Welcome to this NDRS training module on Upper gastrointestinal tumours of the Stomach which has been designed to help Cancer Administration staff gain a better understanding of these tumours and the terminology used by the clinical teams.

Agenda

- Introduction
- Stomach tumours
- Summary
- Acknowledgements

This module may be paused at any time

In this module we'll give you a brief introduction to Upper GI tumours including some of the symptoms that patients might experience. We'll look at the anatomy & physiology of the upper GI system and will then go through the diagnosis & treatment options. This module can be paused at any time.

Introduction

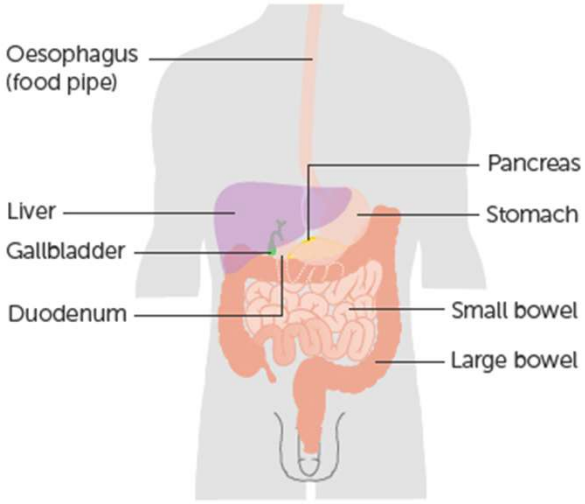
In this section we will cover:

- Types of Upper GI tumour

Firstly, we'll look at the various types of Upper GI tumour…

Upper GI - Introduction

- Oesophagus
- Stomach
- Pancreas
- Liver
- Gall Bladder
- Small Intestine



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The Upper GI tract consists of the Oesophagus, Stomach, Duodenum and small intestine. The Liver, Gall Bladder and Pancreas also play a significant role in the digestion of food. Training modules are available for Oesophageal, Stomach and Pancreatic tumours. This module covers Stomach tumours

Stomach

In this section we will cover:

- Causes and Risk Factors
- Signs and Symptoms
- Anatomy & Physiology
- Regional Lymph Nodes
- Diagnosis
- Morphology
- Topography
- Siewerts Classification
- Grade
- Stage
- Treatment

Firstly we'll look at the causes and risk factors …

Stomach – Causes & Risk Factors

- Helicobacter pylori (H. pylori) infection
- Smoking and alcohol
- Diet
- Increasing age
- Raised BMI
- Radiation

… which can include H.Pylori infection, diet and increasing age.

Stomach – Signs & Symptoms

Stomach cancer can be hard to detect at an early stage as many tumours are asymptomatic. Any symptoms that are shown are often vague but may include:

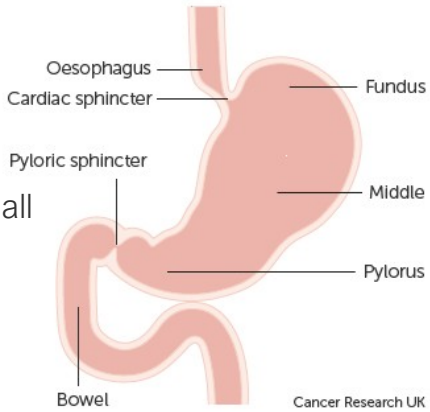
- Dyspepsia (indigestion)
- Nausea or vomiting
- Persistent dysphagia (difficulty swallowing)
- Shortness of breath
- Pain
- Feeling full after eating small amounts of food
- Weight loss
- Fatigue / anaemia

Many tumours show no symptoms in the early stages and any symptoms that are evident tend to be vague and could easily be attributed to other conditions.

