

Ovaries/Uterus/Breast

Dr Zaid Saad Madhi

Al-Mustaqbal University

The Ovary

The ovary is an organ found in the female reproductive system that produces an ovum.

When released, this travels down the fallopian tube into the uterus, where it may become fertilized.

There is an ovary (from Latin ovarium 'egg, ') found on each side of the body.

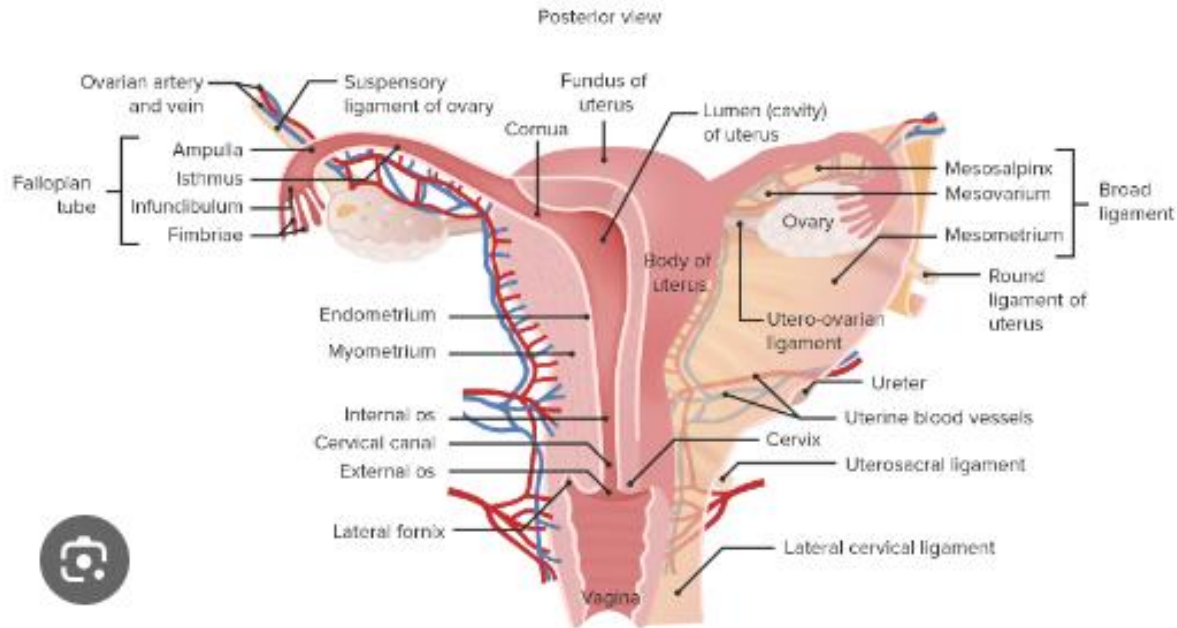
The ovaries also **secrete hormones** that play a role in the menstrual cycle and fertility.

The ovaries lie within the peritoneal cavity, on either side of the uterus, to which they are attached via a fibrous cord called the ovarian ligament.

The ovaries are uncovered in the peritoneal cavity but are tethered to the body wall via the **suspensory ligament** of the ovary which is a posterior extension of the **broad ligament** of the uterus.

The part of the broad ligament of the uterus that covers the ovary is known as the mesovarium.

The ovarian pedicle is made up part of the fallopian tube, mesovarium, ovarian ligament, and ovarian blood vessels.



Ovarian cysts

If the egg fails to release from the follicle in the ovary ...an ovarian cyst may form.

Small ovarian cysts are common in healthy women.

Some women have more follicles than usual (polycystic ovary syndrome), which inhibits the follicles to grow normally and this will cause cycle irregularities.

Polycystic ovary syndrome (PCOS)

is a common condition that affects how a woman's ovaries work.

The 3 main features of PCOS are:

irregular periods – which means your ovaries do not regularly release eggs (ovulation)

excess androgen – high levels of "male" hormones in your body, which may cause physical signs such as excess facial or body hair

polycystic ovaries – ovaries become enlarged and contain many fluid-filled sacs (follicles) that surround the eggs (but despite the name, you do not actually have cysts if you have PCOS)

Polycystic ovaries contain a large number of harmless follicles that are up to 8mm (approximately 0.3in) in size.

