

National Disease Registration Service (NDRS)

Gynaecological tumours – Ovarian
v4 August 2024

Welcome to this NDRS training module on Gynaecological Tumours - Ovarian. This module is designed to help Cancer Administration staff gain a better understanding of these tumours and the terminology used by the clinical teams.

Agenda

- Introduction
- Ovarian tumours
- Summary
- Acknowledgements

This module may be paused at any time



In this module we'll give you a brief introduction to selected Gynaecological tumours including some of the symptoms that ovarian tumour patients might experience. We'll look at the anatomy & physiology of the female reproductive system and will then go through the diagnosis & treatment options for these tumours. Remember, this module can be paused at any time.

Introduction

In this section we will cover:

- Types of Gynaecological tumour

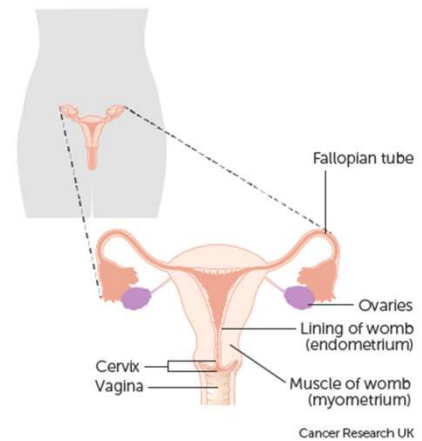
Firstly, we'll look at the various types of Gynaecological tumour...

Types of Gynaecological tumour

There are many systems within the gynaecological system that can give rise to different tumour types

- Ovaries
- Cervix
- Uterus & Endometrium
- Vagina
- Vulva
- Fallopian tubes
- Placenta

This module covers tumours of the Ovaries



Tumours may arise in any part of the female reproductive system. Training modules are available for Ovarian, Cervical and Uterine tumour sites. This module covers Ovarian tumours

Ovarian tumours

In this section we will cover:

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

In this section, we'll look at what causes ovarian tumours, the symptoms to look out for, the anatomy & physiology, locations of regional lymph nodes and the diagnostic process through to treatment...

Ovarian – Causes & Risk Factors

- Age (post-menopausal)
- Genetics/family history
- Previously having had Breast or Bowel cancer
- Infertility or fertility treatment
- HRT (hormone replacement therapy)
- Overweight or being tall
- Endometriosis
- Smoking
- Diet

We'll start with Causes & Risk factors. These can include being menopausal, having a family history of ovarian cancer, HRT and smoking.

Ovarian – Signs & Symptoms

Early Stage

- Abdominal pain
- Swollen or bloated abdomen
- Frequent urination
- A feeling of fullness or loss of appetite

Signs of an early stage ovarian tumour might include bloating or frequent urination...

Ovarian – Signs & Symptoms

Early Stage

- Abdominal pain
- Swollen or bloated abdomen
- Frequent urination
- A feeling of fullness or loss of appetite

Late Stage

- Irregular periods or bleeding after menopause
- Back pain
- Change in bowel habits
- Pain during sex
- Nausea, Fatigue or Weight loss

... while symptoms of a late stage tumour may include post menopausal bleeding, back pain, nausea, fatigue or weight loss

Ovarian – Signs & Symptoms

Early Stage

- Abdominal pain
- Swollen or bloated abdomen
- Frequent urination
- A feeling of fullness or loss of appetite

Late Stage

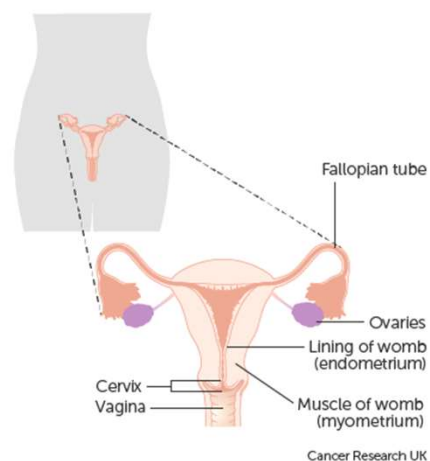
- Irregular periods or bleeding after menopause
- Back pain
- Change in bowel habits
- Pain during sex
- Nausea, Fatigue or Weight loss

- Symptoms for ovarian tumours are often quite vague
- Ovarian cancer is known as the 'silent killer'. There is currently no screening programme available

As you can see, symptoms of Ovarian tumours are often vague and can easily be mistaken for other, non-cancerous conditions. Known as “the silent killer” there is currently no test that can reliably detect Ovarian cancer early, making a screening programme impossible.

