabolic Demand

Score for metabolic stress is determined by a number of variables known to increase protein & calorie needs. The score is additive so that a patient who has a fever of > 102 degrees (3 points) and is on 10 mg of prednisone chronically (2 points) would have an additive score for this section of 5 points.

Stress	none (0)	low (1)	moderate (2)	high (3)
Fever	no fever	>99 and <101	≥101 and <102	≥102
Fever duration	no fever	<72 hrs	72 hrs	> 72 hrs
Corticosteroids	no corticosteroids	low dose (<10mg prednisone equivalents/day)	moderate dose (≥10 and <30mg prednisone equivalents/day)	high dose steroid (≥30mg prednisone equivalents/day)

Numerical score from Worksheet 3 ☐ C

7. Worksheet 4 - Physical Exam

Physical exam includes a subjective evaluation of 3 aspects of body composition: fat, muscle, & fluid status. Since this is subjective, each aspect of the exam is rated for degree of deficit. Muscle deficit impacts point score more than fat deficit. Definition of categories: 0 = no deficit, 1+ = mild deficit, 2+ = moderate 3+ = severe

Muscle Status:				
temples (temporalis muscle)	0	1+	2+	3+
clavicles (pectoralis & deltoids)	0	1+	2+	3+
shoulders (deltoids)	0	1+	2+	3+
interosseous muscles	0	1+	2+	3+
Scapula (latissimus dorsi, trapezius, deltoids)	0	1+	2+	3+
thigh (quadriceps)	0	1+	2+	3+
calf (gastrocnemius)	0	1+	2+	3+
Global muscle status rating	**0**	**1+**	**2+**	**3+**
Fat Stores:				
orbital fat pads	0	1+	2+	3+
triceps skin fold	0	1+	2+	3+
fat overlying lower ribs	0	1+	2+	3+
Global fat deficit rating	**0**	**1+**	**2+**	**3+**

Fluid Status:				
ankle edema	0	1+	2+	3+
sacral edema	0	1+	2+	3+
ascites	0	1+	2+	3+
Global fluid status rating	**0**	**1+**	**2+**	**3+**

Numerical score from Worksheet 4 ☐ D

Total PG-SGA score ☐
(Total numerical score of A+B+C+D above)
(See triage recommendations below)

Global PG-SGA rating (A, B, or C) = ☐

Clinician Signature _____ RD RN PA MD DO Other ___ Date _____

Worksheet 5 - PG-SGA Global Assessment Categories

	Stage A	Stage B	Stage C
Category	Well nourished	Moderately malnourished	Severely malnourished
Weight	No wt loss OR Recent wt gain	≥ 5% wt loss in 1 month (or 10% in 6 mos) OR Progressive wt loss	> 5% wt loss in 1 month (or >10% in 6 mos) OR Progressive wt loss
Nutrient intake	No deficit OR Significant recent improvement	Definite decrease in intake	Severe deficit in intake
Nutrition Impact Symptoms	None OR Significant recent improvement allowing adequate intake	Present of nutrition impact symptoms (PG-SGA Box 3)	Present of nutrition impact symptoms (PG-SGA Box 3)
Functioning	No deficit OR Recent improvement	Moderate functional deficit OR Recent deterioration	Severe functional deficit OR recent significant deterioration
Physical Exam	No deficit OR Chronic deficit but recent improvement	Evidence of mild to moderate loss of muscle mass / SQ fat / muscle tone on palpation	Obvious signs of malnutrition (eg, severe loss muscle, SQ tissue, possible edema)

Nutritional Triage Recommendations: Additive score is used to define specific nutritional interventions including patient & family education, symptom management including pharmacologic intervention, and appropriate nutrient intervention (food, nutritional supplements, enteral, or parenteral triage).
First line nutrition intervention includes optimal symptom management.

Triage based on PG-SGA point score

0-1	No intervention required at this time. Re-assessment on routine and regular basis during treatment.
2-3	Patient & family education by dietitian, nurse, or other clinician with pharmacologic intervention as indicated by symptom survey (Box 3) and lab values as appropriate.
4-8	Requires intervention by dietitian, in conjunction with nurse or physician as indicated by symptoms (Box 3).
≥ 9	Indicates a critical need for improved symptom management and/or nutrient intervention options.