The follicles are underdeveloped sacs in which eggs develop. In PCOS, these sacs are often **unable to release an egg**, which means ovulation does not take place

Symptoms of polycystic ovary syndrome (PCOS)

They'll usually become apparent during late teens or early 20s.

They can include:

irregular periods or no periods at all

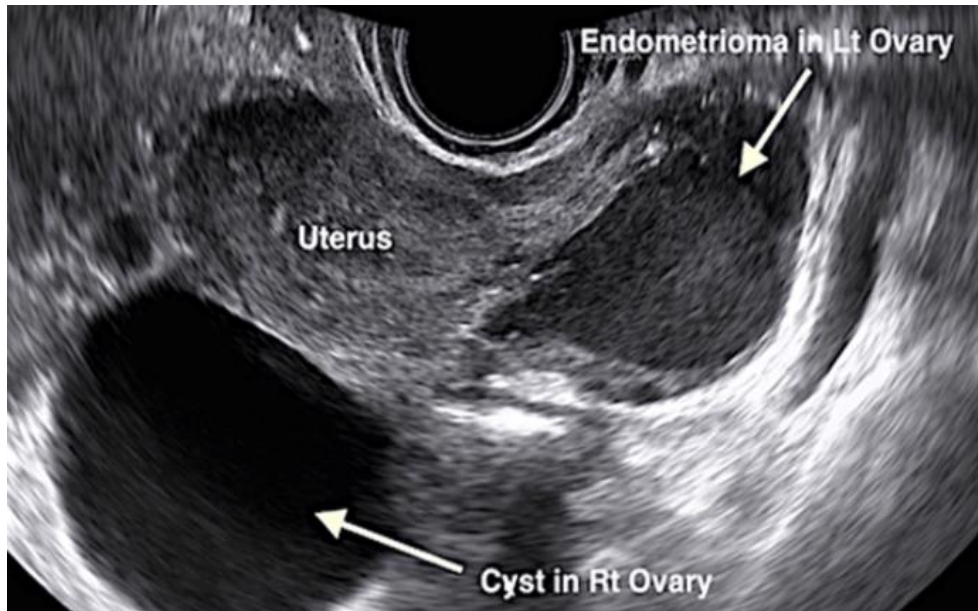
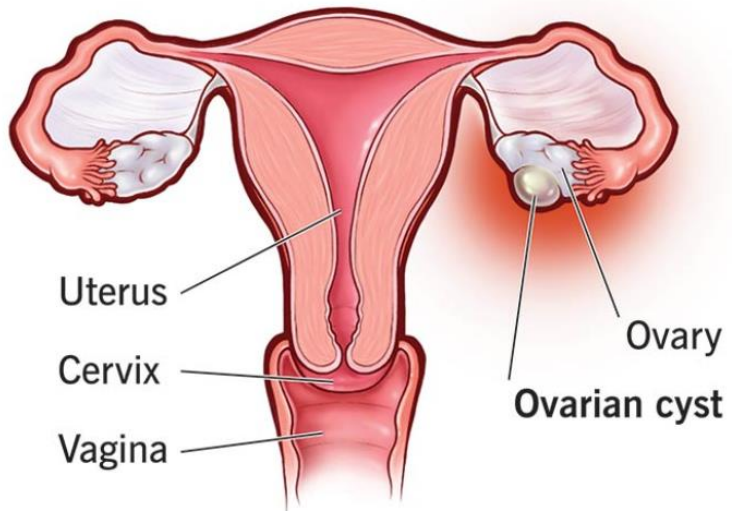
difficulty getting pregnant as a result of irregular ovulation or no ovulation
– usually on the face, chest, back or buttocks
excessive hair growth (hirsutism)

