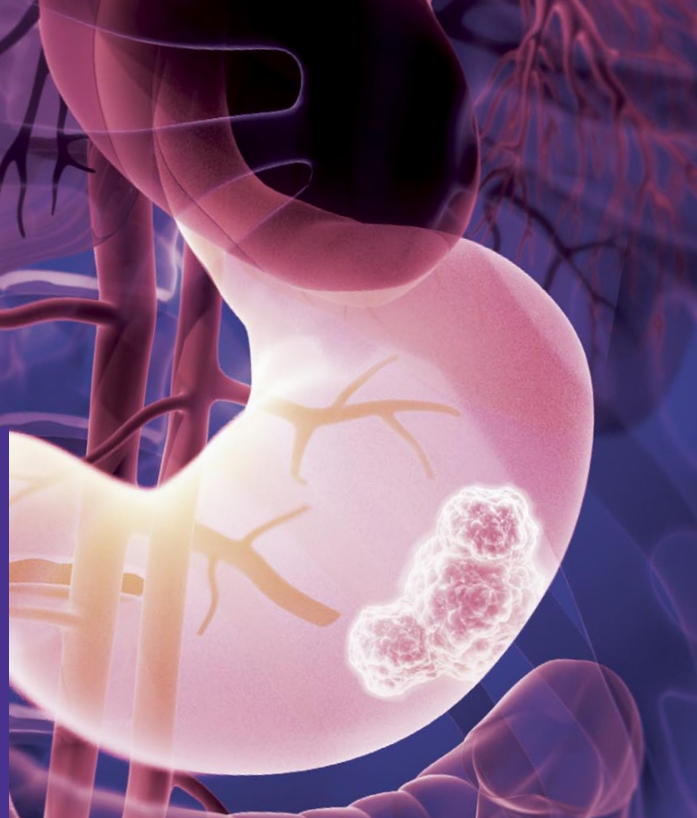


Implementing a Dietetic Care Pathway in Oncology

Initiating earlier nutritional intervention, reduce patients' waiting time for dietetic assessment & improve treatment outcomes in patients with upper gastrointestinal cancer



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The prevalence and impact of weight loss, poor nutrition and loss of muscle mass in patients with a cancer diagnosis is well-documented.^{1,2} Malnutrition is particularly prevalent in upper gastrointestinal (UGI) cancers, including oesophageal, gastric, pancreatic and liver cancers – often associated with poor patient outcomes. Studies suggest that 38-70% of patients develop cancer cachexia, a metabolic syndrome characterised by weight loss, including fat and muscle loss, along with systemic inflammation. Additionally, 20-70% of patients develop sarcopenia, which is muscle mass loss with reduced functional capacity, causing fatigue and may lead to an increased risk of falls.³⁻⁷ In UGI cancers maintaining skeletal muscle mass is critical in preventing chemotherapy toxicity, improving response to treatment and extending survival time.

The ESPEN and ESMO guidelines recommend 1.2-1.5 g of protein per kg per day of body weight for patients with cancer and up to 2.0 g/kg/d of protein in severely ill or catabolic patients.⁸⁻¹⁰ However, a 2024 publication highlighted the challenges cancer patients face in meeting their daily protein intake recommendations outlined by ESPEN and ESMO.¹¹ High-protein oral nutritional supplementation can play a pivotal role in supporting cancer patients to meet their nutritional needs during their treatment journey.¹² Observational studies suggest that a longer duration of nutritional support is required to improve the parameters of physical functioning in malnourished patients with cancer.¹³⁻¹⁶ Nutrition interventions are needed from the start of the patient journey and must address the complexity of nutritional needs throughout the pathway, including weight optimisation, muscle mass maintenance, emotional well-being and tolerance to intensive treatment options. Supporting this theory, studies in colorectal cancer suggest that nutrition intervention for 10 days prior to surgery and 6 months postoperatively can significantly improve surgical outcomes and reduce the risk of complications, length of hospital stay and costs of care.¹⁷

South Tyneside and Sunderland NHS Foundation Trust supports cancer patients with all tumour types. In South Tyneside, a 1 x whole time equivalent (WTE) Specialist Oncology Dietitian provides nutrition support into this service. Referrals are accepted for patients from both inpatient and outpatient settings, via multiple sources, including inpatient direct referrals, clinical nurse specialists (CNS), the community/palliative nursing teams, oncologists, radiologists, surgeons and GPs.

