Royal Surrey County Hospital NHS
NHS Foundation Trust

The Role of a Dietitian in Supporting Patients with Oesophago-Gastric Cancer

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A Little Bit About Me and My Team…

- Qualified as a dietitian in the UK in 2006 after studying for an MSc in Dietetics at University
- Prior to this I completed a BSc in Pharmacology and worked in pharmaceutical marketing and public relations
- Specialised in Oesophago-Gastric Cancer dietetics in 2008
- Currently based at Royal Surrey Foundation NHS Trust Oesophago-Gastric Unit in UK
  - Regional tertiary referral unit for oesophageal and gastric cancer
  - 4 surgeons & 4 oncologists
  - Patient population over 1.5 million
  - 200-250 new patients per year
  - 70-80 patients undergo curative resections (oesophagectomy, sub-total gastrectomy or gastrectomy)

Our Oesophago-Gastric Dietetic Team

- Three specialist Oesophago-Gastric dietitians

  Fiona Huddy Alice Kidd Leilah Nightingale

Dietetic input:

- Blanket referral policy
- Provide a full pathway service
  - Support patients from diagnosis, through their staging investigations, oncological treatments and surgery
  - Face to face, telephone and email contact
  - Aim to provide continuity of care
  - Multi-professional appointments with consultants to limit patient trips to the hospital

What is a Dietitian?

Some variation of role and services provided across Europe

The EFAD definition of a dietitian in Europe is;

Dietitians in Europe are recognized[7] healthcare professionals, educated to at least Bachelor level. Using evidence-based approaches[8], dietitians work autonomously[9] to empower or support individuals, families, groups and populations to provide or select food which is nutritionally adequate, safe, tasty and sustainable. Dietitians assess specific nutritional requirements throughout the life span and translate this into advice and/or treatment. This will maintain, reduce risk to, or restore health, as well as alleviate discomfort in palliative care. Beyond healthcare, dietitians improve the nutritional environment for all through governments, industry, academia and research.

EFAD The European Federation of the Associations of Dietitians

BDA The Association of UK Dietitians

Why is nutrition important?

Wealth of research demonstrating that good nutrition improves outcomes following a cancer diagnosis.

Dietitians aim to promote good nutrition and limit the impact of poor nutrition or malnutrition on a patient, their quality of life, their treatment options and clinical outcomes

Malnutrition refers to when a person's diet does not provide enough nutrients or the right balance of nutrients for optimal health.

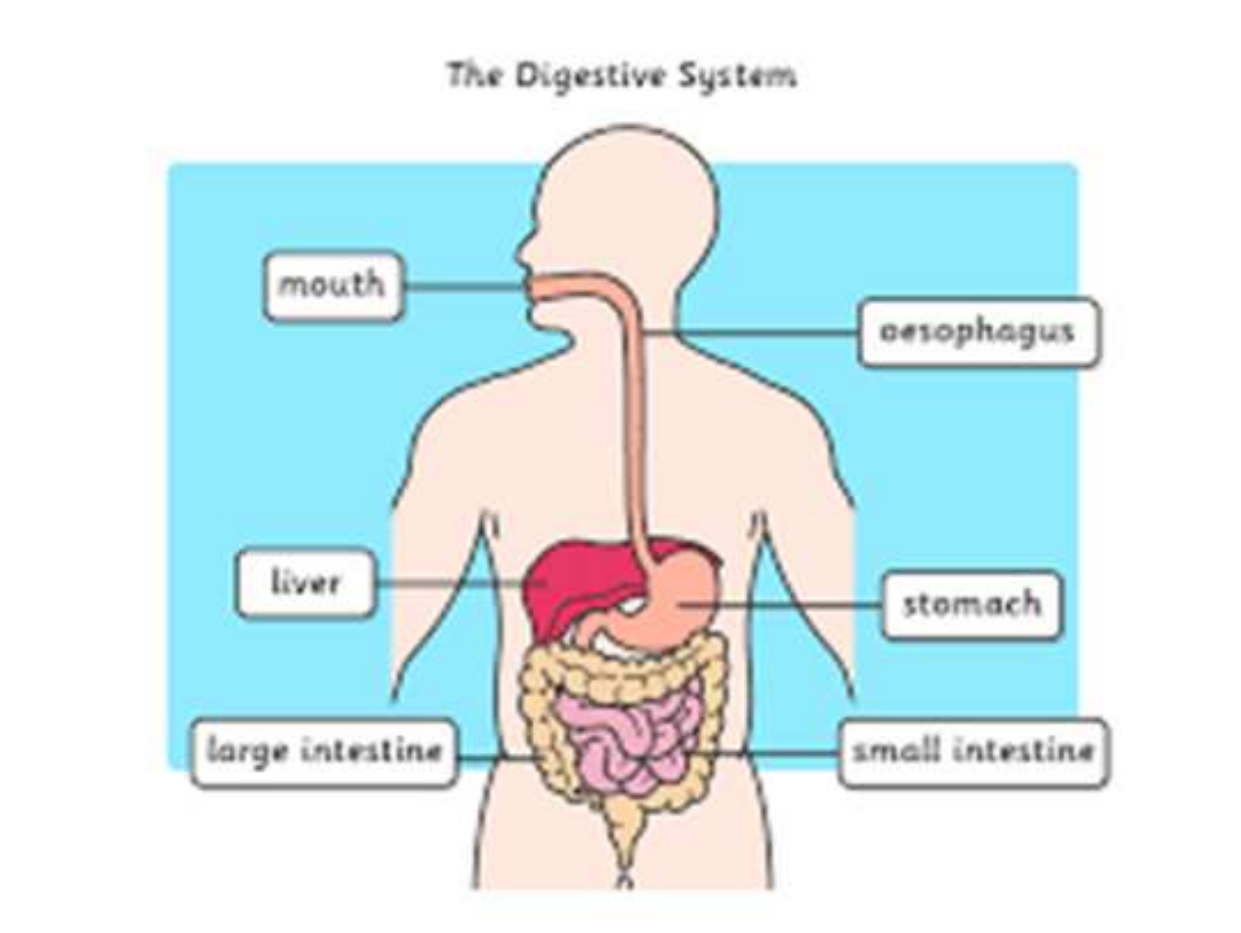
Malnutrition:
BMI <18.5kg/m2
Weight loss of >10%

Malnutrition leads to measureable adverse effects on body weight, body composition, function & clinical outcomes

Why is nutrition important – to a patient?

