Treatment of oncological diseases has considerably improved survival rates for young women suffering from different types of malignancies. As a result, women's reproductive function will be damaged due to the gonadotoxicity of chemo- and radiotherapy regimens. Fertility preservation using cryopreservation of ovarian tissue is appropriate for women receiving chemotherapy and radiotherapy for treatment of cancer. There are also many other situations when women can benefit from cryopreservation of ovarian tissue such as non-oncological conditions currently treated with chemo- and radiotherapy, different chromosomal abnormalities (Turner syndrome, galactosemia), severe and recurrent endometriosis. Cryopreservation of ovarian tissue is the only option available for prepubertal girls and for women who cannot delay the start of chemo- and radiotherapy.

The fertility preservation program was created in 2013 at the Almazov Federal Centre for Heart, Blood and Endocrinology. Progress in assisted reproduction techniques and ongoing rapidly developing research protocols during last years have made possible to offer not only established but also experimental fertility preservation options to young women facing gonadal failure.

The goal of our work is to bring together gynecologists, oncologists, reproductive professionals and basic scientists together in order to develop, optimize and expand reproductive options available to young women facing fertility-threatening but life-preserving treatment.

Before patients will be submitted to oncological treatment, the right ovarian cortex is extracted by robotic surgery and then cryopreserved according to standard procedure. As soon as the patient is free of disease, the right ovarian cortex will be thawed and implanted onto the left ovarian medulla using robotic surgery.

Ovarian tissue cryopreservation is a feasible option to preserve ovarian function and further fertility in young women at risk of developing premature ovarian failure due to chemotherapy and/or radiotherapy. Gynecologists, oncologists, reproductive professionals and patients should be aware that ovarian tissue cryopreservation may be considered and reproductive function can be preserved in any case when fertility might be threatened.