ADVICE

Endometrial or ovarian cancer at a young age: w en the chance to have children can be p eserved

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When the uterus and ovaries can be preserved in endometrial cancer and ovarian tumours, who makes that decision and how to plan a pregnancy after treatment. Based on a talk by oncologist Artem Mykytiuk.

A cancer diagnosis at 30 or 35 changes everything. More often than not, it brings straight away one more question that women do not always dare to ask their doctor: will I be able to have children after treatment?

For some patients the answer is yes. Modern gynaecological oncology can treat certain types of endometrial cancer and ovarian tumours while preserving the uterus, an ovary or both. But this approach has clear limits, and that is what this article is about. It is based on a talk by Artem Mykytiuk, PhD, surgical o ncologist and assistant lecturer at the Department of Oncology of Bogomolets National Medical University, a nd draws on the international ESGO/ESHRE/ESGE (2023) and ASCO (2025) guidelines.

Why fertility has to be discussed straight away

Every year more than 2 million women under 50 are diagnosed with cancer worldwide. In Ukraine, 12,835 new cases were registered among women aged 15–49 in 2021.

Yet only 30–40% of patients of reproductive age receive counselling on fertility preservation before treatment begins. Of those, only 10–15% go on to freeze their eggs or embryos.

Time is decisive here. Many ways of preserving fertility exist only before chemotherapy, radiotherapy or surgery begin. That is why the conversation about the risk of infertility should take place immediately after diagnosis, not once treatment is over.

What fertility-sparing treatment is

Fertility-sparing treatment (FST) is a strategy with two aims at once:

- oncological control, that is, curing the disease or reliably keeping it in check;
- preserving reproductive function, that is, leaving open the possibility of a future pregnancy.

The order of these aims is no accident. If they conflict, the first always takes precedence.

FST is acceptable only in carefully selected patients. For the decision to be safe, the following are needed:

- expert review of the histology slides by an experienced pathologist;
- molecular classification of the tumour;
- complete staging, that is, an accurate assessment of how far the disease has spread;
- a decision by a multidisciplinary tumour board;
- informed consent from a patient who understands the risks and alternatives;
- strict follow-up.

e patient’s pathway: from diagnosis to fertility preservation

For every woman who wants to preserve her fertility, the pathway has the same five steps:

1. Diagnosis. The cancer diagnosis is confirmed.
2. Early counselling. The doctor discusses the risk of infertility and the patient’s reproductive plans.
3. Multidisciplinary team. A gynaecological oncologist, a fertility specialist, a radiologist, a pathologist and other specialists assess the situation together.
4. Treatment plan. The team sets the oncological strategy and the fertility preservation plan.
5. Reproductive procedures. Following the agreed plan, the ovaries are stimulated and eggs or embryos are frozen.

Stimulation can start on any day of the menstrual cycle (random-start ovarian stimulation). This means there is no need to wait for the “right” day and delay cancer treatment.

Endometrial cancer: who can keep the uterus

Endometrial cancer (cancer of the lining of the uterus) is a tumour in which fertility can be preserved under very specific conditions.

ological criteria

A patient may be a candidate for FST if all of the following apply at the same time:

- histology — low-grade (G1) endometrioid adenocarcinoma (G2 may be considered in carefully selected cases);
- stage — FIGO IA;
- myometrial invasion (into the muscle layer of the uterus) is absent or minimal on MRI;
- lymphovascular space invasion (LVSI) is absent;
- no spread beyond the uterus.

Additional conditions

- the patient wishes to preserve her fertility;
- she is ready for regular histological checks every 3–6 months;
- molecular classification of the tumour (MMR, p53, POLE);
- genetic counselling if Lynch syndrome is suspected.

> *he safety of treatment in endometrial cancer depends above all on selecting the right patients. Its founda tion is expert pathology review, pelvic MRI and a multidisciplinary approach.*

How treatment works

1. Diagnosis and selection. Hysteroscopy with targeted biopsy, pelvic MRI and a check against the criteria.
2. Treatment. Hysteroscopic resection of the tumour and progestin therapy: tablets, a levonorgestrel-releasing intrauterine system (LNG-IUS), or both.
3. Checking the response. A follow-up biopsy after 3–6 months.
4. Complete pathological response, when the biopsy no longer shows tumour cells. It is achieved in 70–80% of patients.
5. Fulfilling reproductive plans. Pregnancy occurs naturally or with assisted reproductive technology.
6. Definitive treatment. Once reproductive plans are complete, removal of the uterus (hysterectomy) is recommended.

It is important to know the risk as well. After a response is achieved, the disease recurs in 30–40% of patients. That is why follow-up does not end with remission: histological checks every 3–6 months, assessment of clinical and imaging findings, and an immediate review of the approach at any sign of progression.

If there is no complete response after 6–12 months, standard surgical treatment follows.

egnancy after treatment for endometrial cancer

Assisted reproductive technology (ART) can be planned only under three conditions:

- a complete pathological response has been confirmed histologically;
- the gynaecological oncologist has given approval;
- pregnancy is not postponed without good reason.

The pathway then looks like this: confirmation of the response, a joint decision by the gynaecological oncologist and the fertility specialist, controlled ovarian stimulation, IVF or ICSI, embryo transfer and pregnancy.

For stimulation, letrozole-based protocols are preferred: they reduce exposure to oestrogen, on which this type of tumour depends. Depending on age, ovarian reserve and any coexisting infertility, either IVF or trying to conceive naturally is possible.