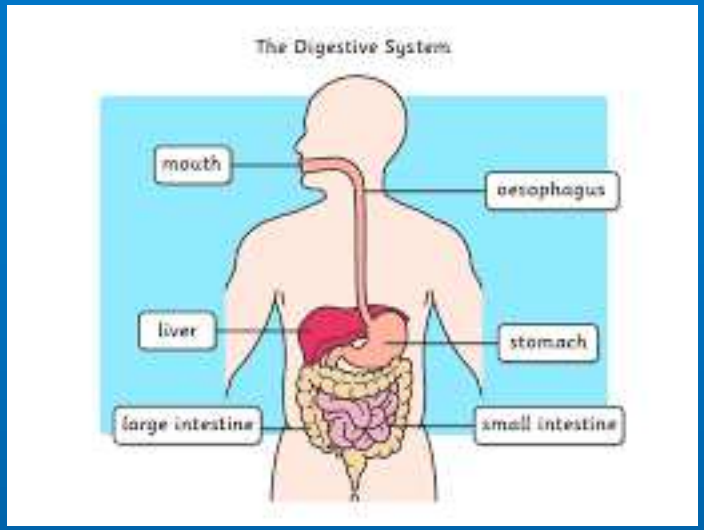
- Eating and drinking is a fundamental part of life
- Strongly associated with social interaction
- When a patient can't eat (due to physical impact of cancer or side effects of treatment or surgery) it can be very socially isolating
- Significant impact not just on physical fitness but psychological fitness

Why is nutrition a problem?



Why is nutrition a problem?

Oesophago-gastric cancer patients have significant limitations on achieving good dietary intake.



Primary symptoms : Oesophageal cancer

- Obstructive dysphagia
- Odynophagia
- Occlusion & regurgitation

Primary symptoms : Gastric cancer

- Early satiety
- Nausea & vomiting
- Abdominal pain

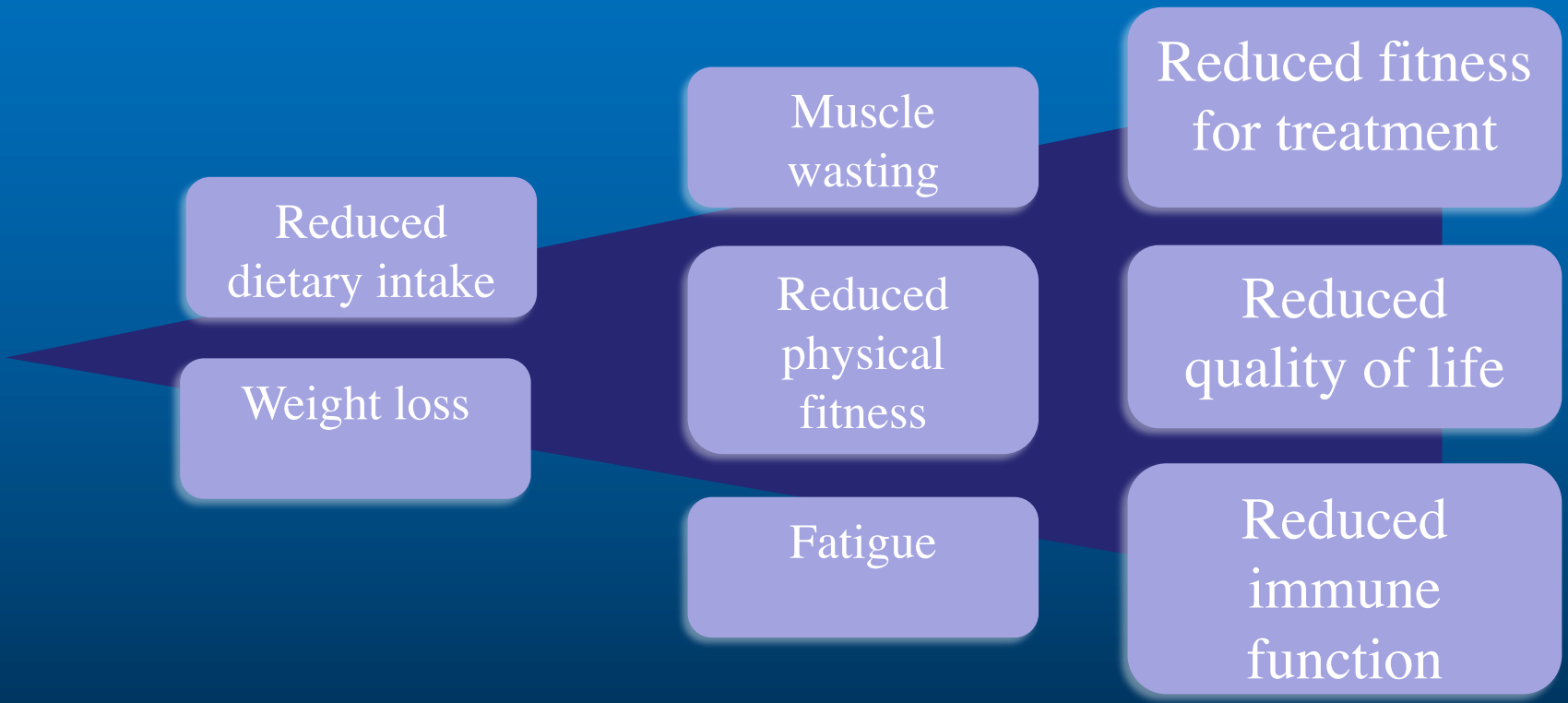
Secondary symptoms impacting on dietary intake

