



**Draft PMB definition guidelines for best supportive care for:**

- **Esophageal cancer**
- **Pancreatic cancer**
- **Stomach/ gastro-esophageal junction cancer**
- **Colorectal cancer**

***Disclaimer:***

***The draft benefit definition on best supportive care has been developed for the majority of standard patients. All interventions described only apply if the patient has been diagnosed with the above mentioned cancers. Regulation 15(h) and 15(l) may be applied for patients who are inadequately managed by the stated benefits.***

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## **1. Introduction**

- 1.1. A diagnosis of cancer and its subsequent treatment can have a devastating impact on the quality of a person's life. Patients face new fears and uncertainties and may have to undergo unpleasant and debilitating treatments.
- 1.2. Medical schemes interpret best supportive care benefits differently, resulting in a lack of uniformity of benefit entitlements.
- 1.3. The benefit definition project is coordinated by the Council for Medical Schemes (CMS) and aims to define the prescribed minimum benefits (PMB) package for best supportive care as well as to guide the interpretation of the PMB provisions by relevant stakeholders.

## **2. Scope and purpose**

- 2.1. The purpose of the document is to improve clarity in respect of funding decisions by medical schemes, taking into consideration evidence based medicine, affordability and in some instances cost-effectiveness.
- 2.2. The modalities described below are PMB level of care in the context of the diagnosis of gastrointestinal cancer. It is also important to note that schemes may apply formularies.

## **3. Gastro-oesophageal Reflux Disorder**

- 3.1. One of the more common symptoms following surgical treatment of oesophageal cancer and gastric cancer is reflux as a result of changes to the gastro-oesophageal junction and delayed gastric emptying (1) (2). Reflux may also occur following gastric endoscopic mucosal resection.
- 3.2. Proton pump inhibitor (PPI) therapy is indicated for treatment of reflux following gastric surgery and has been shown to improve symptoms as well as quality of life (3) (4)
- 3.3. PPIs are recommended for up to 8 weeks following endoscopic submucosal resection to prevent delayed bleeding due to ulceration (5), although recent randomised controlled trials suggest that 2-4 weeks PPI treatment is sufficient to heal post-ESD ulceration (6) (7)
- 3.4. Lifestyle modification is also recommended such as avoiding supine position, weight loss where required, avoiding alcohol and foods known to increase reflux symptoms.
- 3.5. Pre-operative PPI use does not significantly impact post-operative gastric bleeding and therefore is not recommended (8)

#### **4. Nausea and Vomiting**

- 4.1. Chemotherapy or radiation treatment induced nausea and vomiting in cancer patients can affect quality of life substantially as well as having a physiological impact such as metabolic imbalances, oesophageal tears, delayed wound healing. Treatment of nausea and vomiting is dependent on the emetogenicity of chemotherapeutic agents. A table of classification of the emetogenic potential of agents is available from the updated MASCC and ESMO guidelines 2016 (9).
- 4.2. The NCCN Guidelines for Antiemesis (10), the updated MASCC and ESMO guidelines and the ASCO updated guidelines (11) all recommend a triple combination of a serotonin receptor antagonist (5-HT<sub>3</sub> RA), dexamethasone and a neurokinin-1 receptor antagonists (NK<sub>1</sub> RAs) for highly emetogenic intravenous chemotherapy.
- 4.3. For medium-risk emetogenic chemotherapy a combination of 5HT<sub>3</sub> RA and dexamethasone is recommended although the addition of an NK<sub>1</sub> RA may be warranted in patients treated with carboplatin (9)
- 4.4. In patients undergoing highly emetic radiation therapy a combination of 5HT<sub>3</sub> RA and dexamethasone is suggested (11)
- 4.5. Low emetic risk treatment regimens may consider the use of metoclopramide or prochlorperazine as an alternative to dexamethasone or a 5HT<sub>3</sub> RA single agent treatment (10)
- 4.6. Neurokinin-1 receptor antagonists (NK<sub>1</sub> RAs) such as aprepitant and fosaprepitant are PMB level of care.
- 4.7. 5HT<sub>3</sub> receptor antagonists (5HT<sub>3</sub> RA), ondansetron and granisetron are recommended on the NDoH Tertiary and Quaternary Essential Medicines List (TQ EML) for highly emetogenic chemotherapy (12)
- 4.8. Dexamethasone is recommended in combination with other anti-emetic agents in chemotherapy with high-emetogenic potential although the dose may need to be adjusted when combined with an NK<sub>1</sub> RA. (9)