Ovarian – Anatomy & Physiology

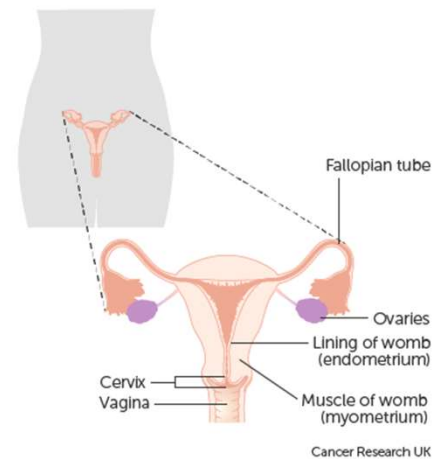
- The ovaries are a pair of organs in the female reproductive system which lie within the pelvis on either side of the uterus
- Each ovary is around 3cm in length - about the size of an almond
- The fallopian tube is adjacent to the ovary and catches the ovum as it is released from the ovary
- The ovaries are not physically attached to the fallopian tubes



The ovaries lie either side of the uterus near the openings of the fallopian tubes. Each ovary is roughly 3cm in length.

Ovarian – Anatomy & Physiology

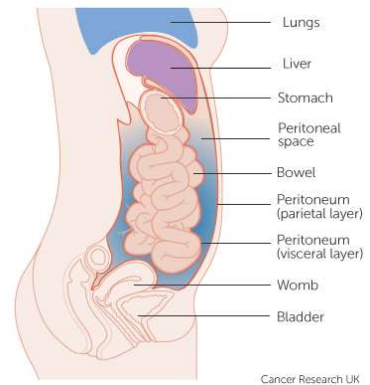
- The ovaries have two functions – ovulation and hormone production
- The ovaries are responsible for storing and releasing egg cells (ova) which, on release, pass into the fallopian tube making their way to the uterus
- The production of the hormones oestrogen and progesterone controls the maturation and release of an ovum from one of the ovaries each month



The ovaries store and release the egg cells as well as producing both oestrogen and progesterone

Ovarian – Anatomy & Physiology

- The peritoneum is a two-layered membrane that supports the abdominal cavity and produces lubricating fluid
- The fluid allows the organs in the abdominal cavity to flow smoothly over each other and protects against infection
- The peritoneum supports the abdominal organs and serves as a channel for their blood supply, lymphatic vessels and nerves

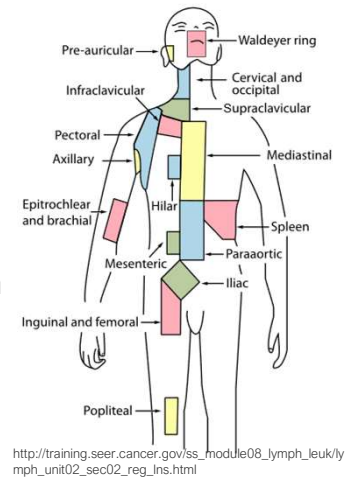


The female reproductive organs sit within the abdominal cavity, also known as the peritoneum, along with other parts of the body, such as the liver, stomach and intestines.

Ovarian – Regional Lymph Nodes

The regional lymph nodes for ovarian tumours are:

- Hypogastric - obturator (in the groin) and internal iliac
 - Common iliac & External iliac
 - Lateral sacral (in the region of the sacrum at the base of the spine)
 - Para-aortic (located near the aorta, the main artery in the body)
 - Retroperitoneal (behind the peritoneum)
-
- Inguinal nodes are classed as distant lymph nodes



During an MDT, clinicians may mention particular groups of regional lymph nodes as displaying or not displaying lymphadenopathy – which simply means enlarged lymph nodes. If these groups of lymph nodes are mentioned, it may indicate that the clinical team have determined the stage of the cancer. Regional lymph nodes for Ovarian tumours are listed here.

Ovarian – Diagnosis

After referral, the gynaecologist may arrange further tests which may include:

- Abdominal ultrasound/transvaginal ultrasound
- CA125 blood marker
- CT/MRI scans
- Chest X-ray
- Laparoscopy and biopsy
- Cytology

Investigations for Ovarian cancer may include blood tests, radiological examination, biopsy and potentially surgery.

Ovarian - Morphology

Epithelial tumours of the ovary are the most common type of ovarian cancer making up around 90% of all tumours

- High grade serous carcinoma - **M8461/3***
- Low grade serous carcinoma – M8460/3
- Endometrioid carcinoma - M8380/3
- Mucinous carcinoma - M8480/3
- Clear cell carcinoma - M8310/3

*If your cancer data management system does not list the ICD-O-3 morphology code M8461/3, please record using **Serous Cystadenocarcinoma - M8441/3** and record the grade as **High Grade**

Around 90% of ovarian tumours are Epithelial in origin and may be Serous, Endometrioid, Mucinous or Clear Cell.