- Social isolation
- Fear & Anxiety
- Anorexia or loss of appetite

→ Reduced dietary intake

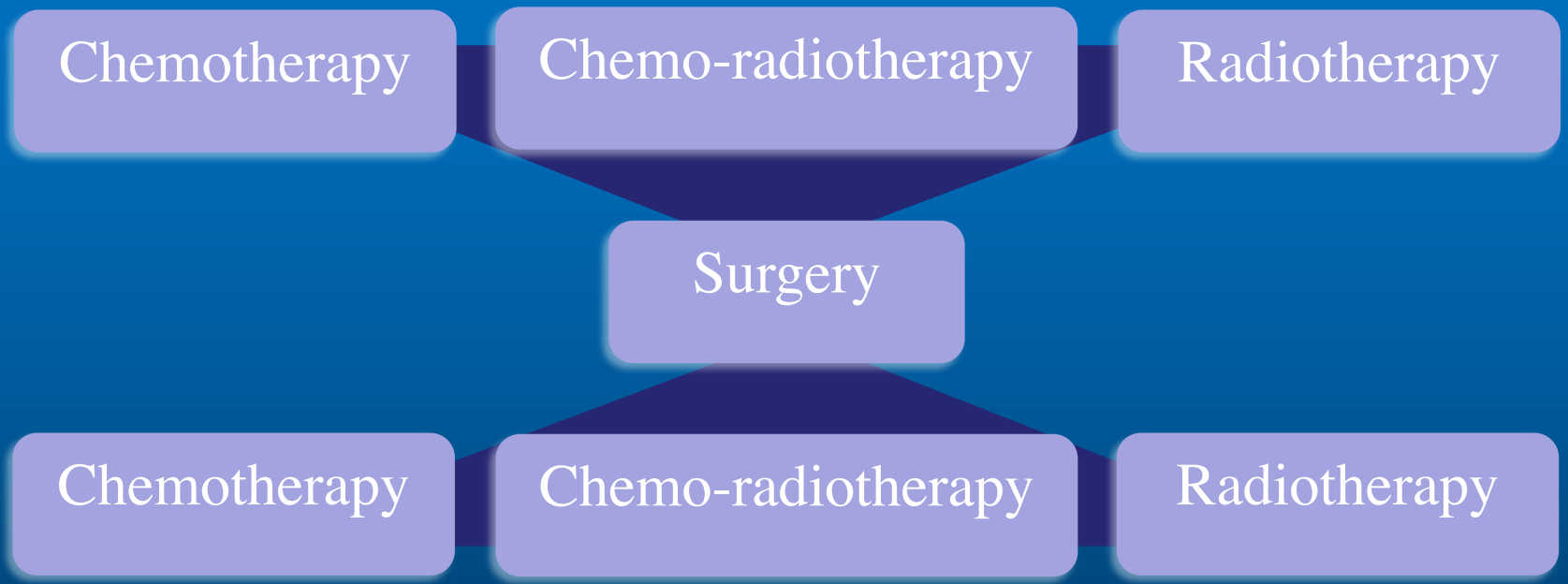
Consequence of malnutrition at diagnosis

- Due to the symptoms of oesophago-gastric cancer patients are at high risk of malnutrition
- Data varies but research suggests 80% of patients have over 15% involuntary weight loss at diagnosis