Stomach – Anatomy & Physiology

The stomach is muscular bag which lies under the diaphragm

- Fundus – the top part of the stomach
- Body / Middle
- Pylorus – the bottom part of the stomach that leads into the duodenum (the top part of the small intestine)

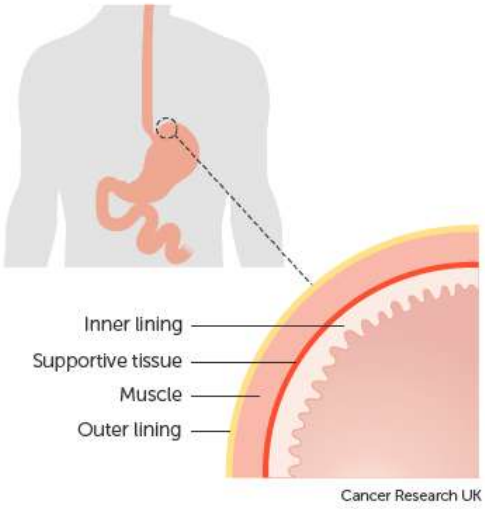


At each end there is a sphincter, which control the movement of food through the digestive system

- cardiac sphincter
- pyloric sphincter

The stomach is an expandable muscular bag which receives food via the oesophagus before passing it into the duodenum. At both the top and the bottom of the stomach there's a sphincter which controls the movement of food.

Stomach – Anatomy & Physiology



The function of the stomach is to store food and secrete gastric juices

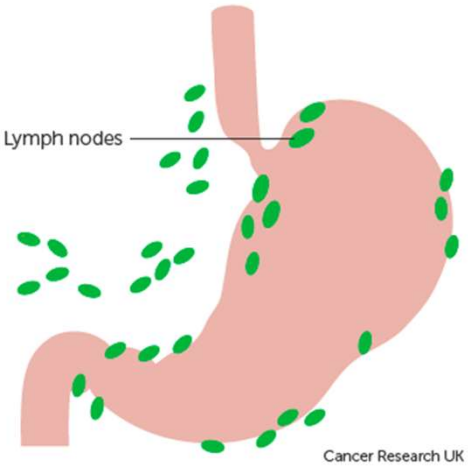
- Glandular epithelial cells in the lining of the stomach produce gastric acid and mucus
- The muscle layer in the stomach will contract to break down food and the combination of this and the gastric acid turns the stomach contents into a thick liquid

The stomach is a storage facility that also secretes chemicals to break down the food. Mucus and gastric acid are produced in the stomach wall, which also contracts to break the stomach contents into smaller particles.

Stomach – Regional Lymph Nodes

Regional lymph nodes are:

- Perigastric nodes along the lesser and greater curvatures of the stomach
- Nodes along the left gastric, common hepatic, splenic and coeliac arteries
- Hepatoduodenal nodes

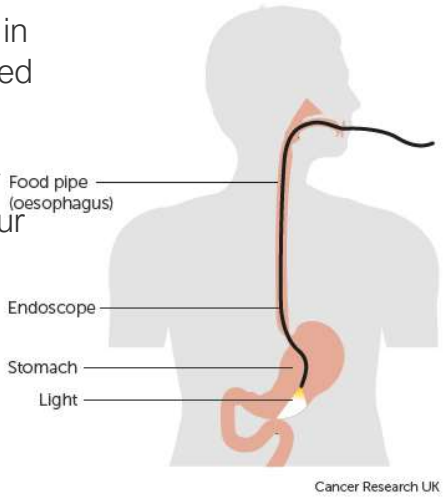


During an MDT, clinical teams will often make reference to particular groups of regional lymph nodes. This may indicate that the stage of the cancer has been determined. The regional lymph nodes for the stomach include Perigastric, splenic and hepatoduodenal nodes

Stomach - Diagnosis

Stomach tumours rarely cause significant symptoms in the early stages and can therefore often go undetected

- Endoscopy is the most common procedure, with or without biopsy, which can confirm a stomach tumour
- Laparoscopy is a common procedure employed to confirm the extent of the malignancy



Early stage tumours tend not to cause significant symptoms, meaning they often go undetected. Once investigations do start, endoscopy is a common diagnostic procedure to confirm the presence of a tumour. A Laparoscopy may be used to determine the extent of any malignancy.

Stomach - Diagnosis

- Imaging techniques may also be ordered to confirm malignancy or to evaluate the stage of the cancer
  - Barium meal
  - Ultrasound
  - CT
  - PET-CT

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Radiological imaging may also be used to diagnose or stage a cancer

Stomach - Morphology

The predominant invasive morphology type in the stomach is Adenocarcinoma – M8140/3, arising from the glandular cells lining the interior of the stomach

Sub-types include:

- Tubular adenocarcinoma - M8211/3
- Parietal cell carcinoma – M8214/3
- Adenocarcinoma with mixed subtypes – M8255/3
- Papillary adenocarcinoma NOS – M8260/3
- Micropapillary carcinoma NOS – M8265/3
- Mucoepidermoid carcinoma – M8430/3
- Mucinous adenocarcinoma – M8480/3
- Signet-ring cell carcinoma – M8490/3

Adenocarcinomas are the most common form of invasive stomach tumour. Some of the subtypes are listed here but always refer to the pathology report.

