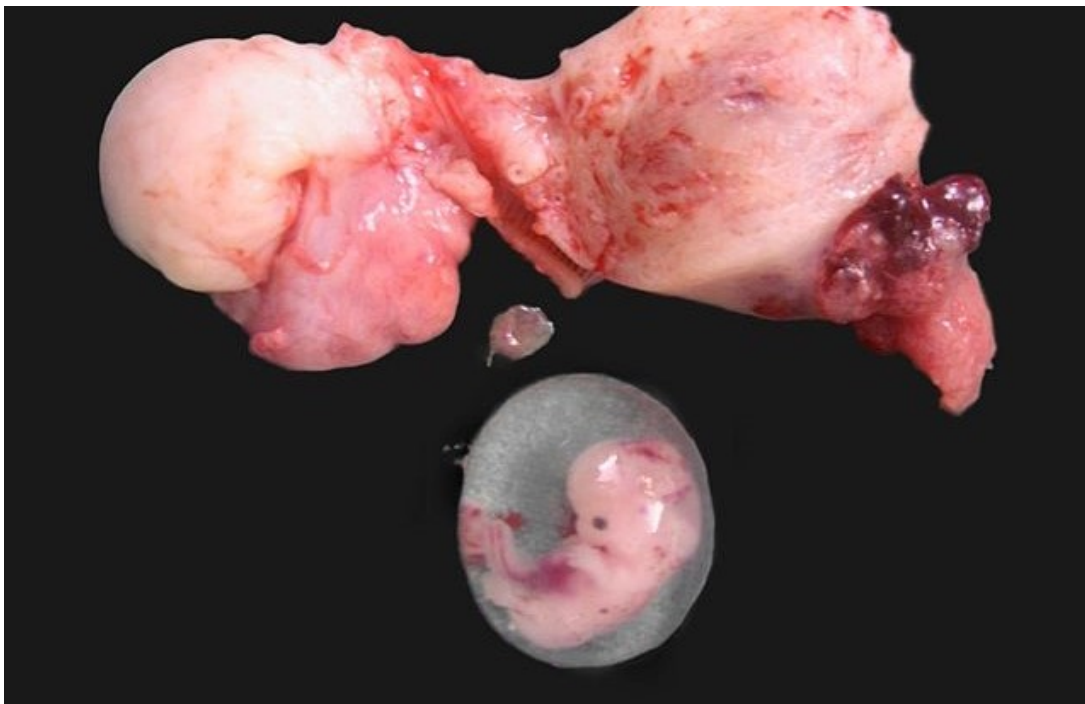


Ectopic Pregnancy (Extrauterine Pregnancy) — Symptoms and Treatment

[See online here](#)

Eccyesis or tubal pregnancy refers to the implantation of the blastocyst outside the uterine cavity. Thereby, affected patients suffer from acute abdominal pain. Eccyesis or tubal pregnancy can be quickly diagnosed by means of an ultrasound and laboratory analysis. In severe cases, in the case of rupture and hemorrhage, the fastest possible action is required. Surgery should be considered as a therapeutic approach.



Definition

Eccyesis or tubal pregnancy as ectopic pregnancy

In an ectopic pregnancy, the **implantation of a blastocyst outside the uterine cavity** takes place.