Appendix D: Patient Education Tools

BCCA ***Modified***

Publisher: BC Cancer Agency
Available in: English

Weblink: http://www.bccancer.bc.ca/HPI/NutritionalCare/PtEd/Decreased+Appetite.htm

- Healthy Eating Using High Energy High Protein Foods (June 2006)
- Food ideas to help with poor appetite (June 2011)
- High Energy and High Protein Menu and Recipes

Weblink: http://www.bccancer.bc.ca/HPI/NutritionalCare/PtEd/Additional+Resources.htm

- Increasing Fluid Intake (June 2011)
- Chinese Meal and Snack Ideas (English/Chinese)
- To Help Maintain Your Weight (English/Chinese)
- Indo Canadian Meal and Snack Ideas (English/Hindi)
- Tips to Help Maintain Your Weight (English/Hindi) (May 1990)
- Filipino Meal and Snack Ideas (English/Tagalog) (Nov. 2002)

- Suggestions for Increasing Calories and Protein

BCCA

Publisher: American Dietetics Association
Available in: English
Weblink:
http://www.adancm.com/vault/editor/Docs/SuggestionsforIncreasingCaloriesandProtein_FINAL.pdf

- Eating Well When You Have Cancer

LOA
SMG

Publisher: Canadian Cancer Society
Available in: English, French, Chinese and Punjabi
Web link: http://www.cancer.ca/Canada-wide/Publications.aspx?sc_lang=en

- Canada's Food Guide

LOA
SMG

Publisher: Health Canada (2007)
Available in: English, French, Arabic, Chinese, Cree Farsi, Inukitut, Korean, Ojibway, Punjabi, Russian, Spanish, Tagalog, Tamil, Urdu
Weblink: http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/order-commander/guide_trans-trad-eng.php

Appendix E: Evidence Level Legend

Definition of Standards, Options and Recommendations	
Standards	Procedures or treatments that are considered to be of benefit, inappropriate or harmful by unanimous decision, based on the best available evidence.
Options	Procedures or treatments that are considered to be of benefit, inappropriate or harmful by a majority, based on the best available evidence.
Recommendations	Additional information to enable the available options to be ranked using explicit criteria (e.g. survival, toxicity) with an indication of the level of evidence.
Definition of level of evidence	
Level A	There exist a high-standard meta-analysis or several high –standard randomized clinical trials which give consistent results
Level B	There exist good quality evidence from randomized trials (B1) or prospective or retrospective studies (B2). The results are consistent when considered together.
Level C	The methodology of the available studies is weak or their results are not consistent when considered together.
Level D	Either the scientific data do not exist or there is only a series of cases
Expert agreement	The data do not exist for the method concerned, but the experts are unanimous in their judgment.

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Post-amble

Working Group

A wide variety of health professionals were invited to participate in the development of this Guide-to-Practice, as well as in the external review. Every effort was made to ensure as broad a professional and regional representation as possible.

Jane Hatton-Bauer, RD. (Co-lead)
Regional Coordinator
Supportive Care Program
Grand River Regional Cancer Centre
835 King St. West,
Kitchener, Ontario N2G 1G3

Geoff Davis, MD (Co-lead)
Regional Lead, North West Palliative Care Program
Medical Director Palliative Care
Thunder Bay Regional Health Sciences Centre and St. Joseph's Care Group
980 Oliver Road
Thunder Bay, Ontario P7B 6V4

Karen Biggs, M.H.Sc., RD
Clinical Dietitian
Supportive and Palliative Care Program
Juravinski Cancer Centre
699 Concession St
Hamilton Ontario L8V5C3

Martin Chasen, MBChB FCP(SA) MPhil (Pall Med)
Regional Lead, Champlain Palliative Care Program
Medical Director, Palliative Care,
The Ottawa Hospital Cancer Centre
501 Smyth Road
Ottawa, Ontario K1H 8L6

Denise Gabrielson, HonBSc, BASc, MSc (C)
Clinical Dietitian
Oncology, Haematology, and Palliative Care
St. Michael's Hospital
30 Bond Street
Toronto, Ontario M5B 1W8

Anna Granic, BScPharm.
Pharmacist, Coordinator Cancer Centre Pharmacy Services
Grand River Regional Cancer Centre
835 King St. West.
Kitchener, Ontario N2G 1G3

Naomi Greenberg, BA
Project Coordinator
Nursing & Psychosocial Oncology
Cancer Care Ontario
620 University Avenue
Toronto, Ontario M5G 2L7

Martha Karn, RN, BSc.N, CHPCN(C)
Clinic Nurse-Pain and Symptom Management Program
Supportive Care
Grand River Regional Cancer Centre
835 King Street
Kitchener, Ontario N2G 1G3

Massey Nematollahi, RN
Nurse Educator
Cancer clinic
Stronach regional Cancer Center
596 Davis Drive
Newmarket, Ontario L3Y 2P9

Michael Sanatani, BSc, Dipl.-Biochem., MD, FRCPC
Medical Oncologist
Department of Medical Oncology, London Regional Cancer Program, London Health Sciences Centre
790 Commissioners Road East
London, ON N6A4L6

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Disclaimer

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