

# Malabsorption syndrome following surgical resection for oesophageal and gastric carcinoma - should patients be routinely screened ?

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**IRSPEN 6<sup>TH</sup> March 2013**

# Background

Resections for oesophageal and gastric cancer have a major impact on nutritional status

- 64% of patients lost >10% of pre-op BMI
- 20% of patients lost >20% of pre-op BMI 6 months after oesophagectomy *(Lagergren et al 2007)*
- 69% of patients lost >10% of pre-op weight following gastrectomy *(Ryan et al 2007)*
- Post-operative malnutrition is a common problem with multifactorial causes
- Symptoms of malabsorption not routinely considered
- Limited research and publications

# Malabsorption

**Malabsorption - global term to describe all aspects of impairment of digestion and absorption (WGO)**

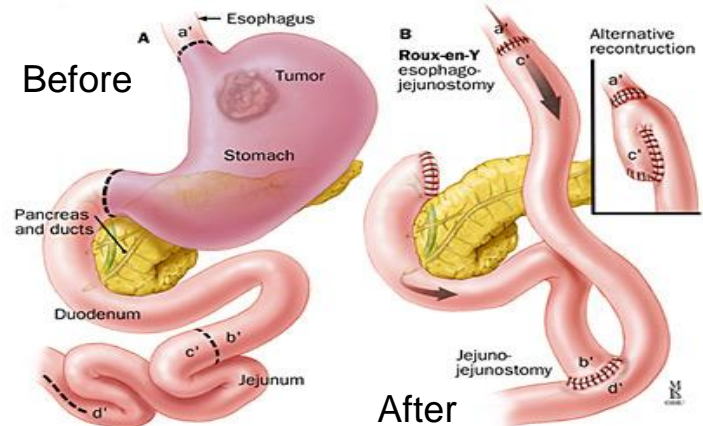
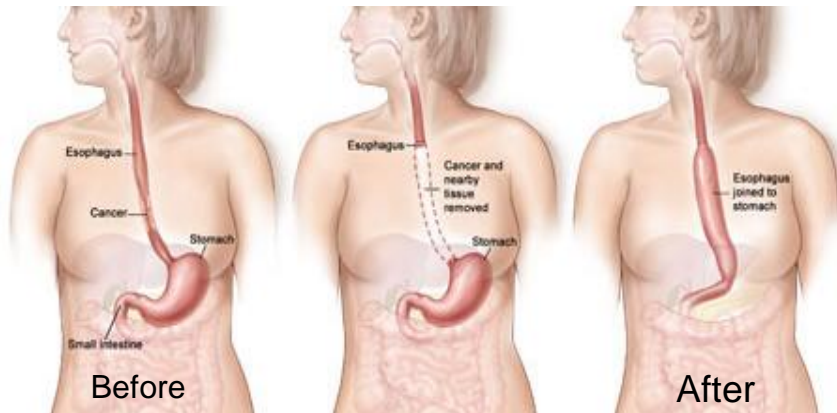
## Symptoms:

- Chronic diarrhoea
- Steatorrhoea: pale, foul-smelling stools, difficult to flush
- Bloating, excessive flatus, abdominal cramps
- Weight loss, tiredness, fatigue
- Micronutrient deficiencies

## Investigations

1. Blood tests
2. Stool studies - culture, faecal fat, faecal elastase
3. Interventional studies – imaging and endoscopy
4. Other - Hydrogen breath test, SeHCAT