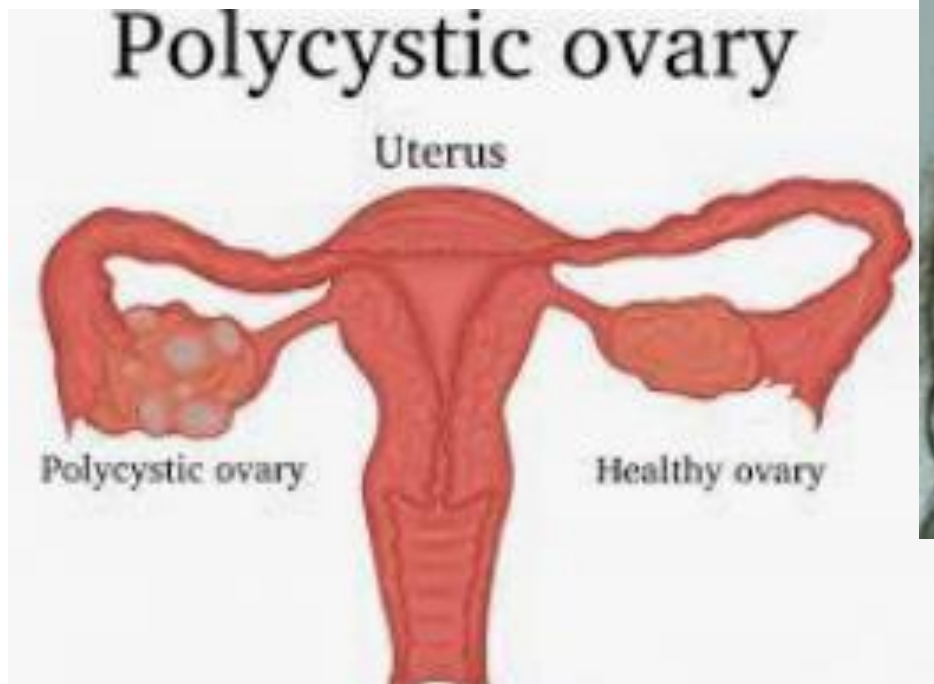
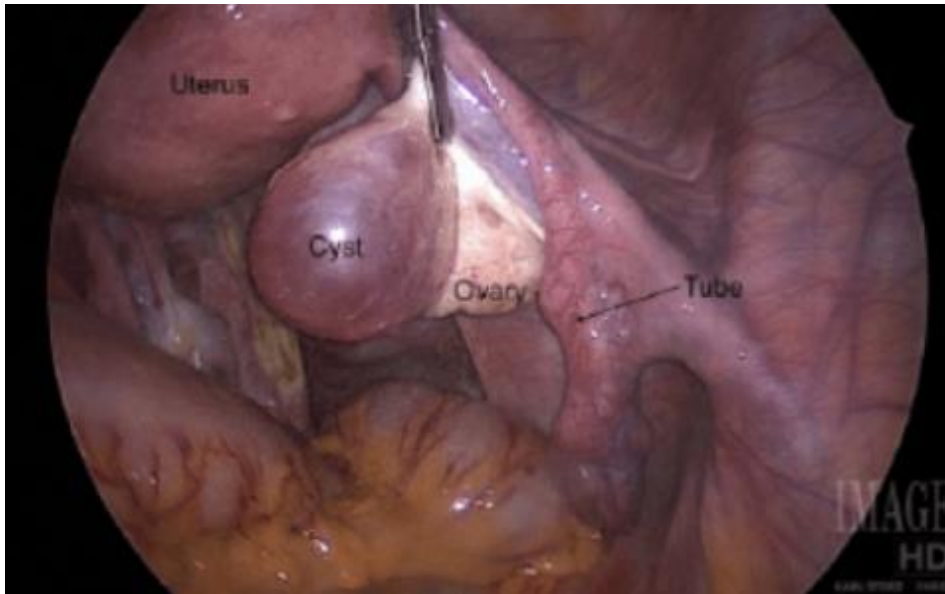
weight gain

thinning hair and hair loss from the head

oily skin or acne

PCOS is also associated with an increased risk of developing health problems in later life, **such as type 2 diabetes and high cholesterol levels.**