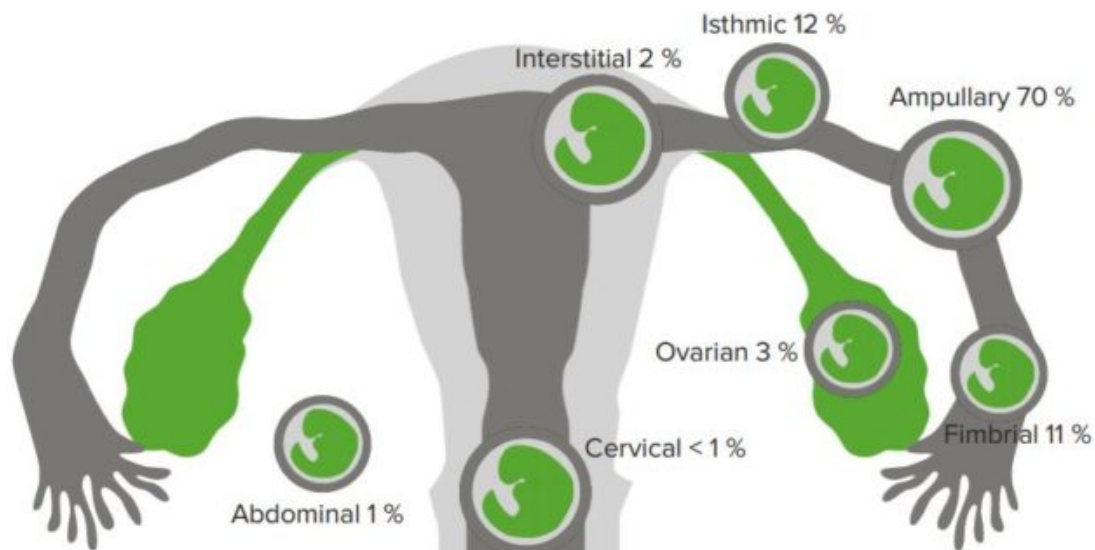


Image: Ectopic Pregnancy. By: Lecturio

Epidemiology

Cases of ectopic pregnancies have increased **worldwide** and have nearly doubled in the last 10 years. This increase is attributed, among other things, to improved diagnosis. Secondly, intrauterine devices (IUDs), ascending genital infections, and infertility treatments are also associated with a high risk for ectopic pregnancy.

Etiology

Causes of ectopic pregnancy

The most common location for ectopic pregnancy is the fallopian tube (**tubal pregnancy**). The uterine tube is divided into the ampulla, isthmus, and intramural portion. Comparably, the **ampulla** is affected more often. The **isthmic** and **intramural** portions are affected less often.

Approx. 1% of ectopic pregnancies can affect the uterus, ovary, peritoneum (abdominal pregnancy), or the cervix.

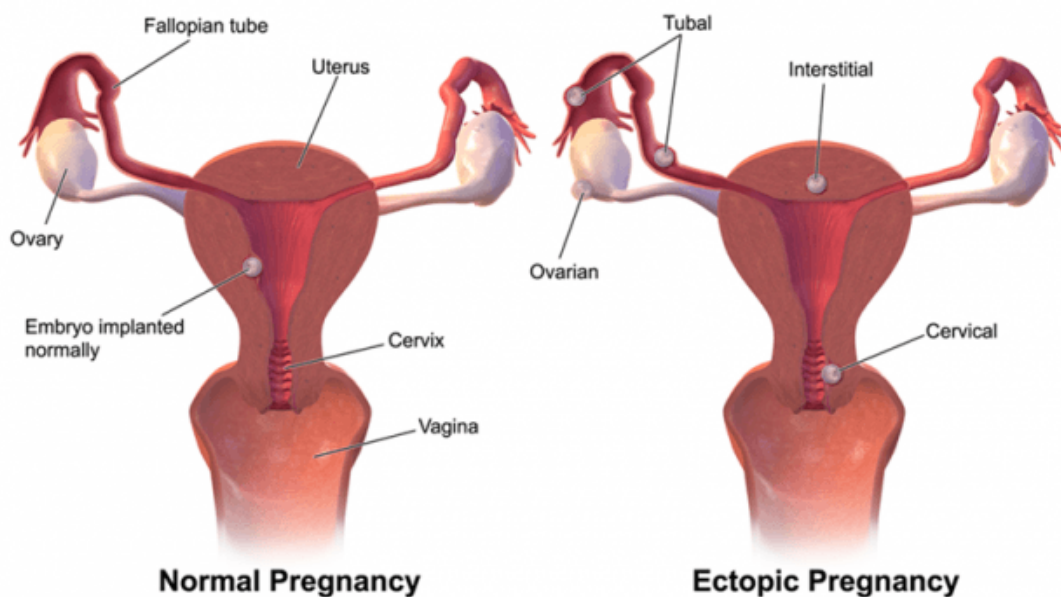


Image: 'Ectopic Pregnancy'. By: BruceBlaus. License: [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/)

Pathogenesis

Origin and development of ectopic pregnancy

The tubal mucosa is similar to the endometrium of the uterus in its ability to undergo decidualization, although not to a comparable extent. When a fertilized egg is not yet in the uterine cavity by the 5th or 6th day, it is implanted at its then-current location, which is usually the tube.