Stomach - Morphology

Rarer invasive morphologies include

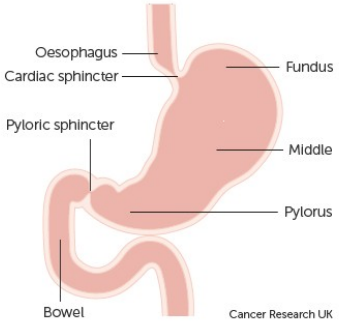
- Leiomyosarcoma – M8890/3, arising either from the muscle layer of the stomach or possibly from a blood vessel
- Gastrointestinal stromal tumour (GIST), malignant – M8936/3
    - (please note: all GISTs are to be reported as malignant M8936/3 in accordance with the WHO Classification of Tumour series, 5th edition and as such would be C coded in ICD10)
- Neuroendocrine tumours – various morphology codes (please refer to the Neuroendocrine – Key Points training module: https://digital.nhs.uk/ndrs/data/cancer-data-training-materials)

The final digit of the ICD-O-3 morphology code describes the behaviour – see the NDRS training module: What is Cancer

Other rarer tumour morphologies include Leiomysarcomas and GISTs. Please note that all GISTs are to be reported as malignant.

Stomach – Topography - Invasive

- Invasive tumours of the stomach are classified as:
  - C16.0 – Cardia (includes cardiac orifice, cardio-oesophageal junction, gastro-oesophageal junction and oesophagus & stomach)
  - C16.1 – Fundus of stomach
  - C16.2 – Body of stomach
  - C16.3 – Pyloric antrum
  - C16.4 – Pylorus
  - C16.5 – Lesser curvature of stomach, unspecified
  - C16.6 – Greater curvature of stomach, unspecified
  - C16.8 – Overlapping lesion of stomach
  - C16.9 – Stomach, unspecified
- All invasive ICD10 codes must be recorded



The ICD10 codes for invasive stomach tumours are shown here… All invasive tumours must be recorded in your cancer data management system…

Stomach – Topography – In Situ

- Once diagnosed, an in situ stomach tumour is classified as D00.2
- While your clinical team may request that D00.2 in-situ stomach tumours are recorded, these do not currently require a COSD submission from your cancer data management system – NDRS obtains this data direct from pathology laboratories

… while the ICD10 code for an in-situ stomach tumour is D00.2

Stomach – Topography – Unknown or Uncertain Behaviour

- Once diagnosed, a stomach tumour of unknown or uncertain behaviour is classified as D37.1
- While your clinical team may request that D37.1 stomach tumours are recorded, these do not currently require a COSD submission from your cancer data management system – NDRS obtains this data direct from pathology laboratories

The behaviour of some tumours is determined to be unknown or uncertain. The ICD10 code for a stomach tumour of unknown or uncertain behaviour is D37.1. It should be noted that while your clinical team may request that non-invasive tumours are also recorded, these do not currently need a COSD submission from your cancer data management system – NDRS obtains this data direct from the pathology labs

Stomach - Siewerts Classification

Type I

Adenocarcinoma of distal part of the oesophagus located between 1- 5 cm above the GOJ

Type II

Adenocarcinoma of the cardia, tumour located between 1 cm above and 2 cm below the GOJ

Type III

Adenocarcinoma located between 2 – 5 cm below GOJ

You may hear clinicians referring to the 'Siewert classification' which is an anatomical classification and must not be confused with TNM staging or grade. Siewert classification refers to the location of the tumour in relation to the gastro-oesophageal junction (GOJ)

Stomach – Grade

Grade 1

Tumours look very similar to the normal tissue and have the best prognosis

Grade 2

Tumours are formed of cells that somewhat resemble normal tissue but have more abnormal features than Grade 1