Increasing demand for nutritional support in preparation for anti-cancer treatment has stretched dietetic capacity, creating challenges in caseload prioritisation and delayed input for

patients who were most in need. There was also no clear internal guidance/clarification on dietetic referral criteria and as a consequence, there were misconceptions from the multidisciplinary team (MDT) around capacity, urgency and timeframes, leading to disappointment from patients and families.

Prior to this pilot, patients referred by outpatient setting were triaged and offered appointments when available – at that point waiting times could be up to 10 weeks. This meant patients who required early specialised nutrition support for optimisation could have started their anti-cancer treatment or, in some cases, had completed treatment by the time patients could be assessed.

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Where possible, early nutrition support would be offered to patients the CNS had high concerns about. However, there was no clear criteria on who would require urgent dietetic input. A telephone call would be offered as an initial baseline assessment within 2 weeks.

There were also frequent requests from patients and their families to expedite dietetic assessments. The oncology dietitian aimed to provide a 2-week initial contact in line with the national 2 week wait targets for the above, but often this was not met due to lack of capacity.

It was also noted that GPs defer prescribing oral nutrition support (ONS) until a formal dietetic assessment has taken place. Consequently, patients were observed during assessments to have experienced ongoing and significant weight loss and reduction in performance status, with some becoming too frail to complete treatment. Therefore, the specialist oncology dietitian and the MDT sought to develop a nurse-led cancer care pathway for the most nutritionally at-risk UGI oncology patients to enable earlier initiation of nutrition support and optimise treatment outcomes in this group.

Primary aim

Develop and pilot a dietetic care pathway and novel screening tool led by the oncology CNS at South Tyneside Hospital to support the initiation of nutrition support in UGI cancer patients. In doing so this would reduce patients' waiting time for dietetic assessment, prevent deterioration in nutritional status (development of cancer cachexia), and optimise treatment outcomes.

Methods

The pilot proposed a pragmatic approach to overcome the barriers to optimal nutritional support. A cross-functional MDT group was established, including the specialist oncology dietitian and CNS. All UGI cancer patients attending their initial MDT clinic appointment would be placed on the dietetic care pathway, regardless of baseline nutritional status. Dietetic screening criteria (**Figure 1**) was developed for use by the CNS at the initial MDT clinic visit to prioritise consenting patients for dietetic assessment.

The screening tool was adapted from Scored Patient-Generated Subjective Global Assessment (PG-SGA) form and intentionally overlapped with the CNS' holistic needs assessment to avoid additional workload. It allowed the CNS to identify who required urgent input and if any treatment/tumour related side effects caused a reduction in appetite – many of which could then be resolved medically. A score over 6 or history of weight loss over 2-5% within 1 month would suggest an urgent dietetics referral was required.

Improvements in waiting times for dietetic assessment, unplanned weight loss, 'Malnutrition Universal Screening Tool' ('MUST') scores and world performance status (**Figure 2**) were to be captured and compared to pre-dietetics care pathway commencement.

An ONS prescription letter template (**Figure 3**) signed by the CNS was drawn up to support the CNS in requesting a GP prescription for a high-energy, high-protein, low-volume ONS. Product samples were made available in the MDT clinic to optimise patients' trials, adherence to ONS and subsequently meet their nutritional deficit. All UGI patients were referred for a dietetics appointment and commenced on ONS to optimise nutrition status treatment. Urgent patients would be contacted by the dietitian within 2 weeks of their initial MDT clinic attendance via virtual clinic. The dietetic care pathway (**Figure 4**) was initiated in June 2024, and the pilot period continued until September 2024.