The reasons for ectopic pregnancy may include **disorders** connected with the **ovulation mechanism** and **tubal passage**. The tube may be blocked due to **congenital or acquired anomalies**. In addition, functional impairment is possible in terms of the disruption of ciliary activity or **tube motility**.



Image: Ectopic pregnancy. By: Hic et nunc. License: [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/)

Frequently, **adhesions** cause the blockage of transport from the fimbriae to the uterine cavity. This can happen due to inflammation as in the case of adnexitis. Adhesions can also be caused by endometriosis implants, surgical interventions (for example scarring), or previous ectopic pregnancies.

Women with an **IUD** are more often affected by ectopic pregnancy than women without IUDs. Decreased peristalsis might be the reason.

Clinical Features

Symptoms of ectopic pregnancy

Ectopic pregnancy is an important differential diagnosis in cases of **acute abdomen**. Here, the symptoms vary greatly. It depends on the localization of the ectopic

pregnancy, the condition of the product of conception (the embryo may be intact or already dead), and the age of the pregnancy. Thus, asymptomatic processes or severe presentations, including circulatory shock, are possible. In addition, classical symptoms and signs of pregnancy may be present. These include breast tenderness and morning sickness.

Initially, **secondary amenorrhea** is usually present. After about 5 weeks, unilateral pain appears in the adnexal region. This may also be accompanied by **spotting**. This bleeding usually corresponds to a hormonal withdrawal bleeding and is less associated with direct bleeding from the tube.

Pain symptoms in the shoulder area may arise if the tube has been already ruptured (often the result of ectopic pregnancy at the isthmus) and if there is **intra-abdominal bleeding**. This pain is caused by the irritation of the phrenic nerve.

Diagnosis

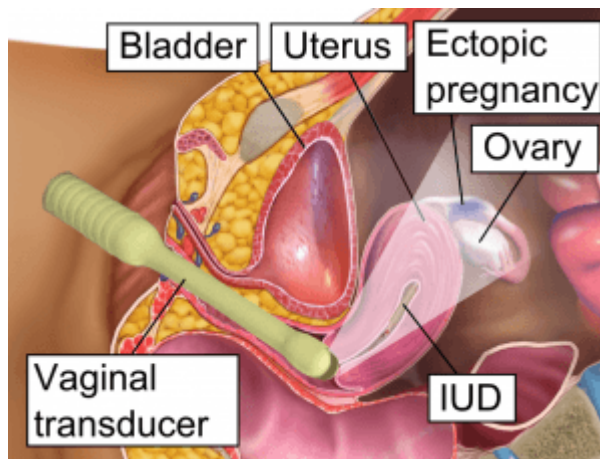


Image: Schematic figure of vaginal ultrasound in ectopic pregnancy. By: Mikael Häggström, from original by BruceBlaus. License: [CC BY 3.0](https://creativecommons.org/licenses/by/3.0/)

A clinical examination is indicated in addition to a history of abdominal pain and secondary amenorrhea. On palpation of the lower abdomen, **pain with pressure** and **pain on the movement of the cervix** are present. Subsequently, a laboratory analysis must be initiated. An increased **serum beta-HCG concentration** would still be detectable even with a negative pregnancy test. Thus, beta-HCG plays an important role in the diagnosis.