#### **5. Anticoagulation therapy**

- 5.1. Patients with cancer are at a higher risk of venous thromboembolism as a result of the cancer itself (metastatic carries a higher risk than localised cancer) as well as the treatment. Major surgery and hospitalisation further increases this risk. Patients with gastric cancers are at particularly high risk. (13)
- 5.2. Prophylaxis in patients undergoing major surgery, especially abdominal procedures is required either with unfractionated heparin (UFH) or low-molecular weight heparin (LMWH). Duration of prophylaxis should be up to 10 days post-surgery although in cases of abdominal surgery prophylaxis may be extended up to one month post-operatively. (14; 13) (15)
- 5.3. Routine prophylaxis in patients undergoing chemotherapy, minor procedures or even with a central venous catheter is not recommended. (16) (13)
- 5.4. However prophylaxis in patients with cancer who are hospitalised for acute care should be given (14) (13)
- 5.5. Evidence supporting use of anticoagulation in ambulatory patients is unclear and therefore not routinely recommended (17)

- 5.6. Acute management of venous thromboembolism (VTE) is initially with LMWH or UFH (13). Evidence from a Cochrane Systematic Review (2014) suggests that LMWH is superior to UFH in reducing mortality but not in preventing recurring VTEs (18) and therefore is recommended as preferable over UFH (14) (15)
- 5.7. Long term treatment of VTE in cancer patients is recommended for at least 3 months and up to 6 months. The ASCO, NCCN and ESMO guidelines recommend LMWH as preferable over oral anticoagulation with warfarin in cancer patients (13) (15) (14).
- 5.8. A Cochrane systematic review of the evidence for the use of LMWH compared with oral anticoagulation with a Vitamin K Antagonist (VKA), showed a reduction in VTE but not in survival and therefore proposed that treatment should be based on patient risk benefit assessment (19)
- 5.9. The use of the new oral anticoagulants (NOACs) such as dabigatran or rivaroxaban is not recommended as PMB level of care in cancer patients (14) (15). A recent meta-analysis showed that oral anticoagulants had similar efficacy to LMWH or warfarin but with higher bleeding rates in these patients (20)

## **6. Diarrhoea**

- 6.1. Diarrhoea due to dumping syndrome can occur as a result of gastric resection. Early or late dumping is related to the timing of symptoms that occur following a meal
- 6.2. Dumping syndrome can often be managed with modifications to the patient's eating patterns including smaller more frequent meals, avoidance of certain foods that exacerbate the dumping (e.g. carbohydrates), more fibre and protein and avoiding liquids with meals (21)
- 6.3. Chemotherapy-induced diarrhoea (CID) is particularly associated with use of irinotecan or fluoropyrimidines and can affect up to 80% of patients. Loperamide is recommended as first line treatment in addition to lifestyle and eating modifications (22) (23)
- 6.4. In severe cases of diarrhoea refractory to treatment with loperamide, the use of octreotide has been suggested, however levels of evidence are low with no additional benefit shown in randomised controlled trials and therefore octreotide is not recommended as PMB level of care (24) (25)

## **7. Stoma Care in Patients with early and late stage oesophageal, gastric, pancreatic or colorectal cancers**

- 7.1. Despite the fact that screening and early diagnosis of gastrointestinal cancers has improved, and good outcomes may be obtained with endoscopic and stapling surgical techniques, surgical stomas are commonly required in patients with colorectal and other gastrointestinal cancers (28), (29). Depending on the site of the tumour, the stage of disease and the intended surgical procedure(s) to be performed as part of cancer treatment, the stoma or stomas may be temporary/diverting, intended to protect a surgical anastomosis, or may be definitive.
- 7.2. Since the creation of a surgical stoma is a body-altering procedure, associated with altered quality of life due to changes in body function, image and integrity, as well as new challenges to psychosocial matters and

personal hygiene, stoma care is a critical part of quality health management of stomates (30). Both international (International Ostomy Association and World Council of Enteralstoma therapists) and South African (South African Stomatherapy Association) Professional Societies supporting stoma therapy provide guidance on the care patient ostomates require (31). Table 1 stipulates the PMB level of care for stoma care.

