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Impact of radiotherapy on fertility, pregnancy, and neonatal outcomes in female cancer patients.

[Wo JY](#), [Viswanathan AN](#).

Harvard Radiation Oncology Program, Harvard Medical School, Boston, MA 02115, USA.

PURPOSE: Radiation has many potential long-term effects on cancer survivors. Female cancer patients may experience decreased fertility depending on the site irradiated. Oncologists should be aware of these consequences and discuss options for fertility preservation before initiating therapy. **METHODS AND MATERIALS:** A comprehensive review of the existing literature was conducted. Studies reporting the outcomes for female patients treated with cranio-spinal, abdominal, or pelvic radiation reporting fertility, pregnancy, or neonatal-related outcomes were reviewed. **RESULTS:** Cranio-spinal irradiation elicited significant hormonal changes in women that affected their ability to become pregnant later in life. Women treated with abdomino-pelvic radiation have an increased rate of uterine dysfunction leading to miscarriage, preterm labor, low birth weight, and placental abnormalities. Early menopause results from low-dose ovarian radiation. Ovarian transposition may decrease the rates of ovarian dysfunction. **CONCLUSIONS:** There is a dose-dependent relationship between ovarian radiation therapy (RT) and premature menopause. Patients treated with RT must be aware of the impact of treatment on fertility and explore appropriate options.

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