Grade 3

Tumours have very abnormal cells and the worst prognosis

… while the grade of tumours is determined by the degree of similarity to normal tissue and the severity of any abnormal features

Stomach – Stage

- Invasive stomach tumours, including GISTs, are staged as follows:
  - For diagnosis dates up to 31st December 2025 use UICC TNM v8
  - For diagnosis dates from 1st January 2026 use UICC TNM v9
- Please note that the TNM version must be accurately recorded – if you are unable to amend the version on your cancer data management system, please refer to your line manager
- If, after 1st January 2026, your cancer data management system has not been amended to include TNM v9 please record the TNM v9 stage and add the following statement to the Primary Diagnosis Subsidiary Comment field:
  - Patient staged using TNM9 not TNM8 as per CR2070

Invasive stomach tumours, including GISTs, are staged using the appropriate UICC TNM version

Stomach – Stage

- For details on recording stage, please see the NDRS training module KPI-TNM Staging 101, available on this link: https://digital.nhs.uk/ndrs/data/cancer-data-training-materials

- TNM stage should be recorded for all invasive tumours

For more details please refer to the NDRS training module KPI-TNM Staging 101

Stomach – Treatment - Surgery

- Surgery is the treatment of choice for early stomach cancers

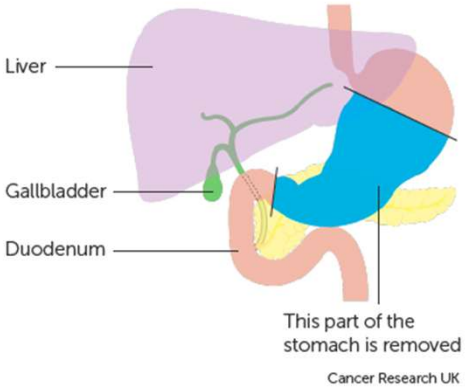
- Partial Gastrectomy - removal of part of the stomach
- Total Gastrectomy – removal of the entire stomach
- Oesophagogastrectomy – removal of part of the oesophagus and the top part of the stomach
- Endoscopic mucosal resection – removal of the mucosal cells only

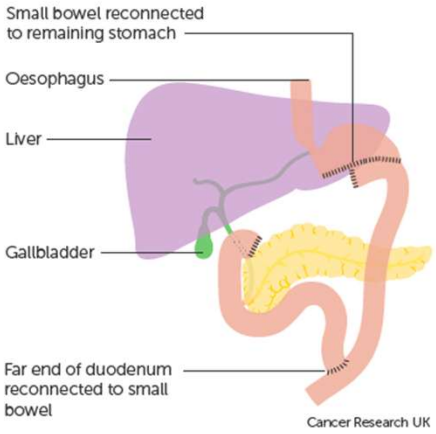
- Regional lymph nodes may also be removed to prevent cancer spread and recurrence

Early stomach tumours are normally treated with surgery, the extent of which will depend on the location and stage of the tumour

Stomach – Treatment - Surgery

- Partial Gastrectomy

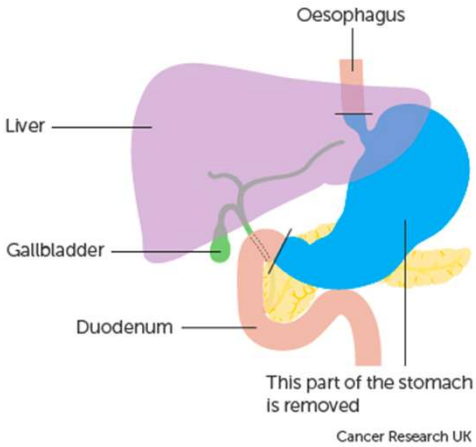


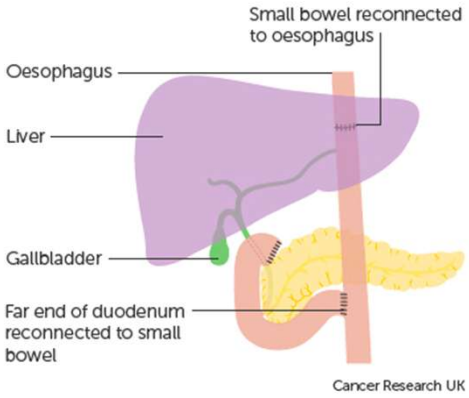


In a partial gastrectomy, the fundus – the top part of the stomach, is retained while the rest of the stomach is removed. The duodenum is reconnected to the pancreas and to the middle part of the small intestine