**Table 1. Prescribed Minimum Benefits for Stoma Care in early and late stage gastrointestinal cancers**

Description	Frequency/Quantity
Preoperative education and stoma site planning by stomatherapist	1 consult
Post-operative education and training by stomatherapist	1 consult
Post-operative nutritional counselling	1 consult plus 1 follow-up by dietitian
Follow-up by stomatherapist	2 consults per year
Stoma care consumables	Unlimited supply for duration of stoma(s)
Stoma bags	Unlimited supply for duration of stoma(s) of either one- or two-piece drainable or closed ostomy pouches with or without filter, including skin barriers and adhesive paste.
Stoma caps (for patients with descending or sigmoid colostomies who irrigate their stomas)	Caps and associated irrigation consumable supplies

## 8. Physiotherapy

8.1. A physiotherapist forms part of the multi-disciplinary team involved with the management of cancer treatment. Physiotherapy has a role in prevention of complications and should therefore be utilised as a priority rehabilitation service from diagnosis. Several benefits of physiotherapy rehabilitation are well documented throughout the treatment trajectory and beyond cancer. (32),(33),(34),(35),(36) The physiotherapy interventions listed in table 2 below are PMB level of care:

**Table 2: Physiotherapy interventions which are PMB level of care**

Stage	Complication	Aims of treatment	Recommended physiotherapy sessions	Level of care	Evidence
All	-Cancer related fatigue	<ul style="list-style-type: none"> <li>- Improve and maintain muscle strength and endurance.</li> <li>- Improve and maintain functional capacity (respiratory, circulatory and cardiac systems).</li> <li>- Prevention of complications associated with decreased functional capacity.</li> </ul>	3-5 units of training per week. A recovery time of 48 hours between sessions is recommended and to prevent exhaustion. Frequency may be reduced to one session per week as soon as the patient can manage his/her own training program.	In-hospital and post discharge	Halle and Schoenberg (2009)

Post-surgery	-Postoperative pulmonary and circulatory complications	<ul style="list-style-type: none"> <li>- Early mobilisation</li> <li>- Rehabilitation</li> <li>- Education to prevent complications associated with bedrest</li> <li>- Optimising lung function</li> </ul>	One treatment session per day while the patient is in hospital depending on the pulmonary complication. Patients in ICU require 2x treatments per day	In –hospital after surgery; Motivation required should extra sessions be required when patients are discharged	Megan Melnyk, Casey, Black& Koupparis (2011); Van der Leeden et al, (2016)
During chemotherapy	-Peripheral neuropathy	<ul style="list-style-type: none"> <li>- Reduction of cancer fatigue</li> <li>- Management of symptoms e.g. peripheral neuropathy and inflammatory changes</li> <li>- Maintaining function</li> </ul>	15 treatment sessions during chemotherapy 2-3 sessions per week initially with gradual decrease in number of sessions per week depending on the patient’s signs and symptoms	In-hospital and post discharge	Halle and Schoenberg (2009)
During radiation therapy	-Radiation fibrosis syndrome of target tissues and surrounding healthy tissue -Lymph oedema.	<ul style="list-style-type: none"> <li>- Reduction of the lymphatic load by decreasing the residual volume (lymph oedema) through techniques such as manual</li> </ul>	<u>Lymph oedema</u> 3 treatments per week and gradually decrease the number of treatments to once per week or once every two weeks until the symptoms resolve <u>Soft tissue and joint mobilisation</u>	In-hospital and post discharge	Moattari et.al. (2012) Didem et.al. (2005)

		<p>therapy, lymph drainage, compression therapy and exercise while increasing the transport capacity through techniques like exercise and manual lymph drainage.</p> <p>- Soft tissue and joint mobilisations to maintain and improve the integrity and physiological properties of the target tissues, health surrounding tissue and joints.</p>	8-10 treatments until the symptoms resolve		
During follow up period	-Constipation and any other complication	-To prevent and treat complications, e.g. chest infections, constipation where	Overall 15 treatments is recommended to cover all aspects of treatment mentioned. This should include a minimum of	In-hospital and post discharge	Orsini et al. (2008) Meyerhardt et al. (2006) Al-Homaidh (2010) Lee et al. (2005)

	addressed above which may arise	abdominal massage can be done to stimulate the bowel action. -Prevention of bedsores - Functional independence in activities of daily living - Maintain mobility and strength as far as possible	2 sessions per treatment intervention to educate the patient and caregivers management techniques e.g. bowel massage techniques, manual lymph drainage, application of compression garments and exercises.		
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## 9. Neuropsychiatric conditions related to cancer diagnosis