Ovarian - Morphology

Germ cell tumours develop in the ovum-making cells of the ovary, most are benign but not all

- Mature Teratoma - M9080/0 - benign
- Immature Teratoma - M9080/3 - malignant

As mature teratomas are benign they are **not** C coded in ICD10 and do not require a COSD record

Rarer tumour types include germ cell tumours which may be benign or malignant...

Ovarian - Morphology

Sex cord stromal tumours arise in cells which support immature ova

- Granulosa cell tumour
 - Adult type - M8620/3
 - Juvenile type - M8622/1 – tumour of unknown or uncertain behaviour
- Sertoli-Leydig cell tumour, poorly differentiated - M8631/3

Sex cord stromal tumours of unknown or uncertain behaviour are **not** C coded in ICD10 and do not require a COSD record

...and sex cord stromal tumours which may be malignant or borderline.

Ovarian - Morphology

Borderline tumours of the ovary consist of abnormal cells which develop in the epithelial tissue covering the ovary

- Slow-growing
- Can spread to other organs of the body

The 2 main types of borderline tumours are:

- Serous borderline ovarian tumour - M8442/1
- Mucinous borderline ovarian tumour - M8472/1

Ordinarily, gynaecological morphologies of unknown or uncertain behaviour are **not** C coded in ICD10 and do not require a COSD record

However, serous & mucinous ovarian borderline tumours must be recorded as an invasive C56 cancer in your cancer data management system

While other gynaecological tumours of uncertain or unknown behaviour are not C coded, Serous or Mucinous borderline tumours of the ovary are an exception and must be recorded as a C56 invasive cancer.

Ovarian - Morphology

Primary peritoneal carcinomas are rare cancers of the peritoneum

- have similar morphology to ovarian epithelial tumours
- diagnosed only if the carcinoma does not involve either the fallopian tube or the ovaries
- The tests used to diagnose PPC are the same as for ovarian cancer
- it is also treated and staged in the same way

On rare occasions, investigations for suspected ovarian cancer may determine that there is a tumour within the peritoneum but without involvement of the ovaries or fallopian tubes. This is classified as a primary peritoneal carcinoma.

Ovarian – Topography - Invasive

- Once diagnosed, invasive ovarian cancer is classified as **C56X**
- If diagnostic investigations conclude a primary peritoneal carcinoma, this is classified as:
 - **C48.1** – Specified parts of peritoneum
 - **C48.2** – Peritoneum, unspecified
 - **C48.8** – Overlapping lesion of retroperitoneum & peritoneum
- All invasive ICD10 codes must be recorded

The ICD10 codes for Invasive tumours of the Ovary and Peritoneum are shown here...
All invasive tumours must be recorded in your cancer data management system...

Ovarian – Topography – In Situ

- Once diagnosed, an in situ ovarian tumour is classified as **D07.3**
- It should be noted that while your clinical team may request that D07.3 in-situ ovarian tumours are recorded, these do not currently require a COSD submission from your cancer data management system

... while the ICD10 code for an in-situ ovarian tumour is D07.3.

Ovarian - Grade

There are several different grading systems for ovarian carcinomas, each grading system being dependent on the morphological growth type of the tumour

Serous carcinomas of the ovary and peritoneum are graded using a two-tier system: high grade or low grade

- Low grade serous carcinomas are much less common, arising from a pre-existing benign or borderline tumour in many instances
- High grade serous carcinoma is much more common and is thought to arise directly from fallopian tube epithelium of ovarian inclusion cysts

The grading system for tumours depends on the morphology of the tumour. Serous carcinomas are either Low grade or High grade...

Ovarian - Grade

Ovarian endometrioid carcinomas and mucinous carcinomas are graded using the FIGO grading system:

Low grade / 1	Cancer cells are well differentiated, slow growing
Moderate grade / 2	Cancer cells are moderately differentiated, faster growing
High grade / 3	Cancer cells are poorly differentiated, fast growing

Clear cell carcinoma and carcinosarcoma of the ovary are automatically regarded as high grade or grade 3

...while endometrioid & mucinous carcinomas are graded according to the FIGO grade system. Clear cell carcinomas and Carcinosarcomas are automatically classified as Grade 3.