Stomach – Treatment - Surgery

- Total gastrectomy

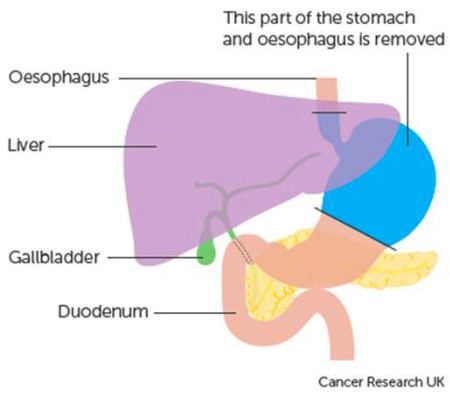


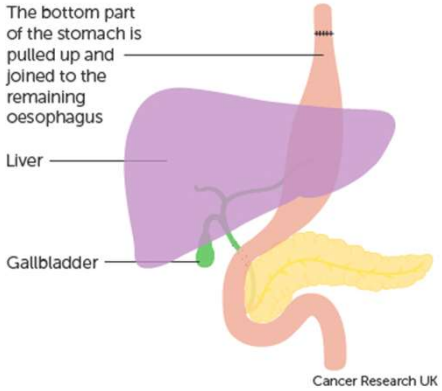


In a total gastrectomy, the entire stomach is removed and again, the duodenum is used to connect the pancreas to the middle part of the small intestine.

Stomach – Treatment - Surgery

- Oesophagogastrectomy

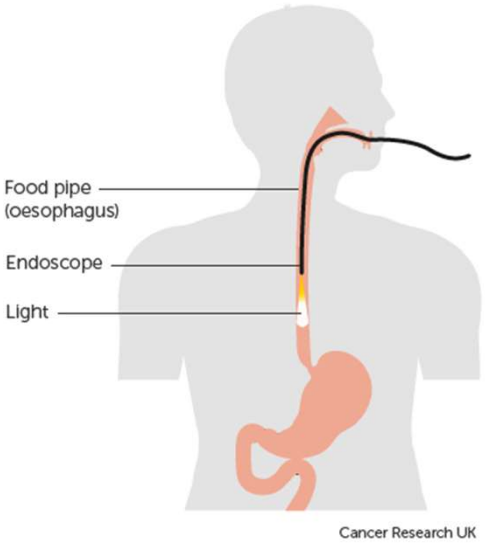




Tumours at the GOJ may need the removal of both the lower part of the oesophagus and the upper part of the stomach.

Stomach – Treatment - Surgery

Endoscopic mucosal resection



Occasionally a tumour of the GOJ may be at a very early stage and linked only to the most superficial layer of the oesophageal lining. An Endoscopic mucosal resection might be offered for in situ tumours.

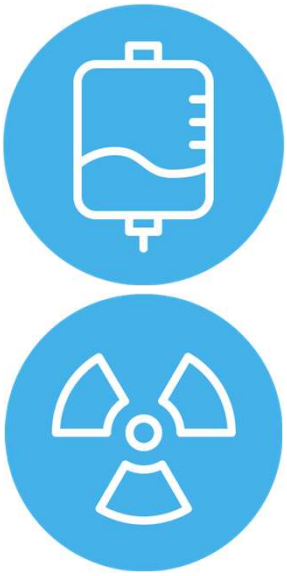
Stomach – Treatment - Radiotherapy

- Stomach cancers do not respond well to radiotherapy, therefore it is rarely used as a first line treatment
- Radiotherapy may also be used palliatively, to relieve symptoms such as bleeding

Radiotherapy is rarely used as a first line treatment for stomach cancer. It may however be used as a palliative treatment to relieve symptoms.