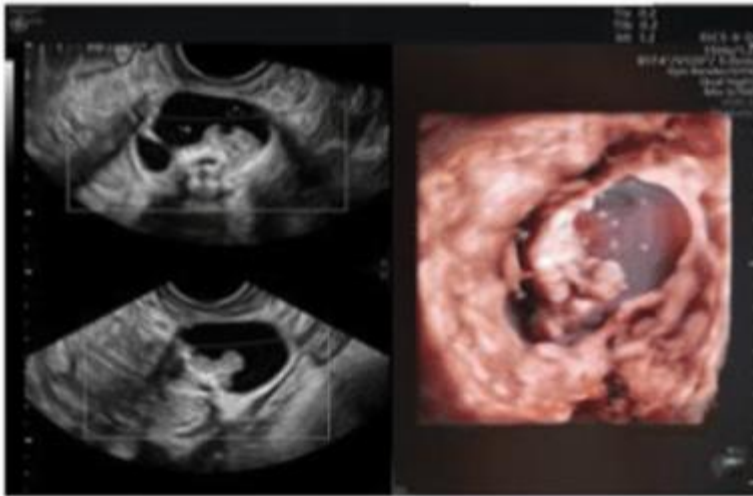
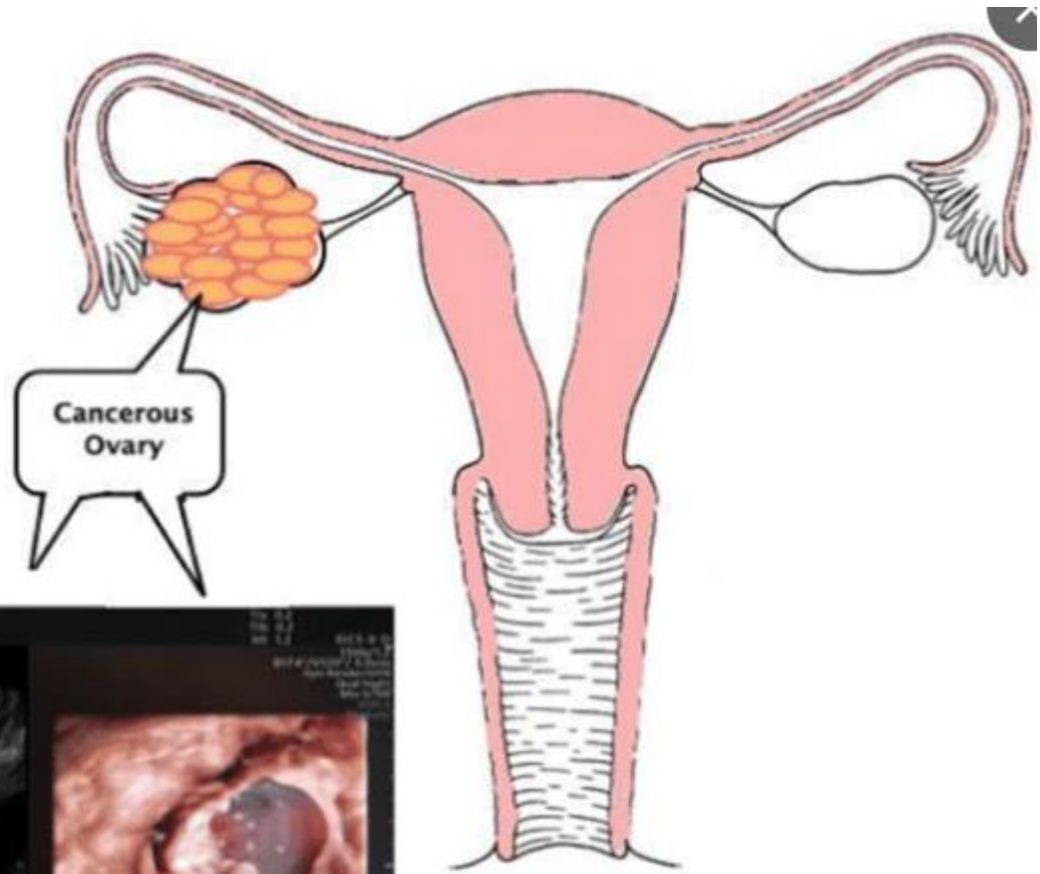
Ovarian tumors