- 9.1. A diagnosis of cancer presents a catastrophic stressor to which patients and their families would need to adapt (43). The presentation is further complicated by neuropsychiatric disorders that develop at various stages of the illness, which increase mortality and morbidity.
- 9.2. Adjustment disorders are the most common presenting disorders though the prevalence of delirium seems to rise as the malignancies advance. The multiple concerns that arise to fuel these psychological responses include: fear of death, dependency, and disruption in one's social role, to name a few. (43) The navigation of the health systems and the cost implications of the needed medical care also bring with it additional burden to patients and their families.
- 9.3. The prevalence of psychiatric disorders in general is at least 50% of all cancer patients, and seems to rise with advanced malignancies. (45)(46) A number of studies have described that at-least two-thirds of patients presented with adjustment disorders and between 10-15 % with major depressive disorders rising to 24% (if pooled with sub-threshold depressive disorders).(47)(48)
- 9.4. 10% present with delirium though the prevalence seems to rise with advanced malignancies. Prevalence for neuropsychiatric disorders is seemingly higher for pancreatic malignancies (as high as 76%) compared to other GIT malignancies possibly due to their reputation of carrying higher mortality rate, and the association with pain especially in advanced stages. (49)(50)(51)(52) This might further be contribution of paraneoplastic effects associated with some of the pancreatic malignancies. (49)
- 9.5. Some cancer patients also present with post-traumatic stress disorder (PTSD) relating to the distressing recollections during the illness. (54)(55) This was evidenced by the reduced hippocampal volume due to glucocorticoid induced neural damage as documented by Nakano et al. (53)
- 9.6. Anxiety disorders prevalence contributing about 10 %.(48) Although prevalence is seemingly high, there are still patients that do not present because of stigma. (49)
- 9.7. The increase in suicidality in GIT malignancies could be accounted for by the increased prevalence of psychiatric disorders but also independently linked to the suffering from pain.
- 9.8. Comprehensive management that includes psychosocial interventions and a wider variety of neurotropic agents need to be made available to cater for the individualisation of care for these patients. Management of neuropsychiatric disorders in cancer patients needs to be prioritized as they increase morbidity and mortality.
- 9.9. It would also appear during the course of the cancer, the psychiatric symptoms either appear or get exacerbated during crisis points (49). These crisis points refer to: initial diagnosis, relapse of the disease, treatment failure and appearance of new or painful symptoms. It is during these cancer crisis points that psychosocial interventions should be employed to reinforce support to patients and families. There has been a significant association demonstrated between depression and pain both of which would negatively affect quality of life. (49)(52)

9.10. Comprehensive management of neuropsychiatric disorders in cancer patients has to allow for both inpatient and outpatient care. Most of these patients can be treated effectively as outpatients.

9.11. In the background of malignancy it should be emphasised that investigations are central to clarifying diagnosis. Psychiatric disorders due to medical conditions are diagnosed by exclusion. The psychiatric medications used can also cause some changes and as such baseline investigations would be warranted as minimum (Full blood count, Electrolytes, Liver Function Test, ECG, Thyroid Function Test).

9.12. Liaison-consultation psychiatric or psychosocial services should be included for patients admitted in non-psychiatric wards. Cancer patients are also susceptible to developing substance use disorders, that can be managed under the current PMB classifications (62). Psychiatric disorders that preceded the diagnosis of cancer would also need to be treated with the same vigor.

**Table 3: PMB level of care for neuropsychiatric conditions related to cancer diagnosis**

Condition	Consultations/ year	Treatment options
Trauma- and Stressor Related Disorders	Psychiatrist - 12 sessions  Allied (Social worker, clinical psychologist, Occupational therapist) – 15 sessions	Selective serotonin reuptake inhibitors (SSRIs) Citalopram and fluoxetine
Adjustment disorders (acute or persistent)		Tricyclic Antidepressants (TCA) Amitriptyline, clomipramine, imipramine
Depression		Serotonin-norepinephrine reuptake inhibitors (SNRIs) Venlafaxine
Organic mood [affective] disorders		Tetracyclic antidepressants Mianserin
Psychotic Disorder Due to Another Medical Condition		Mood stabilizers Valproic acid lamotrigine, lithium
Anxiety disorders		Antipsychotics Olanzapine, aripiprazole, clozapine, risperidone
Delirium		Hypnotics and sedative medication Alprazolam, diazepam, lorazepam, midazolam, clonazepam, oxazepam
		Electro-convulsive Therapy