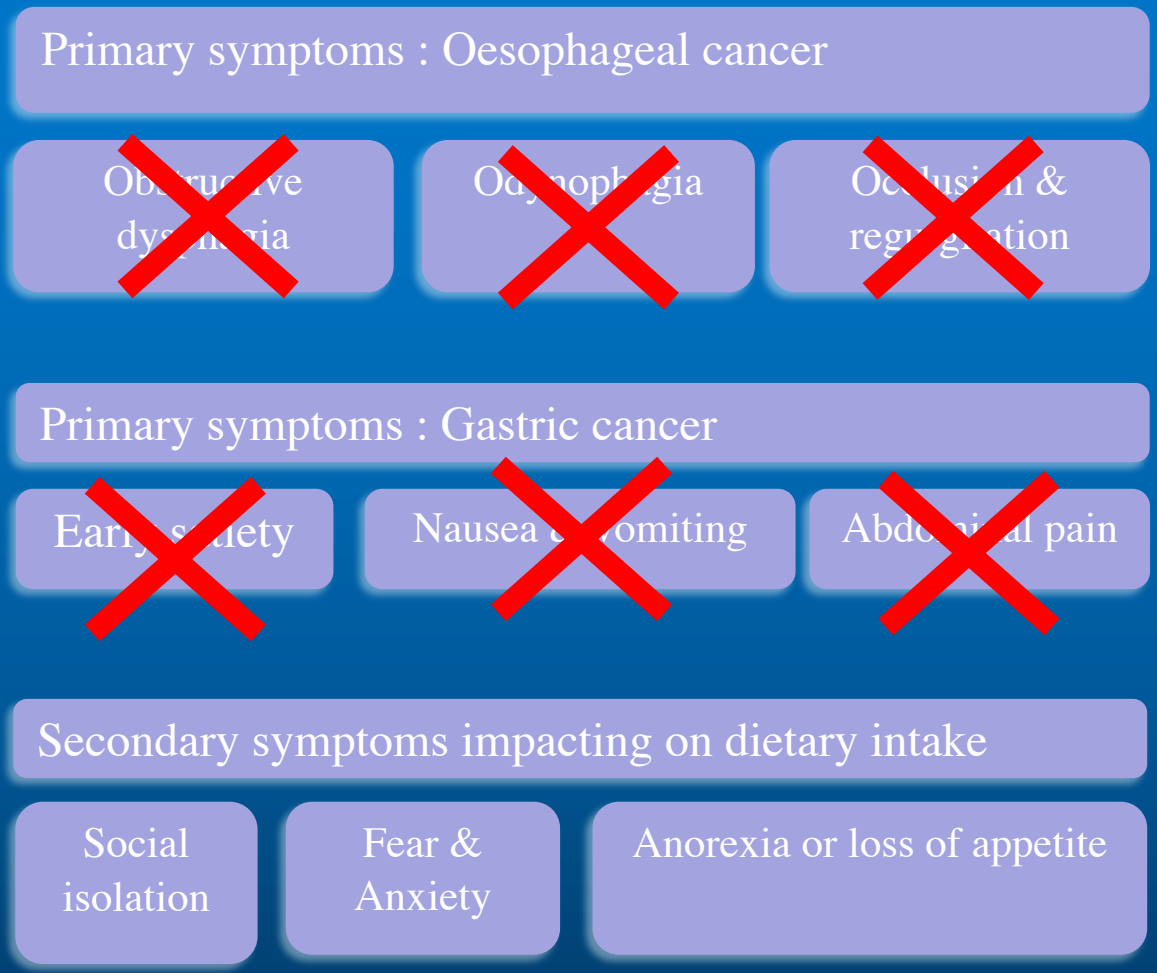


Treatment for Oesophago-Gastric Cancer

- Patients undergo a complex multimodal treatment pathway putting them at higher risk of progressive decline in their nutritional status



Symptoms can change throughout treatment



Impact of chemotherapy:

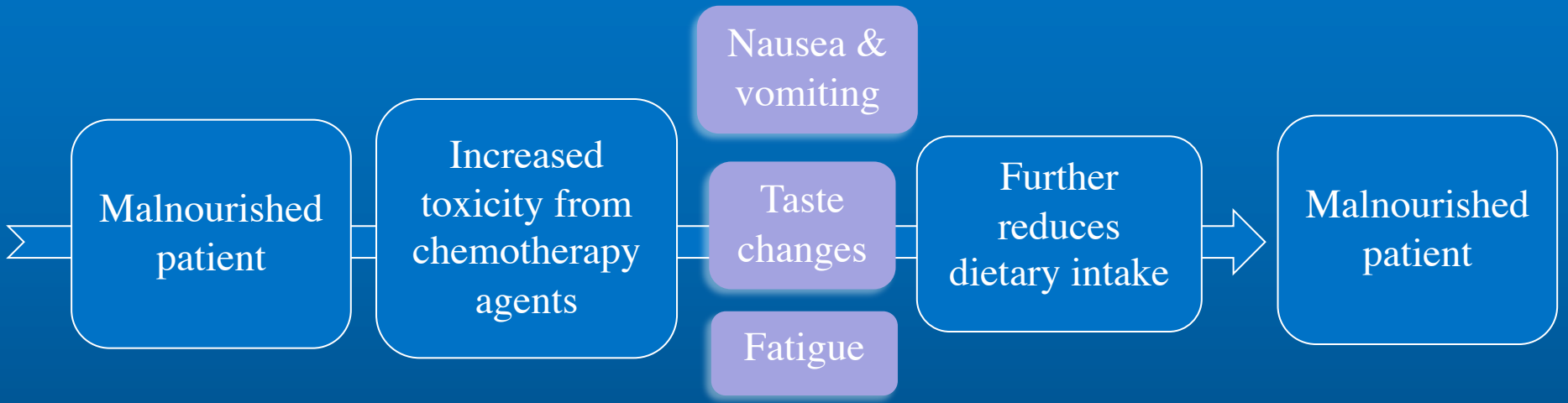
- Nausea
- Vomiting
- Taste changes
- Loss of appetite
- Change in bowel habit

Impact of radiotherapy

- Odynophagia (pain on swallowing)

Impact of malnutrition on oncological treatments

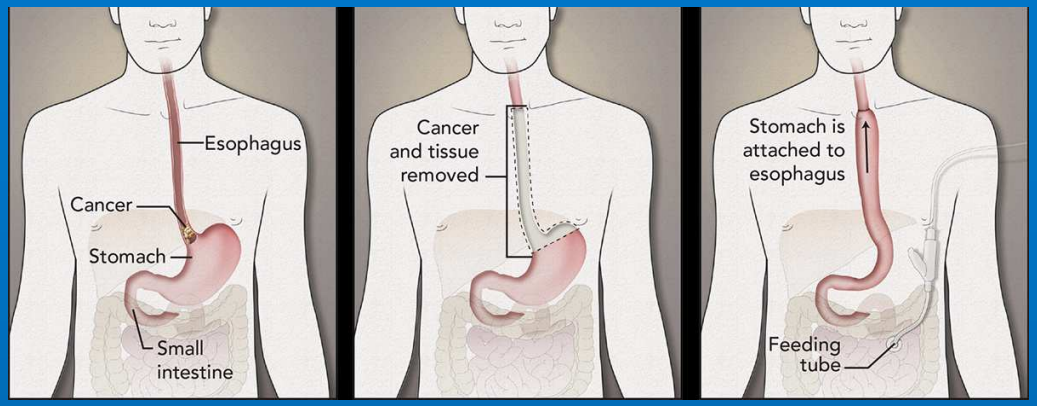
Weight loss & impaired physical performance are associated with increased toxicity to anticancer treatments resulting in reduction or interruptions of scheduled treatments and reduced quality of life
(ESPEN guidelines on nutrition in cancer patients, 2017)



Delays to treatment, reduction of treatment dose, reduced quality of life and poorer outcomes

Impact of malnutrition on surgery

Oesophagectomy and gastrectomy are complex surgical procedures associated with high surgery-related complications



Malnutrition in surgical patients is associated with higher post-operative:

- Morbidity
- Mortality
- Length of stay
- Readmission rates
- Increased costs of healthcare
- Reduced quality of life

(ESPEN Guidelines: Clinical Nutrition in Surgery, 2017)

Why is nutrition important?