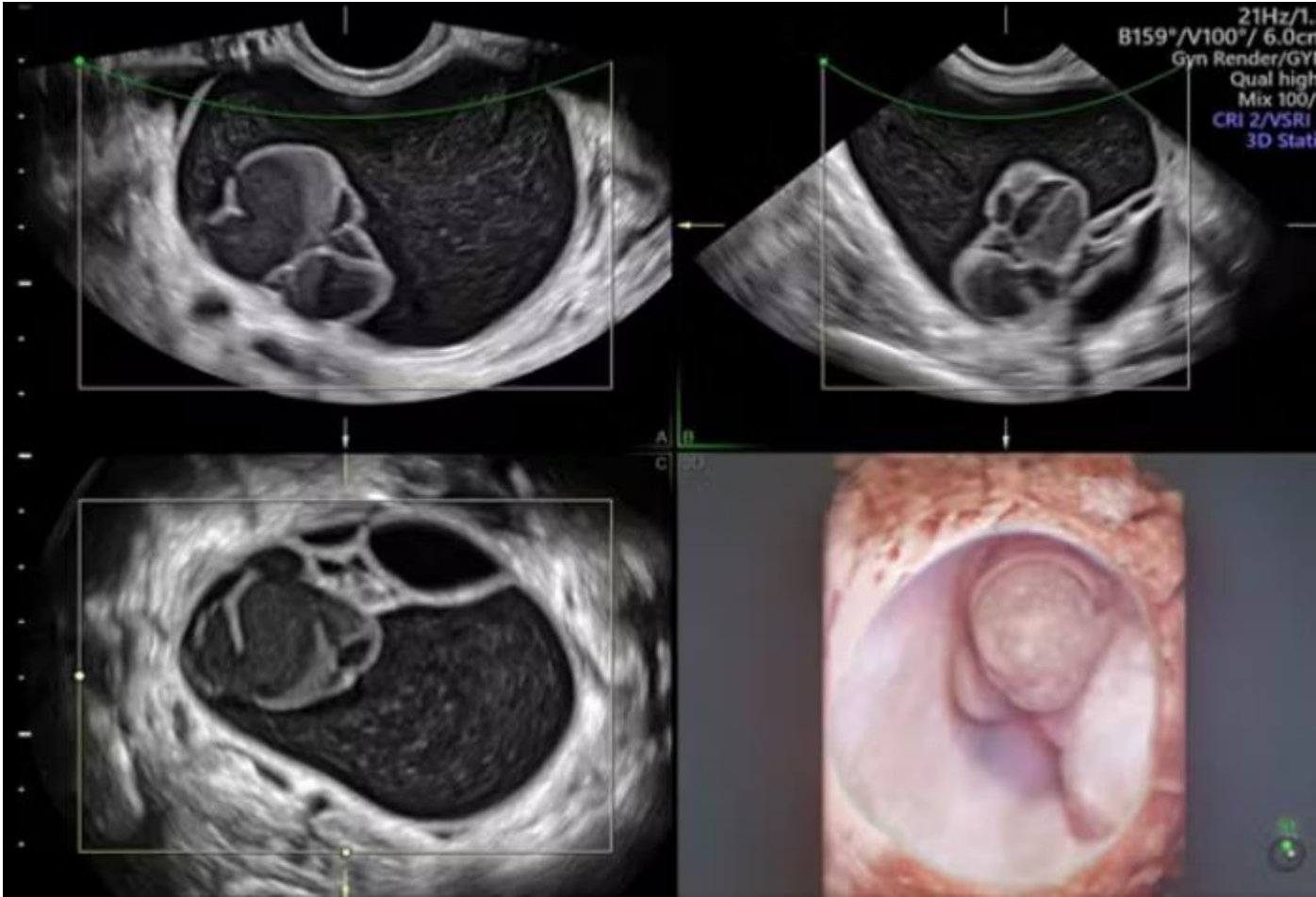
They are tumors arising from the ovary. They can be benign or malignant (ovarian cancer).

They consists of mainly solid tissue, while ovarian cysts contain fluid.

A teratoma is a tumor made up of several different types of tissue, such as hair, muscle, teeth, or bone.

Teratomata typically form in the ovary, testicle, or coccyx.





Diagnosis of ovarian cancer

Starts with a **physical examination** (including a pelvic examination).

A blood test (for CA-125 and sometimes other markers), and abdominal ultrasound.

The diagnosis **must be confirmed with surgery** to inspect the abdominal cavity.

Take biopsies (tissue samples for microscopic analysis), and look for cancer cells in the abdominal fluid. This helps to determine if an ovarian mass is benign or malignant.