## 10. Nutrition support

- 10.1. Disease-related malnutrition is recognised to be possibly the most important factor negatively affecting response to and success of cancer therapy (63, 64, 66, 74).
- 10.2. The risk of treatment-related toxicity, infectious complications, extended hospital stay, poor surgical and clinical outcomes, poor wound healing, and significantly increased mortality is increased in patients with disease-related malnutrition. Furthermore, overall healthcare costs are significantly higher in patients with disease-related malnutrition (67) making nutrition support a highly cost-effective intervention.
- 10.3. Therefore, all major international clinical nutrition societies specifically recommend nutrition support as an essential part of integrated medical management of gastrointestinal cancers.
- 10.4. The fundamental goal of medical nutrition therapy is to provide sufficient energy and protein to maintain or restore nutritional status, avoid loss of lean body mass and support wound healing.
- 10.5. However, with modern insights into nutrition support, nutritional goals have expanded to include modulation of the stress response, maintenance of immune competence, optimisation of peri-operative glucose control, attenuating the hypermetabolic response to surgery and optimising healing. (68)

**Table 4: Outline of indications, nutrition support approach and indicated product types of nutrition support (63-91)**

<b>PRE-OPERATIVE CARBOHYDRATE LOADING</b>		
<b>Indication</b>		
For cancer surgery patients taking an oral diet that would otherwise be fasted in the pre-operative period, pre-operative carbohydrate loading is indicated from 24 hours prior up to 2 hours prior to induction of anaesthetic and immediately on recovery from anaesthesia.		
Note: This would usually be in-hospital provision if the patient is in hospital from at least 24 hours prior to surgery, but in patients who are admitted to hospital less than 24 hours prior to the procedure, this nutrition product should be provided to the patient beforehand so that pre-operative carbohydrate loading can occur at home prior to admission.		
<b>Indicated product and amount</b>		
A clear fluid, lactose-free, fat-free, carbohydrate-based sip drink		
2 - 4 units required		
<b>PERI-OPERATIVE NUTRITION MANAGEMENT</b>		
<b>Indication</b>		
For cancer patients scheduled for elective surgery, but not meeting nutritional requirements with normal diet.		
Nutrition support provided in this phase of disease management depends on the nutritional status of the patient, the stage of disease and nutrition access route as outlined below.		
	<b>Oral intake possible</b>	<b>Oral intake not possible, but enteral route available</b>
<b>Pre-operative nutrition optimization</b>	For patients undergoing surgery, patients with significant disease-related malnutrition require 7-10 days of oral nutrition supplementation with a nutritionally complete sip feed. Note: Typically out-of-hospital <b>Indicated product* and amount</b> Typically, 2 - 3 units per day of: A fat-free, high energy sip feed OR	For cancer patients undergoing surgery provide enteral nutrition for 5 - 7 days prior to surgery, Note: Typically in-hospital AND For high risk cancer patients with disease-related malnutrition provide enteral nutrition for 10-14 days prior to surgery. Note: Typically in hospital, but may be out-of-hospital

	<p>A high energy sip feed (with or without fibre) OR</p> <p>A high energy, high protein sip feed OR</p> <p>A specialized sip feed enriched with EPA/DHA OR</p>	<p><b>Indicated product* and amount</b></p> <p>Typically 1 - 2 liters per day of:</p> <p>A standard enteral feed (with or without fibre) OR</p> <p>A high energy enteral feed (with or without fibre) OR</p> <p>A high protein enteral feed (with or without fibre) OR</p> <p>An enteral feed enriched with EPA/DHA OR</p> <p>in the case of maldigestion diarrhea associated with pancreatic dysfunction, or where nutrition is delivered via jejunostomy tube. A pre-digested/hydrolysed enteral feed with MCTs OR</p> <p>in the case of diabetes commonly associated with pancreatic cancer</p> <p>A diabetic enteral feed</p>
<p>* Other products may be necessary to manage other co-morbidities such as diabetes, renal impairment or electrolyte disturbances.</p>		
	<p><b>Oral intake possible</b></p>	<p><b>Oral intake not possible, but enteral route available</b></p>
<p><b>Peri-operative nutrition support</b></p>	<p>Patients with significant disease-related malnutrition require 7 - 10 days of oral nutrition supplementation with a nutritionally complete sip feed.</p> <p>Note: Typically out-of-hospital</p> <p><b>Indicated product* and amount</b></p> <p>Typically, 2 - 3 units per day of:</p> <p>A fat-free, high energy sip feed OR</p> <p>A high energy sip feed (with or without fibre) OR</p> <p>A high energy, high protein sip feed OR</p>	<p>For high risk patients with disease-related malnutrition enteral feeding should continue through the peri-operative period for at least 2-3 days.</p> <p>Note: Typically in hospital</p> <p><b>Indicated product* and amount</b></p> <p>Typically 1 - 2 litres per day of:</p> <p>A standard enteral feed (with or without fibre) OR</p> <p>A high energy enteral feed (with or without fibre) OR</p> <p>A high protein enteral feed (with or without fibre) OR</p> <p>An enteral feed enriched with EPA/DHA OR</p>