Ovarian - Stage

Ovarian and primary peritoneal tumours are staged using the FIGO staging system

- Please refer to the NDRS Training Module: KPI – Gynaecology Staging 101 <https://digital.nhs.uk/ndrs/data/cancer-data-training-materials>
- Gynaecological cancer staging data sheets (for clinical use) can be found on the NDRS website: <https://digital.nhs.uk/ndrs/data/cancer-data-training-materials/staging-sheets>

Ovarian and primary peritoneal tumours are staged using the FIGO staging system. Please refer to the NDRS training module on FIGO staging for Gynaecology for detailed guidance on recording the FIGO stage

Ovarian – Treatment - Surgery

Surgery

Surgery is the preferred treatment for ovarian cancer to ensure as much tumour is removed as possible but this will depend on the extent of tumour spread

In most cases surgery involves:

- Bilateral salpingo-oophorectomy (BSO) – removal of both ovaries & fallopian tubes
- Hysterectomy, abdominal (TAH) or vaginal (TVH) – removal of the uterus +/- other organs
- Omentectomy – removal of a fold of fatty tissue within the peritoneum

Borderline or low grade very early stage ovarian tumours may only require removal of the diseased ovary and associated fallopian tube

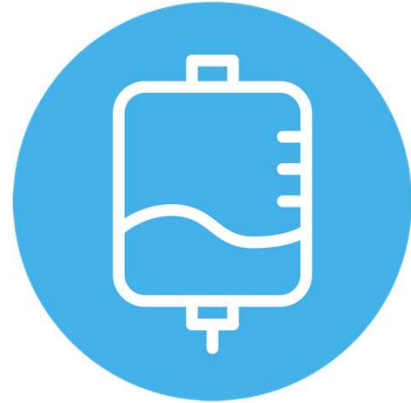
Most ovarian tumours are treated with surgery - which may involve the removal of the uterus as well as the ovaries and fallopian tubes. More advanced disease may also require removal of some or all of the Omentum, a fold of fatty tissue lining the peritoneum that supports the abdominal structures

Ovarian – Treatment - Chemotherapy

Chemotherapy

Neoadjuvant chemotherapy can be given before surgery to shrink the tumour, to ensure a surgical resection with a clear margin

Adjuvant chemotherapy can be given after surgery if there is any concern that tumour cells may have been left behind or that the tumour has spread beyond the ovary



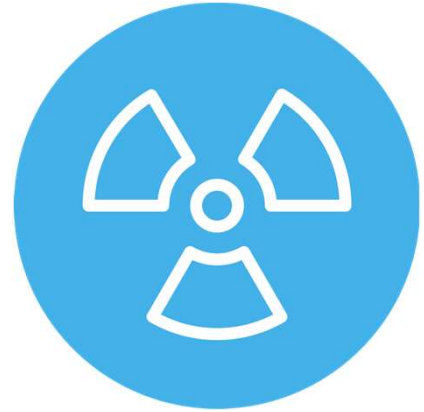
Chemotherapy can be administered before surgery to shrink the tumour. It may also be given after surgery to treat any tumour cells that have been left behind.

Ovarian – Treatment - Radiotherapy

Radiotherapy

Radiotherapy is rarely used to treat ovarian cancer but may be given after surgery for early ovarian cancer to kill any remaining cancerous cells

Palliative radiotherapy may be given for advanced ovarian cancer to reduce the size of the tumour and treat symptoms



The use of Radiotherapy in ovarian cancer is usually limited to either very early or very late stage tumours.



Summary

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To summarise...

Summary

- There are multiple possible causes of ovarian and primary peritoneal cancers. These include: age, genetic risk, obesity, previous cancers and prior hormone treatments. There is no screening programme for these tumours

Risk factors for ovarian & primary peritoneal tumours include age, genetic risk and prior hormone treatments. As there is no reliable test for detecting early ovarian cancer, there is no screening programme

Summary

- There are multiple possible causes of ovarian and primary peritoneal cancers. These include: age, genetic risk, obesity, previous cancers and prior hormone treatments. There is no screening programme for these tumours
- Signs and symptoms vary and may be vague but can include: abdominal pain, bloating, unusual bleeding and fatigue

Symptoms may be vague and can include abdominal pain and unusual bleeding

Summary

- There are multiple possible causes of ovarian and primary peritoneal cancers. These include: age, genetic risk, obesity, previous cancers and prior hormone treatments. There is no screening programme for these tumours
- Signs and symptoms vary and may be vague but can include: abdominal pain, bloating, unusual bleeding and fatigue
- Investigations may range from a simple blood test and radiological examination through to solid tissue biopsies or surgery

Investigations may range from a simple blood test through to surgery

Summary

- There are multiple possible causes of ovarian and primary peritoneal cancers. These include: age, genetic risk, obesity, previous cancers and prior hormone treatments. There is no screening programme for these tumours
- Signs and symptoms vary and may be vague but can include: abdominal pain, bloating, unusual bleeding and fatigue
- Investigations may range from a simple blood test and radiological examination through to solid tissue biopsies or surgery
- If a tumour is diagnosed it may be invasive, borderline or in-situ. While all invasive and borderline ovarian tumours must be recorded, in situ tumours 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 be invasive, borderline or in-situ. All invasive and borderline ovarian tumours must be recorded in your cancer data management system and while the clinical team might request that in situ tumours 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, Appendix A & Appendix B
- 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



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