- Improving nutritional status prior to and during cancer treatment will aim to:
  - Improve tolerance and adherence to neo-adjuvant therapies
  - Reduce post-operative complications
  - Improve overall survival and quality of life

Malnutrition is related to adverse outcomes in active cancer treatment and is an independent factor in predicting survival

Challenges & Opportunities

- Oesophageal cancer patients present with complex nutritional challenges
- Rigid time constraints
- However, generally a highly motivated patient population
- ‘Teachable moment’
- Optimal nutritional therapy and route for nutrition support is still under debate
- Needs to be patient specific, frequently reviewed and flexible

How can a dietitian help?

- Identifying patients at risk of malnutrition
- Support decision making around treatment choices
- Strategies to support patients:
  - Dietetic counselling
  - Oral nutrition support
  - Enteral nutrition support
- Managing side effects from treatment
- Managing impact of surgery
- Follow-up and support
- Nutrition support in advanced or palliative care support

Identifying patients in need of nutrition support

- All patients should be screened at diagnosis

Table 2 Nutritional risk allocation table

Low risk	Normal intake
	Minimal weight loss
Moderate risk	Anorexia/dysphagia and/or
	Unintentional weight loss 5–9%
High risk	Severe dysphagia—puree/fluids only
	Unintentional weight loss >10% and/or
	Body mass index <18 kg/m^2

Guidelines for perioperative care in esophagectomy, Low et al (2019)

- Nutritional screening should be followed by extensive diagnostic nutritional assessment to establish nutritional status and design the optimal nutritional therapy for the patient
- Nutritional treatment plans should be personalised, specific, frequently reviewed and adapted

Dietetic Counselling At Diagnosis

- Dietetic counselling alone can improve food intake and address a number of symptoms limiting intake
- Also consider and advise on other medical conditions affecting dietary intake such as diabetes
- Assess a patients readiness for change, convey to the patients the reasons and goals for nutritional therapy
- Motivate the patient to adapt to altered nutritional demand of their disease

Texture modification
Adapting to higher calorie food choices
Ensuring appropriate macronutrient balance
Optimising diabetic control
Weight management advice for patients with a high BMI

Dietetic Counselling During Treatment

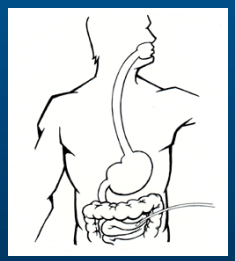
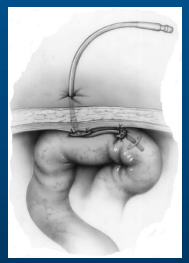
- Advice from a dietitian can help manage side effects from oncological treatments:
  - Nausea and vomiting
  - Taste changes
  - Loss of appetite
  - Fatigue
  - Managing change in disease related symptoms
  - Pain on swallowing related to radiotherapy

Oral Nutritional Supplementation

- If dietary modification is not sufficient, patients may be offered products designed for medicinal purposes
  - Fortify the diet
  - Supplement oral intake
- Wide range of products and formulations

Artificial Nutrition Support

- This may be used to supplement oral intake or to exclusively meet nutritional & fluids requirements
- Timing of tube placement varies significantly & optimal timing requires further evaluation
- Route of access that will not compromise a resection
- Aim to support nutritional status without providing excessive additional burden of hospital visits & healthcare intervention
- Feeding tube choice:
  - Naso-enteral
  - Surgically placed jejunostomy

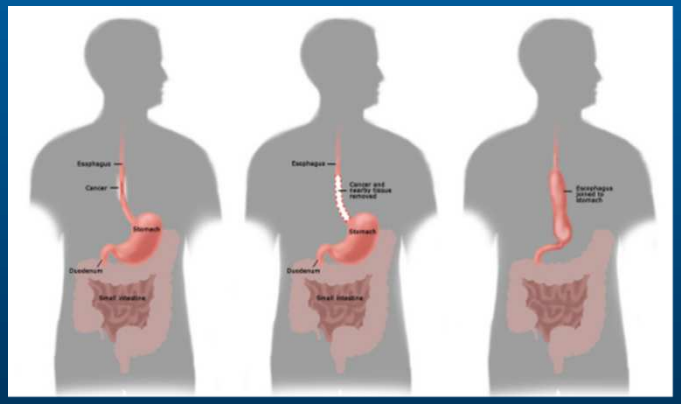

Parenteral nutrition support should only be considered for a short period whilst enteral access is achieved

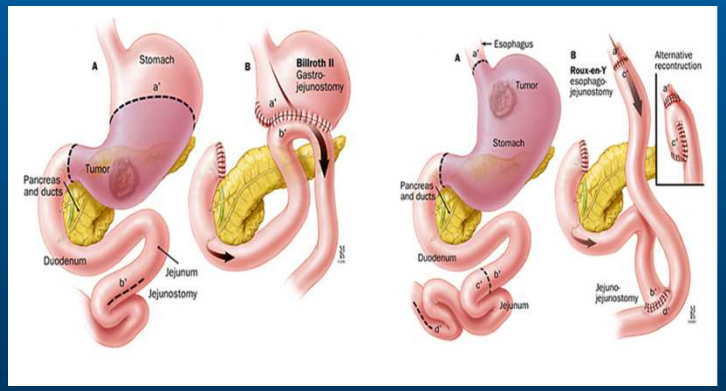
Nutrition & Surgery

- Surgery causes physiological stress with a resultant hyper-metabolic state and catabolic response
- Variety across UK and Europe about the optimal strategies for nutrition support in the peri-operative phase
- Oral intake significantly limited for the first week or two after surgery to allow the anastomosis (joins) to heal
- Nutrition generally supported by either enteral (tube feeding) or parental (feeding into the blood system) nutrition
- Aim to limit impact of surgery on nutritional status and limit impact of undernutrition on recovery

Nutritional Consequences of OG Surgery

- All forms of Oesophago-Gastric surgery change the structure and function of the stomach
  - Loss of gastric volume & churning function
  - Change to pyloric function and flow of food & fluids into the small bowel
  - Increased transit time through the bowel
  - Loss of appetite stimulation
  - Changes to pancreatic stimulation and impact on digestion