Is stimulation safe? According to the available evidence, controlled ovarian stimulation after a complete response is not associated with a convincing increase in the risk of recurrence. Pregnancy should be p lanned as soon as possible after remission. After a complete response, ART is an oncologically acceptable a nd often the best way to fulfil reproductive plans quickly.

arian tumours: the type of tumour decides everything

For the ovaries, the question "can fertility be preserved?" has no single answer. It depends on three things: the histological type of the tumour, the stage, and how complete the surgical staging is. Let us look at the four groups of tumours in which this approach is possible.

rderline ovarian tumours

Borderline ovarian tumours (BOT) have low malignant potential and high overall survival. They are the tumours for which fertility preservation is best supported by evidence.

The surgeon may choose one of two approaches:

- cystectomy, removing only the tumour and preserving as much of the ovary as possible;
- unilateral adnexectomy, removing the affected ovary together with its fallopian tube.

After organ-preserving surgery, the tumour recurs in 25–30% of cases, more often than after radical surgery. However, recurrences are mostly non-invasive and low-grade, and in most cases repeat treatment does not affect overall survival, which exceeds 95% even after recurrence.

As for the reproductive outlook: most patients keep their fertility, pregnancy rates are comparable to those in the general population, and births and newborn outcomes are no different from usual. Pregnancy a fter such surgery is safe and does not worsen oncological outcomes. So for young women with a b

orderline tumour who want children, the fertility-sparing approach is the standard. It simply calls for c areful, long-term follow-up.

erm cell tumours

Germ cell tumours often arise at a young age and are highly sensitive to chemotherapy. Cure rates are high, the prognosis is favourable, and with adequate treatment the risk of recurrence is low. Fertility-sparing surgery here is the standard of care, not the exception.

ex cord–stromal tumours

This group includes granulosa cell and theca cell tumours, Sertoli–Leydig cell tumours and others. Organ-preserving treatment is possible at early stages, and these tumours usually progress slowly.

Their particular feature is the risk of late recurrence, even after 10–20 years. So the key to safety here lies in careful patient selection and long-term follow-up.

arly epithelial ovarian cancer

This is the strictest group: fertility-sparing surgery is possible only in carefully selected patients. The oncological criteria are:

- FIGO stage IA;
- low grade G1 (to a limited extent, selected G2 cases);
- one-sided disease;
- no macroscopic spread of the tumour;
- complete surgical staging: peritoneal washings, removal of the omentum (omentectomy), peritoneal biopsies or resections, and assessment of the other ovary.

In that case a unilateral salpingo-oophorectomy is performed: the affected ovary and tube are removed, while the uterus and the other ovary are preserved. The aim of the operation is oncological radicality with fertility preserved.

Safety here depends not only on the stage but also on how adequate the surgical staging is. If staging is incomplete, the risk cannot be assessed accurately.

Fertility preservation is not indicated if:

- the stage is IB or higher;
- the tumour is G3 or has aggressive histology;
- both ovaries are affected;
- staging is incomplete;
- there is macroscopic spread.

When fertility must not be preserved

The main rule is this: the wish to preserve fertility cannot outweigh an unacceptable oncological risk.

Absolute limitations:

- high-grade tumours, that is, poorly differentiated tumours with a high risk of recurrence and progression;
- aggressive histology: high-grade serous carcinoma, clear cell carcinoma, high-grade mucinous carcinoma;
- advanced disease: a stage above IA for epithelial ovarian cancer, or spread beyond the organ;
- adequate follow-up is impossible, when regular visits and the recommended tests are out of reach;
- no informed consent, when the patient does not grasp the risks or understand the alternatives.

There are also relative limitations, assessed case by case: grade G2, an unknown molecular profile POLE/MMR), incomplete surgical staging, coexisting conditions that raise surgical risk, and unwillingness o r inability to commit to long-term follow-up.

Who makes the decision

The decision on fertility-sparing treatment is made by a multidisciplinary team, not by a single doctor. Roles within it are clearly divided.

The gynaecological oncologist and the surgical oncologist decide whether the approach is acceptable from an oncological point of view. The fertility specialist realises the patient's reproductive potential within an oncologically safe strategy. For the fertility specialist this means a few rules:

- not to judge on their own whether treatment is oncologically acceptable;
- to work only within the agreed plan;
- not to delay cancer treatment;
- to pursue pregnancy as soon as possible once approval is given;
- to stay in constant contact with the gynaecological oncologist.

For the patient, this leads to practical advice: if you have been diagnosed with a gynaecological cancer and you are planning children, ask for a consultation with a fertility specialist before treatment begins. The sooner both specialists work together, the more options remain.

y points

- Fertility-sparing treatment is oncologically safe only in carefully selected patients.
- In endometrial cancer, hormonal therapy is the foundation, and pregnancy is planned after a complete pathological response. Once reproductive plans are complete, hysterectomy is recommended.
- In ovarian tumours, the strategy depends on the histological type, the stage and how complete the staging is. For borderline and germ cell tumours fertility preservation is the standard; for epithelial cancer it is an exception under strict conditions.
- Success depends on close teamwork between the gynaecological oncologist and the fertility specialist.
- Oncological safety always remains the priority.

If you are facing such a diagnosis and would like to discuss your options for preserving fertility, book a consultation with an oncologist or a fertility specialist at Ekstramed in Ivano-Frankivsk.

This article is for information only and does not replace a consultation with a doctor. The treatment approach is decided by a multidisciplinary team after a full assessment.

Sources: ESGO/ESHRE/ESGE Fertility-Sparing Guidelines, 2023; ASCO Clinical Practice Guideline U pdate, 2025; International Agency for Research on Cancer, GLOBOCAN 2022; National Cancer Registry o f Ukraine Bulletin No. 24 (2021).