

# Cervical Cancer In A Reproductive Aged Woman: Multi-Modal Fertility Preservation Strategy

## Authors

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## Background

Cervical cancer in reproductive aged women is rare in the United States due to active preventative strategies. When cervical cancer occurs in this age group, it poses challenges balancing effective cancer treatment and future fertility. The ability to have children in the future is a significant measure for quality of life for women. Additionally, absence of gonadal hormonal function poses increased risk for premature cardiovascular disease and osteoporosis. Fertility preservation (FP) in cervical cancer is important in the medical care of reproductive aged women. Commonly, at best, a single method for FP has been used, due to time constraints and lack of a multidisciplinary approach. However, single method of FP is insufficient for ovarian function for procreative and hormonal health preservation. Thus, we demonstrate multi-modal FP provides optimal preservation of fertility and hormonal function in a reproductive aged woman with cervical cancer.

## Objective

We describe an optimal fertility preservation in a cervical cancer patient, utilizing a combination with oocyte cryopreservation, laparoscopic ovarian transposition and medical ovarian suppression.

## Methods

Case report from a tertiary onco-fertility center in Georgia.

## Results

A 34-year-old G1P0010 diagnosed with stage 1B2 poorly differentiated squamous cell carcinoma of the cervix was referred to our onco-fertility center. She desired a fertility preservation approach that would confer the highest reproductive success in the future. Treatment strategy focused on a multi-modal approach including oocyte cryopreservation, ovarian transposition and leuprolide supplementation. Ovarian hyperstimulation for multi-follicular development was performed with recombinant purified gonadotropins. A total of six oocytes were retrieved and frozen after 11 days of stimulation. Following retrieval, she underwent laparoscopic ovarian transposition using a novel percutaneous suturing technique to prevent ovarian migration. The bilateral ovaries were removed from the pelvis via dissection of the utero-ovarian vessels and attached in the abdominal side-walls outside the pelvic brim. Prior to initiation of chemo-radiation, leuprolide acetate was administered for ovarian suppression to reduce ovarian exposure to gonadotoxic agents.

**Conclusion**

Modern fertility preservation strategies for cervical cancer should include a combined approach. Oocyte cryopreservation remains the gold standard, and its combination with other fertility preservation methods optimizes success for future fertility. Additionally, restoration of gonadal function with ovarian preservation helps reduce all-cause mortality. Optimization of fertility preservation is ultimately dependent on timely referral to a fertility preservation specialist to undertake this daunting task in a multi-modal approach.