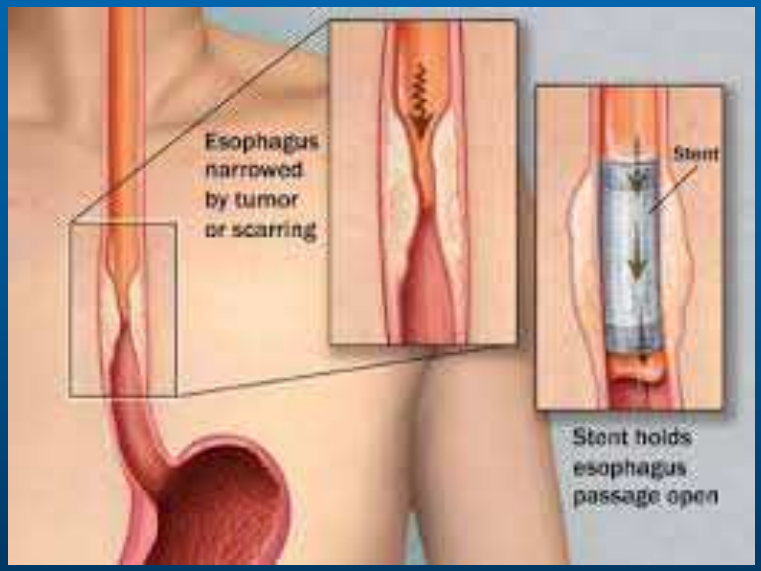
Nutritional Consequences of OG Surgery

- Requires significant change to long established dietary habits
  - Small, frequent meals
  - Masticate (chew) well
  - Avoid fluids with meals
  - Focus on high calorie/high protein foods
- Dumping syndrome
- Anorexia / food avoidance
- Altered bowel habit
- Taste changes
- Malabsorption / maldigestion
- Vitamin & mineral deficiencies

Patients require long term follow-up in an multiprofessional clinics

Nutrition Support in Advanced Disease and Palliative Care

- Focus of nutrition support changes from optimising nutrition to supporting quality of life including comfort, symptom relief and enjoyment of food
- As disease progresses, deterioration in symptoms particularly those involving fatigue, muscular weakness and dysphagia can make eating more difficult, and this can impact patients not only physically but also psychologically
- Treatment options:
  - Palliative oncological therapies
  - Oesophageal or pyloric stent



Specialist Dietetic Support: UK

National Oesophago-Gastric Cancer Audit

An audit of the care received by people with Oesophago-Gastric Cancer in England and Wales

- nutritional assessment by a dietician is available for all patients at only 54 per cent of all NHS trusts; 26 per cent of responding cancer centres had no dietician support for their surgical inpatients

Re-organisation of oesophago-gastric cancer services in England and Wales: a follow-up assessment of progress and remaining challenges

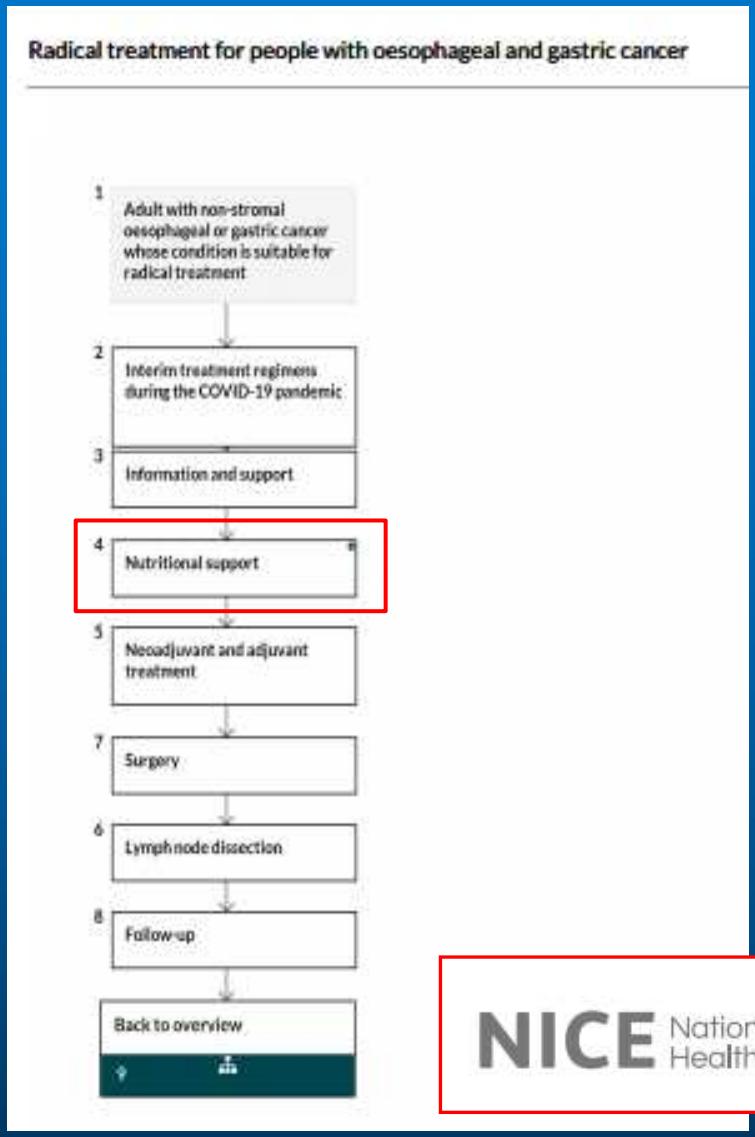
Oliver Groene[1,2*], Georgina Chadwick[2], Stuart Riley[3], Richard H Hardwick[4], Tom Crosby[5], Kimberley Greenaway[6], William Allum[7] and David A Cromwell[1,2]