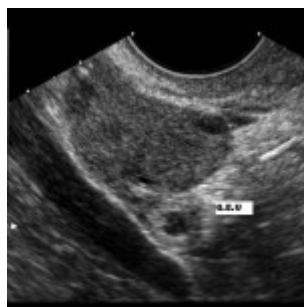
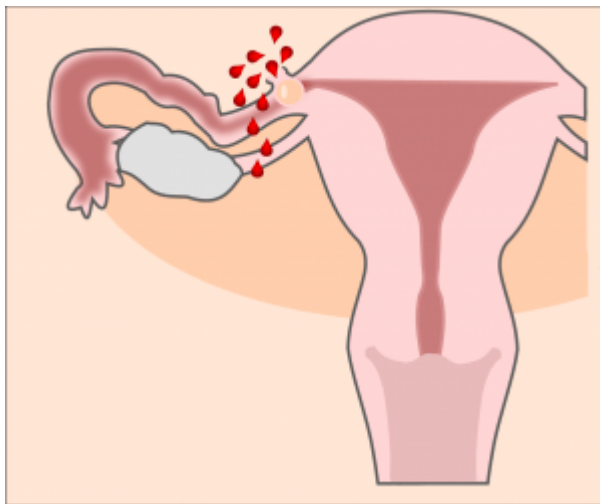


Image: Ectopic pregnancy in ultrasound. By: X. Compagnion. License: [Public Domain](https://publicdomain.org/)

Furthermore, an **ultrasound examination** is crucial. In this case, an **empty uterine**

cavity without an amniotic sac is detected. Often a pseudo-gestational sac is visible. This is caused by the accumulation of fluid in the endometrium and looks similar to the fetal sac. You may also see an enlargement of the tube with the amniotic sac. Frequently, the tube has already ruptured, and the examiner may observe **free fluid (blood)** in the pouch of Douglas.

The diagnosis of ectopic pregnancy is a high possibility in the presence of these findings. However, the diagnosis must be confirmed by laparoscopy.



[Image](#): Schematic drawing of a rupture of the Fallopian tube in the case of an ectopic pregnancy. By: Hic et nunc. License: [CC BY-SA 3.0](#)

Differential Diagnosis

Diseases similar to ectopic pregnancy

Other reasons for an acute abdomen must be ruled out, in addition to gynecological causes. These include **sigmoid diverticulitis** or **appendicitis**.

Other gynecological differential diagnoses include **endometriosis**, **acute adnexitis**, **abortion**, **ovarian torsion**, and **urological colic**.

It is important to note that **none of the above differential diagnoses cause hemorrhagic shock and that any cause of hemorrhagic shock is a surgical emergency**.

Therapy

Treatment of ectopic pregnancy

Therapeutically, **diagnostic-therapeutic pelviscopy** is used. The radical nature of the treatment will depend on the patient's desire to have children. For those desiring children, a conservative organ-preserving procedure is applied. However, this increases the risk of recurrence of an ectopic pregnancy.

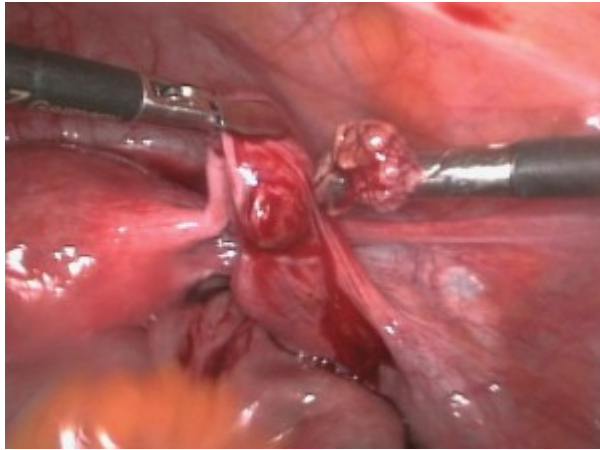


Image: Removal of an ectopic pregnancy out of the right Fallopian tube. By: Hic et nunc. License: [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/)

A **salpingostomy** can be performed for ectopic pregnancy. Here, a longitudinal incision is made, and the gestational sac is removed from the tube. If future childbirth is undesired, the affected tube is removed (**salpingectomy**).

In the early stages of ectopic pregnancy, conservative action is also possible and comprises **drug therapy**. In the case of local treatment, **prostaglandins** or **methotrexate** can be injected. Likewise, systemic drug therapy is possible with intramuscular methotrexate administration. This causes the death of the embryo. Conservative treatment may be applied if there is no evidence of bleeding or rupture.

In the course of treatment, beta-HCG should regularly be checked.

Prognosis

Probability of ectopic pregnancy recurrence

The probability of ectopic pregnancy recurrence is very high, with a recurrence rate of 5-20%.

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