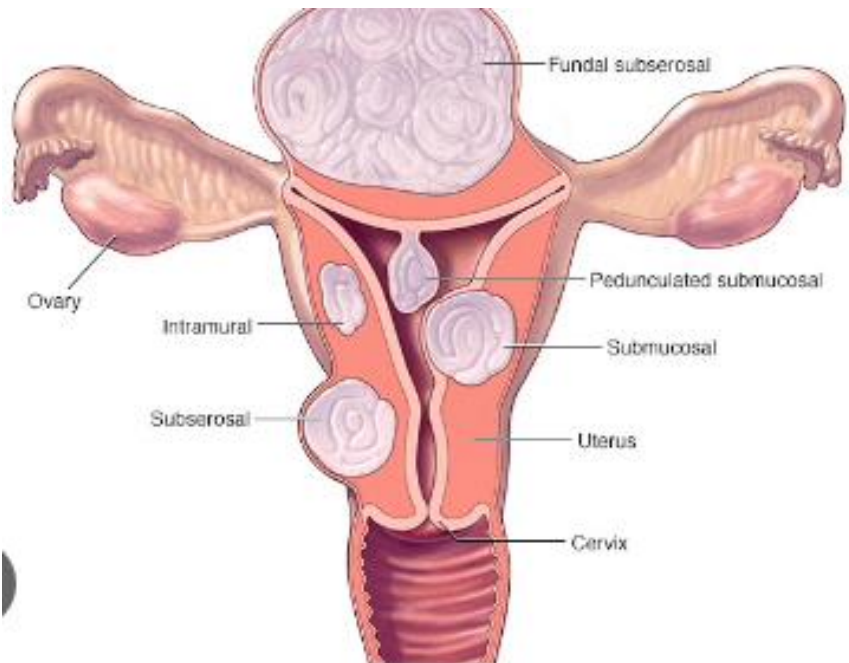
CT scanning is preferred to assess the extent of the tumor in the abdominopelvic cavity.

Magnetic resonance imaging can also be used.

The Uterus

Uterine fibroids, also known as uterine leiomyomas or fibroids, are benign smooth muscle tumors of the uterus.

Most women have **no symptoms** while others may have **painful or heavy periods**. If large enough, they may **push on the bladder** causing a frequent need to urinate.



Breast cancer

cancer that develops from breast tissue.

Signs of breast cancer may include a lump in the breast, a change in breast shape, dimpling of the skin, fluid coming from the nipple, a newly inverted nipple, or a red or scaly patch of skin. In those with distant spread of the disease, there may be bone pain, swollen lymph nodes, shortness of breath, or yellow skin.

Risk factors for developing breast cancer include obesity, a lack of physical exercise, alcoholism, hormone replacement therapy during menopause, ionizing radiation.

About 5–10% of cases are the result of a genetic predisposition inherited from a person's parents, including BRCA1 and BRCA2 among others.


Cancers developing from the ducts are known as **ductal carcinomas**, while those developing from lobules are known as **lobular carcinomas**.

Ductal carcinoma in situ (DCIS)



Cells inside some of the ducts of your breast have started to turn into cancer cells

Lobular carcinoma in situ (LCIS)