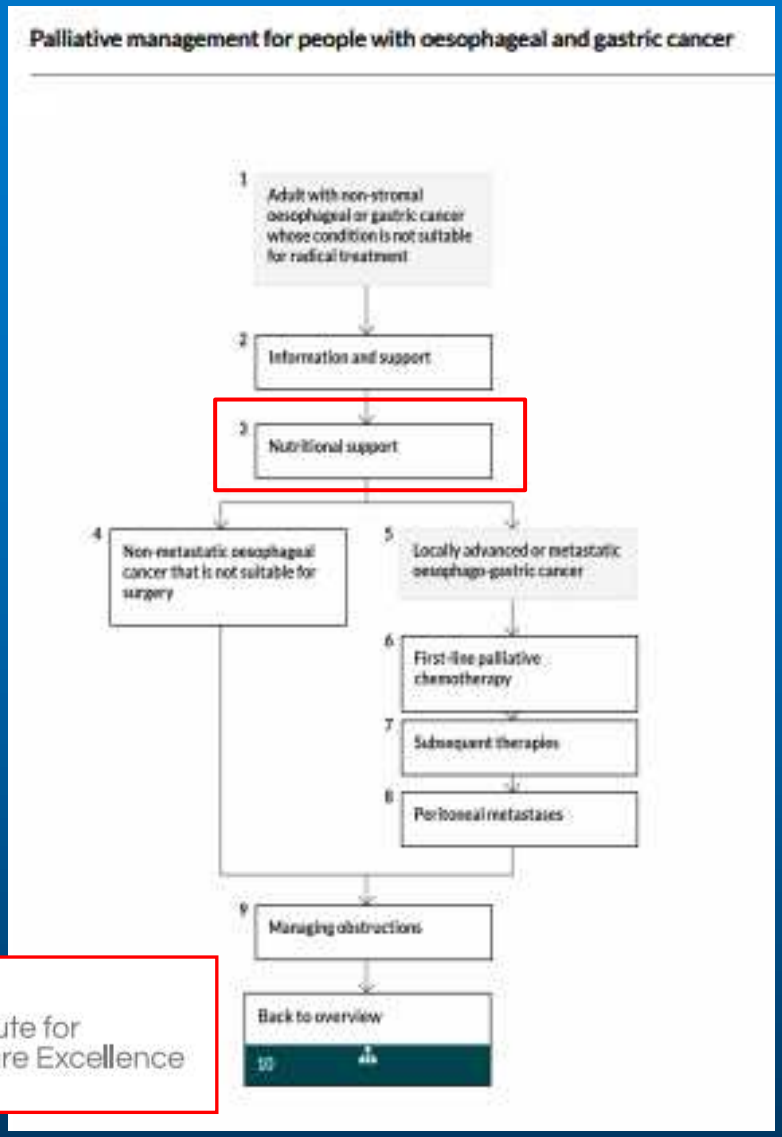
Table 3 Dietician access and nutritional assessment in specialist centres and local units*

	2007		2012	
	Specialist centres n (%)	Local units n (%)	Specialist centres n (%)	Local units n (%)
Dietician access				
Surgical patients	28 (73.7)	NA	33 (84.6)	NA
All other O-G patients	34 (89.5)	75 (85.2)	29 (74.4)	84 (85.7)
Outpatients	32 (84.2)	72 (81.8)	29 (74.4)	74 (75.5)
Nutritional assessment				
No formal assessment	9 (23.7)	32 (36.4)	3 (7.7)	15 (15.3)
Dietician assessment	26 (68.4)	43 (48.9)	26 (66.7)	63 (64.3)
Formal screening instrument	3 (7.9)	13 (14.8)	16 (41.0)	38 (38.8)

*2007 results based on 38 centres and 88 local units; 2012 results based on 39 centres and 98 local units.