	<p>A specialized sip feed enriched with EPA/DHA OR</p> <p>A sip feed containing MCTs (since maldigestion and malabsorption may be a feature of pancreatic surgeries)</p> <p>A diabetic sip feed (since diabetes/poor glycaemia control is common in pancreatic cancer, a sip feed specifically designed for diabetic management may be required)</p>	<p>in the case of maldigestion diarrhea associated with pancreatic dysfunction, or where nutrition is delivered via jejunostomy tube. A pre-digested/hydrolysed enteral feed with MCTs OR</p> <p>in the case of diabetes commonly associated with pancreatic cancer</p> <p>A diabetic enteral feed</p>
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\* Other products may be necessary to manage other co-morbidities such as diabetes, renal impairment or electrolyte disturbances.

## POST-OPERATIVE NUTRITION MANAGEMENT

### Indication

For patients having undergone surgery and thereafter not meeting nutritional requirements through normal diet.

Nutrition support provided in this phase of disease management depends on the nutritional status of the patient, the stage of disease and nutrition access route as outlined below

### Oral intake possible

For patients not meeting requirements with normal diet following a surgical intervention.

Note: Typically out-of-hospital

#### Indicated product\* and amount

Typically, 2 - 3 units per day of:

A fat-free, high energy sip feed OR

A high energy sip feed (with or without fibre) OR

A high energy, high protein sip feed OR

A specialized sip feed enriched with EPA/DHA OR

### Oral intake not possible, but enteral route available

For high risk patients with disease-related malnutrition enteral feeding should continue for at least 10-14 days in the post-operative period if adequate oral intake is not possible.

Note: May require continuation out-of-hospital

#### Indicated product\* and amount

Typically 1 - 2 liters per day of:

A standard enteral feed (with or without fibre) OR

A high energy enteral feed (with or without fibre) OR

A high protein enteral feed (with or without fibre) OR

An enteral feed enriched with EPA/DHA OR

<p>A sip feed containing MCTs (since maldigestion and malabsorption may be a feature of pancreatic surgeries)</p> <p>A diabetic sip feed (since diabetes/poor glycaemia control is common in pancreatic cancer, a sip feed specifically designed for diabetic management may be required)</p>	<p>in the case of maldigestion diarrhea associated with pancreatic dysfunction, or where nutrition is delivered via jejunostomy tube. A pre-digested/hydrolysed enteral feed with MCTs OR</p> <p>in the case of diabetes commonly associated with pancreatic cancer</p> <p>A diabetic enteral feed</p>
<p>* Other products may be necessary to manage other co-morbidities such as diabetes, renal impairment or electrolyte disturbances.</p>	
<p><b>NUTRITION MANAGEMENT DURING ONGOING MEDICAL INTERVENTIONS (including chemo- and radiotherapy)</b></p> <p>For patients undergoing various cancer treatment modalities and not meeting nutritional requirements through normal diet.</p> <p>Nutrition support provided in this phase of disease management depends on the nutritional status of the patient, the stage of disease and nutrition access route as outlined below</p>	
<p><b>Oral intake possible</b></p>	<p><b>Oral intake not possible, but enteral route available</b></p>
<p>For patients not meeting full nutritional requirements with normal diet, for the purpose of increasing intake and preventing therapy-associated weight loss and interruption of therapy.</p> <p>Note: Typically out-of-hospital</p> <p><b>Indicated product* and amount</b></p> <p>Typically, 2 - 3 units per day of:</p> <p>A fat-free, high energy sip feed OR</p> <p>A high energy sip feed (with or without fibre) OR</p> <p>A high energy, high protein sip feed OR</p> <p>A specialized sip feed enriched with EPA/DHA OR</p> <p>A sip feed containing MCTs (since maldigestion and malabsorption may be a feature of pancreatic surgeries)</p>	<p>Indicated during ongoing cancer therapy where normal diet is inadequate due to overwhelming symptoms of dysphagia, to minimise weight loss. Enteral nutrition therapy may continue in the hospital setting, or long term in the home setting for late stage patients, usually using gastrostomy access.</p> <p>Note: Mainly out-of-hospital</p> <p><b>Indicated product* and amount</b></p> <p>Typically 1 - 2 liters per day of:</p> <p>A standard enteral feed (with or without fibre) OR</p> <p>A high energy enteral feed (with or without fibre) OR</p> <p>A high protein enteral feed (with or without fibre) OR</p>