Stomach – Treatment - Chemoradiotherapy

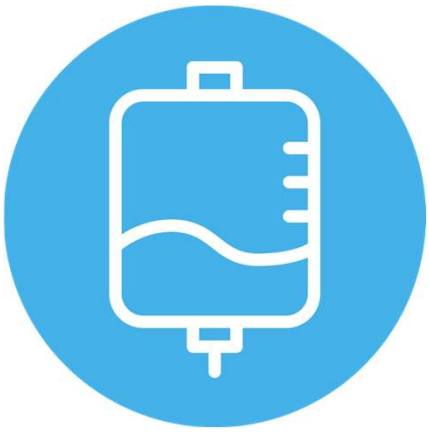
- Chemoradiotherapy may be considered as an alternative to surgery
- Chemoradiotherapy can be used either neo-adjuvantly or post surgery to reduce the risk of recurrence



Chemoradiotherapy might be offered as an alternative to surgery. Or it may be used before surgery to shrink the tumour, or after surgery to destroy any remaining tumour cells and reduce the risk of recurrence

Stomach – Treatment - Chemotherapy

- Neo-adjuvant chemotherapy should be considered if the tumour is advanced and large
- Chemotherapy may also be given following surgery for advanced tumours to reduce the risk of recurrence



Chemotherapy alone can also be used prior to or after surgery

Summary

To summarise…

Summary

- Risk factors for stomach tumours include H.Pylori infection, increased age and smoking

Risk factors include bacterial infection, increased age and smoking

Summary

- Risk factors for stomach tumours include H.Pylori infection, increased age and smoking
- Stomach tumours often show no symptoms in the early stages. Such symptoms as are shown may be vague, such as indigestion, nausea and weight loss.

Many stomach tumours show no symptoms in the early stages. Where symptoms are displayed they can be vague.

Summary

- Risk factors for stomach tumours include H.Pylori infection, increased age and smoking
- Stomach tumours often show no symptoms in the early stages. Such symptoms as are shown may be vague, such as indigestion, nausea and weight loss
- Investigations often include endoscopy, solid tissue biopsies and possibly surgery to determine the extent of the cancer

Endoscopy is a common diagnostic tool for stomach tumours. Laparoscopy may be required to determine the extent of a cancer.

Summary

- Risk factors for stomach tumours include H.Pylori infection, increased age and smoking
- Stomach tumours often show no symptoms in the early stages. Such symptoms as are shown may be vague, such as indigestion, nausea and weight loss
- Investigations often include endoscopy, solid tissue biopsies and possibly surgery to determine the extent of the cancer
- If a tumour is diagnosed it may be invasive, in situ or of unknown or uncertain behaviour. While all invasive tumours must be recorded, in situ tumours and tumours of uncertain or unknown behaviour do not need to be recorded on a cancer data management system for the purposes of COSD - NDRS obtains these records directly from pathology laboratories

If a tumour is diagnosed, it may or may not be invasive. All invasive tumours must be recorded in your cancer data management system and while the clinical team might request that in situ tumours and tumours of unknown or uncertain behaviour are recorded, these do not need to be recorded for the purposes of COSD – NDRS obtains these records directly from the pathology labs

Summary

- Additional guidance on recording COSD data including morphology, topography, staging and recording a diagnosis can be found at: https://digital.nhs.uk/ndrs/data/cancer-data-training-materials
- Staging data sheets can also be downloaded from the NDRS website for clinical use: https://digital.nhs.uk/ndrs/data/cancer-data-training-materials/staging-sheets

Additional training modules as well as Staging sheets for clinical use may be downloaded from the NDRS website.

Summary

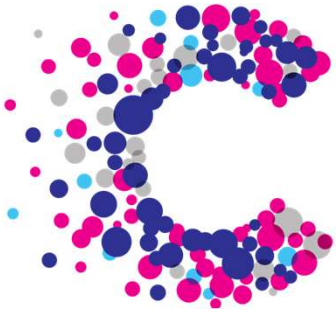
- If in any doubt as to whether you should be recording a diagnosis, please refer to the latest COSD User Guide, Appendices A, B & C
- For guidance on the required staging system, please refer to the latest COSD User Guide, Appendix E

- https://digital.nhs.uk/ndrs/data/data-sets/cosd#downloads

Do please remember, guidance **is** available on our website. You can download the COSD User Guide by clicking on this link and selecting the COSD version appropriate to your trust.

Acknowledgements

Many thanks to Cancer Research UK for the use of their images within this training module.



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We'd like to thank Cancer Research UK for the use of their images within this training module.

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If you have any questions on the information contained within this module or about COSD in general, do please feel free to email your regional Data Liaison Manager