Results

Many of the patients involved in this pilot were in the earlier stages of their treatment. High mortality rates are seen within this tumour group^{18, 19} and so long-term treatment outcome measures were not applicable.

Similarly, this was a service development pilot rather than a controlled research project, so statistical analyses were not applied. However, the results (**Table 1**) and their implications for dietetic practice are discussed.

During the 4-months pilot period between June to September 2024, 85% of UGI patients were referred to dietetics service at South Tyneside Hospital.

Patients referred into dietetic services following chemotherapy (either palliative or curative intent) in South Tyneside were initiated on ONS prior to their anti-cancer treatment. Patients who commenced on immediate ONS maintained a relatively stable body weight and performance status between their initial MDT clinic appointment and dietetic assessment.

Urgent pre-assessment calls from the CNS and requests for earlier appointments from concerned family members reduced. Waiting times improved from 8 to 10 weeks to 4 to 6 weeks for new patients. The percentage weight loss before the pilot ranged from 10-30% and this reduced to 2.6-15%, during the pilot with the ONS and dietetic intervention.

Additional capacity helped to increase collaborative working between the CNSs and the oncology dietitian for patients more in need (i.e. providing ad-hoc face-to-face joint initial assessment).

Conclusions

It is expected that a person's nutritional needs will be impacted by their cancer and treatment modality. Early identification of nutritional needs and nutrition support prevents deterioration in nutritional and performance status and optimises response to anti-cancer treatment.²⁰ This pilot dietetic care pathway was successfully implemented for patients with UGI cancer in South Tyneside and Sunderland NHS Foundation Trust, removing existing barriers to timely nutrition support. Waiting times for dietetic appointments reduced from a mean of 9 weeks to 5 weeks due to more timely requests from urgent scores. The percentage weight loss in these patients went from 10-30% to 2.6-15%, which included a high-energy, high-protein, low-volume ONS intervention. It empowered the wider MDT (specifically the CNS) to be more aware of symptom management and obtain better control to enable the dietetic focus to remain on nutrition support. This pathway also provided the CNS with a better understanding of dietetic processes and gave more insights into realistic expectation for patients and families.

Overall, it enabled more effective use of the limited dietetic resources and quicker access for patients to the vital nutrition support needed during their treatment. This also enabled the specialist oncology dietitian to utilise their time to provide face-to-face joint initial support with a CNS on request for the patient with more complex background and comorbidity.

Acknowledging the psychological impact of lack of nutrition (with concern of developing cancer cachexia) is important to patients and families.²⁰ This pathway helped to reduce anxiety related to lack of nutritional intake and decreased functional level by patients and their family.

Although psychological impact is not officially measured during this pilot, anecdotal feedback from patients and families attending clinic reported that early nutrition support allowed them to have more control over their nutritional status and improved confidence levels in preparation for upcoming treatment.

The importance of good nutritional status in cancer is well-documented. In this pilot, early initiation of high-protein, low-volume ONS in line with a new dietetic care pathway has shown to provide additional support for patients in maintaining their weight and performance status throughout their cancer journey. This maintenance prevented the nutritional deterioration and early termination of anti-cancer treatment that had been previously observed. Further work is planned to capture additional dietetic outcome measures related to physical function, psychological impact and tolerance of treatment, as well as to roll out the pathway across additional tumour groups such as lung cancer.

Figure 1: Dietetic screening template (created by Fiona Law)

1 Origin of cancer		
Curative		2
Palliative		1
2 Treatment type?		
CHEMO		[]
RT		[]
IMMUNO		[]
CHEMO RADS		[]
3 BMI	<20kg/m2	1
	<18.5kg/m2	2
4 History of weight loss/change	>=5% in 3/12	1
	>2.5% in 1/12	Urgent input? ☐ *Direct email to dietitian
5 Diet history		(0/1/2)
if oral intake reduced, cause? any action taken? (please indicate if action been taken)		
gastrointestinal problems		[] ?gastro input
nausea		[] antiemetics
anorexia		[] steroids
dysphagia	refer to dietetics	[]
diarrhoea		[]
Constipation		[]
Chronic Pain		[]
6 PMH		
Diabetics		[] med?
7 Muscle mass/functional	(not in use but consider)	
Hand grip strength		
calf circumference		
8 Psychological aspect	(not in use but consider)	
9 Physical Activities level	(to be liaise with pre-hab service)	
Total:		