A diabetic sip feed (since diabetes/poor glycaemia control is common in pancreatic cancer, a sip feed specifically designed for diabetic management may be required)	<p>In the case of maldigestion diarrhea associated with pancreatic dysfunction, or where nutrition is delivered via jejunostomy tube. A pre-digested/hydrolysed enteral feed with MCTs OR</p> <p>In the case of diabetes commonly associated with pancreatic cancer</p> <p>A diabetic enteral feed</p>
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\* Other products may be necessary to manage other co-morbidities such as diabetes, renal impairment or electrolyte disturbances.

**IN ALL PHASES OF THE NUTRITION SUPPORT JOURNEY**

Patients may require supplementation of one of the macronutrients in isolation, which can be achieved using supplementation with a modular macronutrient (protein, carbohydrate or fat) medical nutrition module used in addition to the medical nutrition product prescribed.

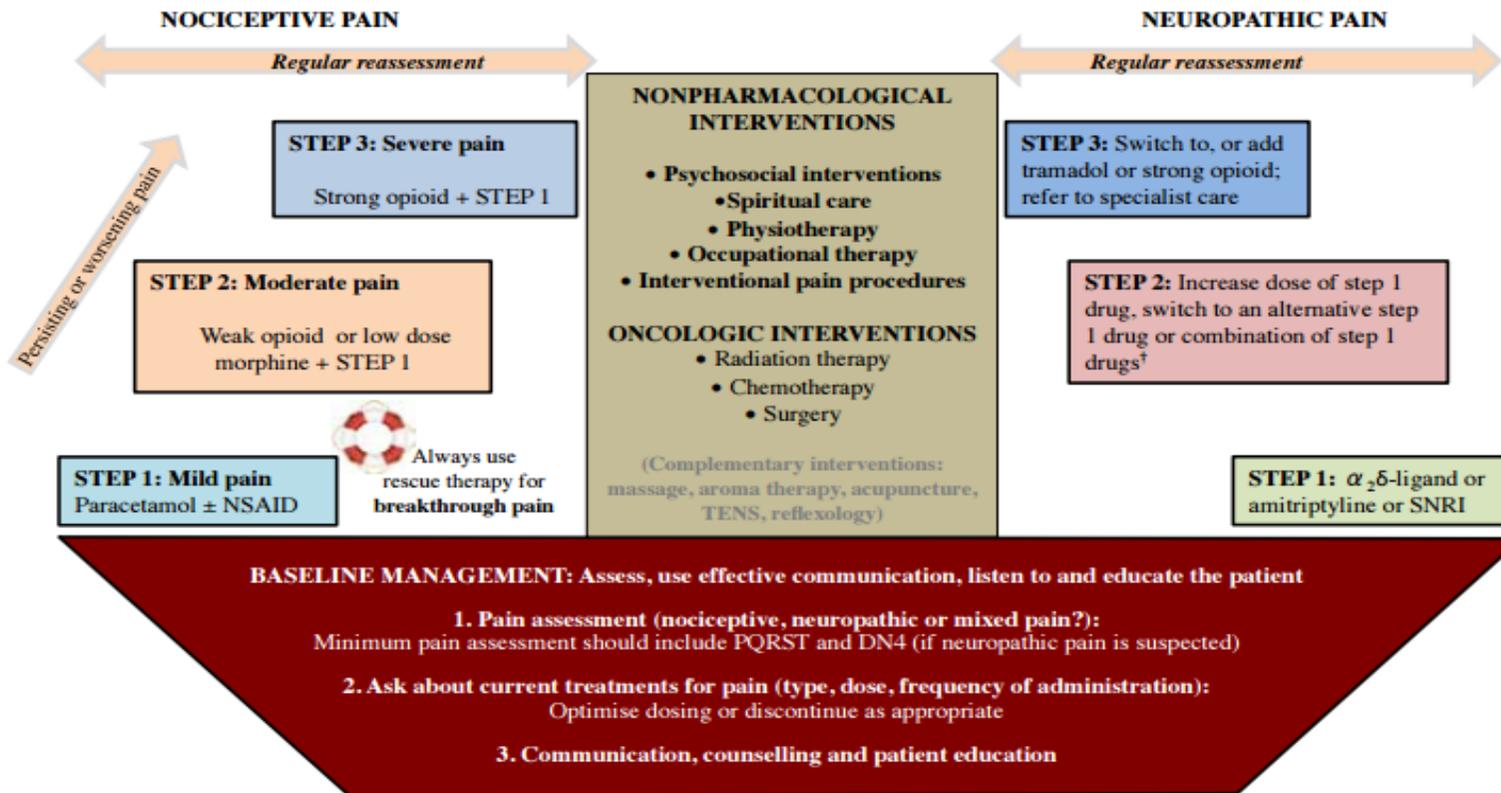
**Consults with Dietitian for Gastrointestinal Cancers (Oesophageal, Gastric, Pancreatic and Colorectal)**