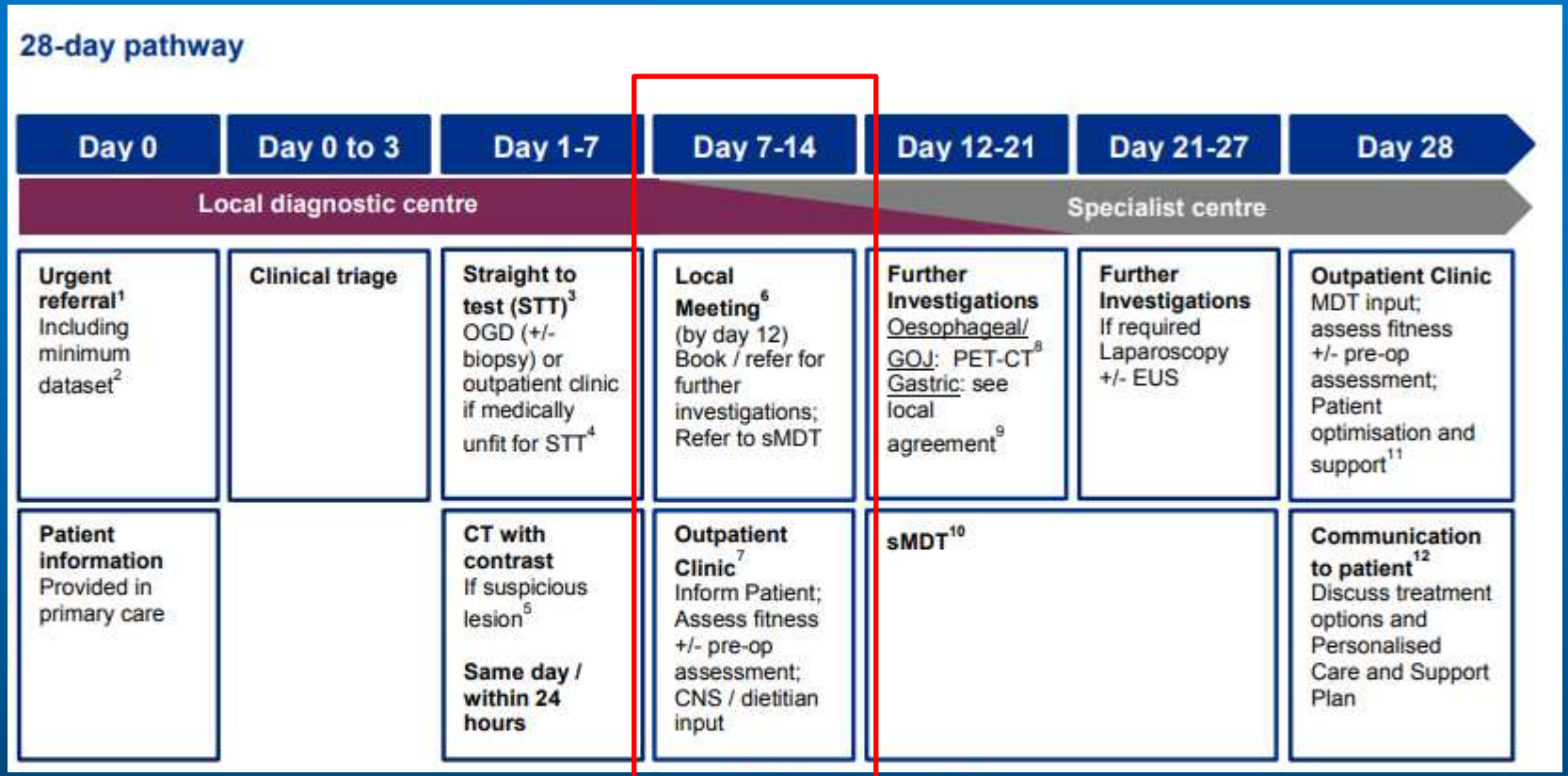
Specialist Dietetic Support: UK





NICE National Institute for Health and Care Excellence

Specialist Dietetic Support: UK



Specialist Dietetic Support: Europe

ELSEVIER

Available online at www.sciencedirect.com

ScienceDirect

EJSO

the Journal of Cancer Surgery

EJSO 42 (2016) 1432–1447

www.ejso.com

Description and analysis of clinical pathways for oesophago-gastric adenocarcinoma, in 10 European countries (the EURECCA upper gastro intestinal group – European Registration of Cancer Care)

Decision of treatment strategy.

Variables	Countries									
	Denmark	France	The Netherlands	Germany	Ireland	Italy	Spain	Sweden	Poland	UK
MDT discussion	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
% of patients discussed	75–100	75–100	75–100	75–100	75–100	25–50	75–100	75–100	0–25	75–100
Frequency of MDT	2/week	1/week	1/week	1/week	1/week	1/week	1/week	1/week	<1/month	1/week
Members present at the MDT	GIS Onc Path Radio ThoS CNS	GET G^{al}S Onc Radio RTist	GET GIS Onc Radio RTist Path CNS	GET G^{al}S GIS Onc Radio RTist Path	GET G^{al}S GIS Onc Radio RTist Path + tissue technicians CNS Data manager	GET GIS Onc Radio RTist Path	GET GIS Onc Radio RTist Path	End G^{al}S GIS Onc Radio RTist Path CNS	G^{al}S Onc Radio RTist	GET, G^{al}S GIS, Onc RTist Path, CNS Diet Radio Pall care

Treatment.

Variables	Countries									
	Denmark	France	The Netherlands	Germany	Ireland	Italy	Spain	Sweden	Poland	UK
Delay (weeks) from MDT	1–3	>3	1–3	1–3	1–3	1–3	1–3	1–3	>3	1–3
Pre-assmt performed in district/specialist centre	Spe	Spe[a]	Spe	Both	Spe	Spe	Spe	Both	Spe	Both
Pre-assmt involves										
Cardiac tests	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pulmonary tests	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dietetic rw	✓	✓	✓	0	✓	0	✓	✓	0	✓
Smoke & OH rw	✓	Rarely	0	✓	✓	0	0	✓	0	✓
Psychological rw	0	✓	0	0	✓	0	0	✓	0	✓
Anaesth/ICU rw	✓	✓	✓	✓	0	✓	✓	✓	✓	✓
CT & RT performed in a district/local centre	Spec.	Local	Spec.	Both	Spec.	Spec.	Spec.	Both	Spec.	Spec.
Surgery performed in a district/specialist centre	Spec.	Spec.[c]	Spec.	Spec. or 1st centre	Spec.	Spec.	Spec.	Spec.	Spec.[e]	Spec.[f]
Surgical pathway										
HDU	✓	✓	0	✓	✓	0	0	✓	✓	✓
ICU	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ERAS program	✓	0[b]	0	0	✓	✓	0	✓	0	✓
Postop audit	✓	0[d]	✓	✓	✓	0	0	✓	0	✓
Database	✓	✓	✓	✓	✓	✓	✓	✓	0	✓
EMR performed in/by Specialist/local centre Surgeon/End	Spec ns	Spec. End	Spec. End	Both Surgeon	Spec. End	Spec. End	Spec. End	Spec. End + Surgeon	Spec. ns	Spec. ns
Additional support										
Dedicated nurse	✓	0	0	✓	✓	0	0	✓	0	✓
Nutritional team	✓	✓	✓	✓	✓	✓	✓	✓	0	✓
Physiological team	0	✓	0	✓	✓	0	✓	✓	0	✓
Training sessions	0	0	✓	✓	✓	0	0	0	0	✓

Summary

- Good nutrition is important for cancer patients
- Patients with Oesophago-Gastric Cancer are at high risk of malnutrition and frequently experience nutritional challenges due to the disease and impact of treatment
- Nutritional optimisation can reduce complications associated with oncological and surgical treatments and ultimately improve long term outcomes
- Specialist Dietitians should be an integral part of patient care
- All patients should have a personalised nutrition plan and access to specialist support during their treatment and recovery
- Huge variety nationally and across Europe in relation to access to specialist dietetic support

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