Cells inside some of your breast lobules have started to become abnormal

Invasive ductal cancer



The most common type of breast cancer

Invasive lobular breast cancer



About 10% to 15% of breast cancers diagnosed are invasive lobular carcinoma

Inflammatory breast cancer

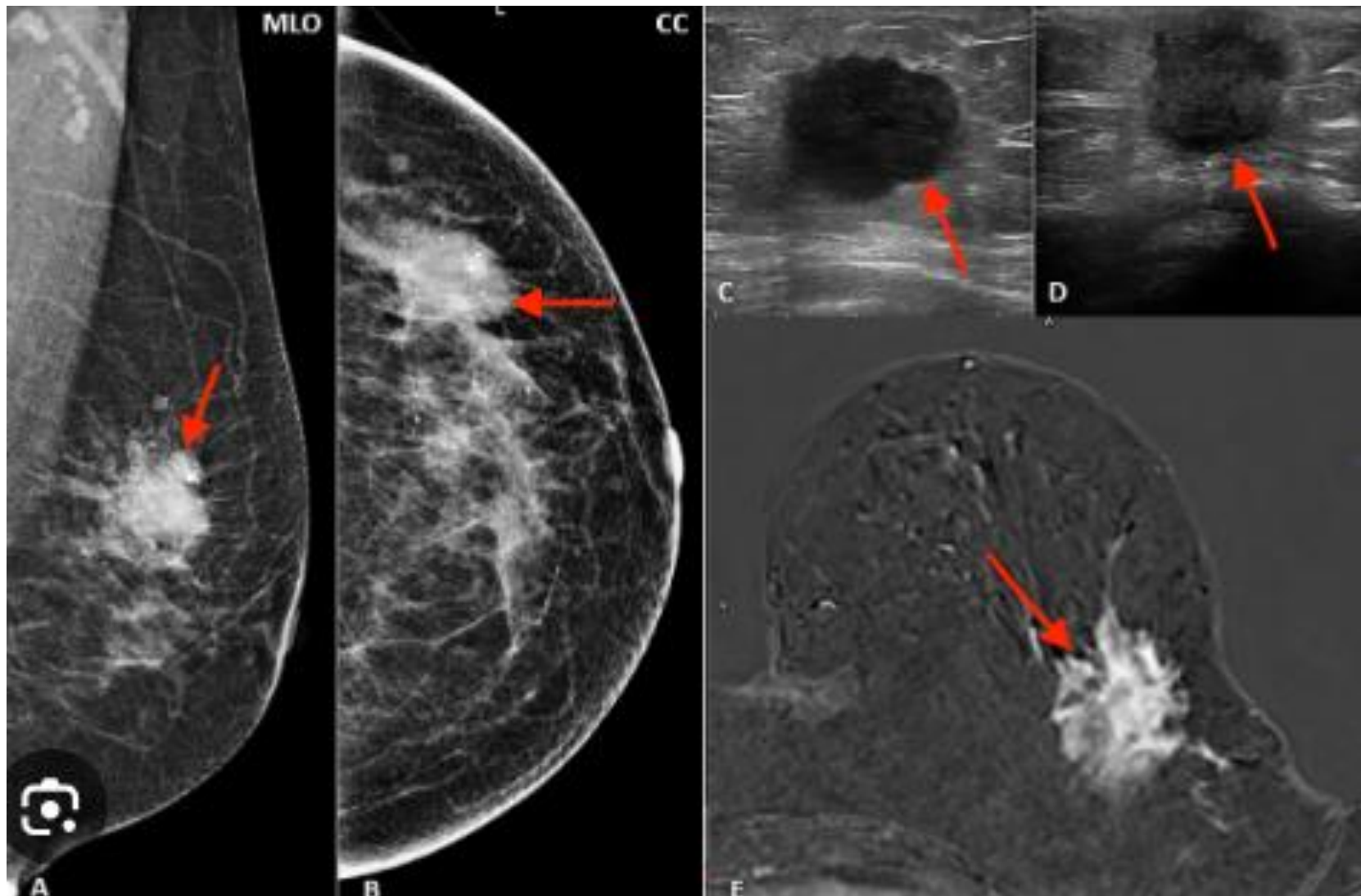


A rare type of breast cancer

Paget's disease



A rare disease that is associated with breast cancer



Screening

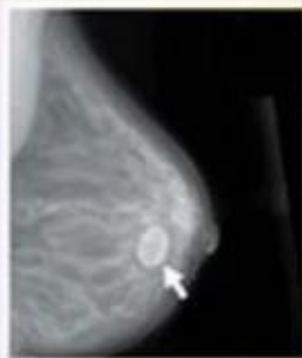
The two most commonly used screening methods, physical examination of the breasts by a healthcare provider and mammography.

Mammography (also called mastography) is the process of using low-energy X-rays (usually around 30 kVp) to examine the human breast for diagnosis and screening.

The goal of mammography is the early detection of breast cancer, typically through detection of characteristic masses or microcalcifications.



Normal
mammogram



Benign cyst
(not cancer)



Breast
calcifications



Breast
cancer





Treatment overview

Surgery is usually the first type of treatment for breast cancer. The type of surgery you have will depend on the type of breast cancer you have.

Surgery is usually followed by chemotherapy or radiotherapy or, in some cases, hormone or targeted therapies.