	Pre-operative carbohydrate loading	Pre-operative nutrition optimisation	Peri-operative nutrition support	Post-operative nutrition support	Nutrition support during ongoing medical interventions (including chemo- and radiotherapy)
Out-patient and follow-up consults with dietitian required	1 consult	Early stage or good nutritional status: 1 consult during preparation/work-up for surgery Late stage or disease-related malnutrition: Weekly during work-up for surgery	Early stage or good nutritional status: 2 per month Late stage or disease-related malnutrition: Weekly	Early stage or good nutritional status: 1-2 per month Late stage or disease-related malnutrition: Weekly	Early stage or good nutritional status: 1-2 per month Late stage or disease-related malnutrition: Weekly

## 11. Pain Management for Cancer

- 11.1. Most, if not all patients with cancer will experience pain during the course of their disease or treatment process. Pain will significantly impact on the patients quality of life, and in long-term cancer survivors, the pain can become persistent and chronic.
- 11.2. The right to pain relief is considered by many experts as a basic human right. Pain management for cancer patients should be aimed at improving patients' quality of life and reducing suffering.
- 11.3. Pain management must be addressed in a comprehensive, multidisciplinary way to ensure that patients are managed using a bio-psycho-social approach.
- 11.4. Pharmacological interventions, non-pharmacological interventions and oncology specific (e.g. chemotherapy, radiation therapy) are all components which need consideration for management of cancer pain.
- 11.5. The South African Cancer pain working group developed guidelines for the management of cancer pain and these are summarized in the diagram below. (92,93)
- 11.6. Paracetamol is a basic drug that should always be available in the first step to management of nociceptive cancer pain. Non-steroidal Anti-Inflammatory Drugs (NSAIDs), for example ibuprofen, can be added on to paracetamol.
- 11.7. Opioids are indicated for both nociceptive and severe neuropathic pain. A weak opioid (for example tramadol or codeine) and strong opioid (for example morphine) are recommended as PMB level of care.
- 11.8. Drugs used specifically for neuropathic pain ( $\alpha 2\delta$ -ligand calcium channel blockers, SNRI's and TCA's) should be available subject to scheme formularies.
- 11.9. Non-pharmacological interventions recommended as PMB level of care includes:
  - Non-surgical pain management interventions e.g. Neurolytic ablation procedures or implantation of temporary analgesic pumps
  - Access to psychological interventions including group support therapy
  - Physiotherapy
  - Occupational therapy
- 11.10 Although complementary interventions are shown in the diagram below, these are not considered PMB level of care.

## Stepwise Healthcare Interventions for Pain (SHIP)



The Stepwise Healthcare Interventions for Pain (SHIP) model for pain management, including an analgesic ladder for nociceptive pain (left) and a stepwise pharmacotherapeutic approach to neuropathic pain (right). Mixed pain may require a combination of treatments from both sides of the diagram. Communication, counselling and patient education should be initiated at the first consultation and continued throughout the duration of management. Other psychosocial interventions (social interaction, spiritual counselling, recreational activities, relaxation therapy, imagery), nonpharmacological approaches to pain management and specific interventions for the cancer should be initiated at any step when they are indicated or where they will improve the patient's quality of life. See text for details.

†Rational combinations for neuropathic pain are amitriptyline +  $\alpha_2\delta$ -ligands, or SNRI +  $\alpha_2\delta$ -ligands. NSAID: nonsteroidal anti-inflammatory drug;  $\alpha_2\delta$ -ligand: gabapentin or pregabalin; SNRI: serotonin noradrenalin reuptake inhibitor (duloxetine or venlafaxine); TENS: transcutaneous electrical nerve stimulation.

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