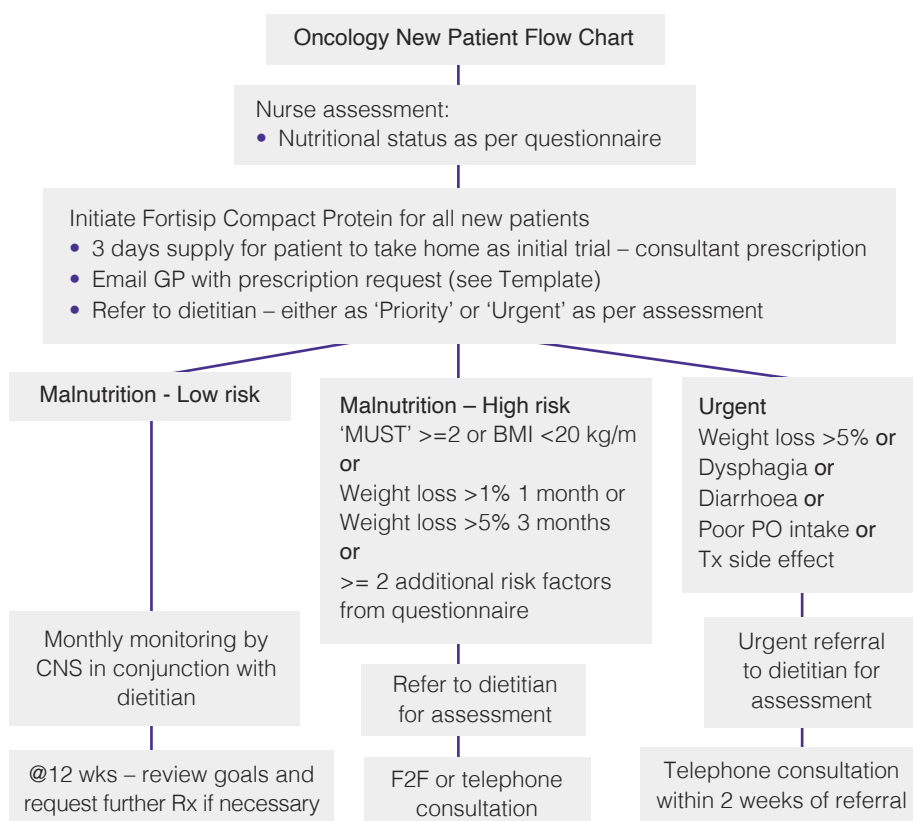
Figure 2: Performance status

The World Health Organization performance status classification categorises patients as:

- 0: able to carry out all normal activity without restriction
- 1: restricted in strenuous activity but ambulatory and able to carry out light work
- 2: ambulatory and capable of all self-care but unable to carry out any work activities; up and about more than 50% of waking hours
- 3: symptomatic and in a chair or in bed for greater than 50% of the day but not bedridden
- 4: completely disabled; cannot carry out any self-care; totally confined to bed or chair.

Figure 3: ONS prescription letter template

Please scan the QR code to view the **ONS Prescription Letter Template**

**Figure 4: Dietetic care pathway for UGI non-surgical cancer patients****Table 1: Results**

Dates of data collection	March to May 2024	June to Sept 2024
Number of patients diagnosed	29	40
Dietetic referrals received	20 (69%)	34 (85%)
No of patients transferred out of care (surgery)	4 (14%)	5 (12%)
RIP	5 (17%)	14 (35%)
Earlier input requests (patients on waiting list)	10 (50%)	2 (6%)
Average waiting time for dietetics outpatient appointment (weeks)	8-10 (unless admission)	5 (unless admission)
Weight loss (%)	10-30	2.6-15
GP prescribing ONS	N	Y

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