

## FEATURE ARTICLE

# Fertility Considerations for Female Adolescent and Young Adult Patients Following Cancer Therapy: A Guide for Counseling Patients and Their Families

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During the past 20 years, an increase in survival among pediatric patients with cancer has occurred, and a need exists to be proactive prior to cancer therapy regarding issues related to fertility. Chemotherapy and radiation can cause a number of deleterious side effects to female patients, including early menopause and its associated side effects of osteoporosis and heart disease as well as the inability to carry a pregnancy to term or conceive a child. Many drugs and fields of radiotherapy are associated with an increased incidence of female reproductive complications. Options are available for the preservation of female fertility, but many are experimental. Of highest importance is the need to counsel female adolescents and young adults before beginning induction chemotherapy or radiation. Nurses play a large part in the information about future fertility that female patients receive before the initiation of cancer therapy. After reading this article, nurses will have a better understanding of the impact of cancer therapy on the female reproductive system and be more comfortable discussing the topic with their patients.

**P**ediatric cancer therapy has come a long way in 20 years. Today, the focus is not only on curing patients but also on creating a good quality of life for survivors. Although the incidence of cancer in children 0–14 years of age has risen approximately 20%–25% from 1975 to 2001, death resulting from pediatric malignancies has decreased by about 49% (American Cancer Society [ACS], 2005). In fact, five-year survival rates increased by approximately 23% for all pediatric cancers from 1975 to 2001, with 79% of all pediatric patients with cancer from 1995 to 2000 surviving longer than five years after cancer treatment (ACS). Regrettably, survivors of pediatric malignancies experience many deleterious late effects as a result of curative cancer therapy. Some late effects occur months or years after therapy and include organ malfunction, secondary cancer, psychosocial issues, and cognitive impairments (ACS).

One long-term effect of therapy found to have a profound impact on the adult lives of childhood cancer survivors is a decrease in reproductive function and fertility. For females who have received chemotherapy and/or irradiation as a part of their treatment protocols, the side effect can cause physical and psychological problems. Many researchers have noted that pregnancy outcomes in female survivors of childhood cancer can be complicated by an increased risk of congenital malformations, an inability to carry a child to term, and increased intrapartum complications (Blatt, 1999). Ovarian failure also has been noted in many controlled and case studies of survivors of pediatric

### At a Glance

- ◆ The risk of infertility for pediatric and adolescent female patients receiving various cancer therapies, such as chemotherapy, radiotherapy, and bone marrow transplantation, are reviewed.
- ◆ Methods used to preserve fertility are discussed, and recommendations are made for counseling female patients with cancer before beginning therapy.
- ◆ Recommendations are made for discussing post-cancer therapy fertility issues with young adult women who had childhood cancer.

malignancies and has the effect of premature menopause and sterilization (Larsen, Muller, Rechnitzer, Schmiegelow, & Andersen, 2003; Meiwow & Nugent, 2001).

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