# Oesophagectomy & Gastrectomy



## Mechanisms leading to malabsorption

Surgical resection - structural changes

Inadequate gastric mixing, rapid gastric emptying, or both

Abnormal motility

Insufficient pancreatic enzyme production/activity

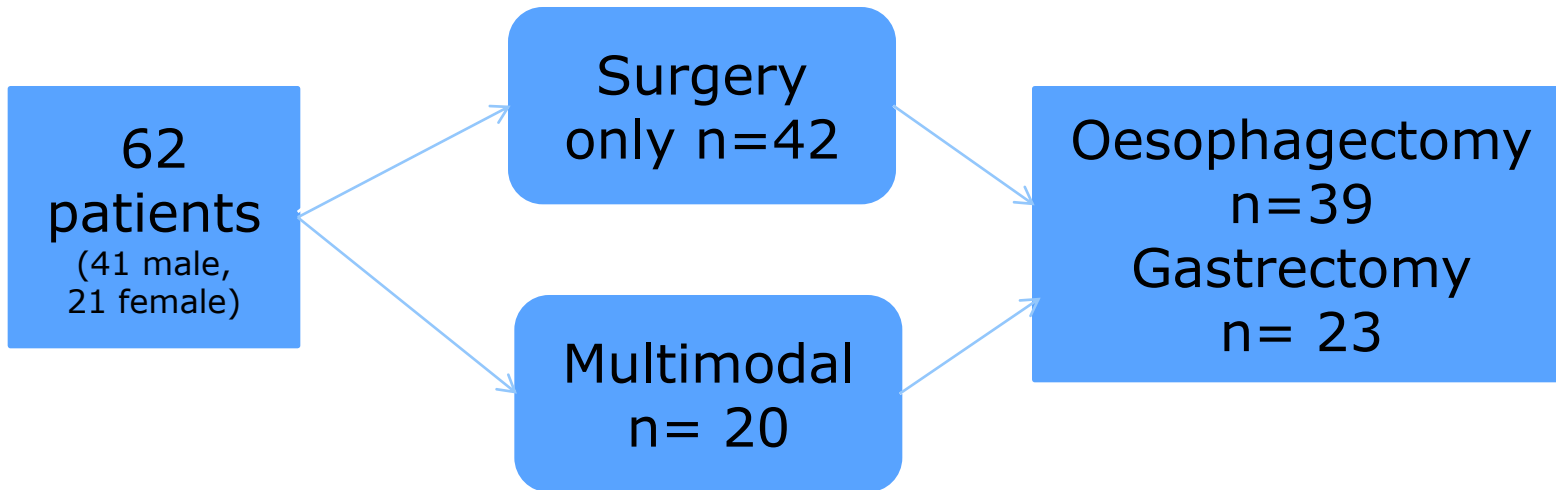
Gastrointestinal pH, Bacterial overgrowth

# Aim and Methods

**Aim:** To retrospectively explore the problem of post-operative malabsorption in a tertiary referral centre for oesophageal and gastric cancer surgery.

- Retrospective analysis of 62 patients attending OPD after oesophagectomy or gastrectomy
- Regular follow-up by senior surgeon and specialist dietitian
- Persistent weight loss, difficulty gaining weight
- Malabsorptive symptoms noted and faecal elastase-1 and hydrogen breath tests ordered
- Data collected from dietetic notes, medical records and cancer database

# Results



- Patients treated with curative intent
- Median time from initial surgery to OPD presentation was 6 months (range 0-5 years)

# Results

## Pancreatic insufficiency

### 1. Faecal elastase-1 tests n=47 (76%)

Result	Range µg/g stool	No. of cases (%)
Normal	200-500	33 (70)
<b>Mild-moderate insufficiency</b>	<b>100-200</b>	<b>8 (17)</b>
<b>Severe insufficiency</b>	<b>&lt;100</b>	<b>6 (13)</b>

15.8% post oesophagectomy patients had FE-1 <200 µg/g  
(Huddy et al 2012)

# Small intestinal bacterial overgrowth

## 2. Hydrogen breath tests n=35 (56%)

Result	No. of patients (%)
<b>Positive</b>	<b>26 (74%)</b>
Glucose	17
Fructose	23
Borderline positive	3
Negative	3
Inconclusive	3



# Discussion

- Results confirm the observation that post-op malabsorption occurs
- Patients with persistent weight loss and difficulty gaining weight should be screened for symptoms of malabsorption
- Useful tests include faecal elastase test and hydrogen breath test
- Symptom based approach is vital
- Multi-factorial mechanisms involved

# Future research

- Further investigation required in this area
- Prospective interdisciplinary study now established:
  - Faecal Elastase test
  - Coeliac serology (serum Ttg, IgA)
  - Thyroid function tests
  - Hydrogen breath tests
  - SecHAT scan (when indicated)
  - Standardised nutritional assessment including micronutrient serum levels
  - GI symptom questionnaire

**Cancer survivorship and QOL!**

# Thank You



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