



Fertility Preservation in Individuals with Cancer: A Joint Position Statement from APHON, CANO/ACIO & ONS

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Temporary or permanent infertility is one of the most common and frequently under-discussed long-term effects of cancer-specific treatments (Olsen et al., 2023; Poorvu et al., 2019; Ussher et al., 2018; Wettergren et al., 2020). The risk of infertility depends on the type of cancer or condition, tumor stage and grade, age of the individual, and specific therapies administered. Certain systemic therapies, such as chemotherapy, radiation to the brain or pelvic region, hematopoietic stem cell transplantation, or surgery to the reproductive organs, may cause gonadal dysfunction. Fertility preservation refers to any procedure to bank or protect oocytes, sperm, or gonadal tissues from the gonadotoxic effects of chemotherapy, surgery, or radiation therapy with the goal of preserving an individual's ability to conceive a child once treatment is complete (American Cancer Society, 2020; Oktay et al., 2018). Fertility preservation procedures should be offered to individuals with cancer prior to initiating treatment that may damage or destroy their reproductive system.

All children and adults with cancer are eligible to receive fertility preservation consultation regardless of whether they express interest in conceiving a child or building a family. The majority of cancer survivors express distress regarding possible future infertility (Cherven et al., 2022). Attention to fertility concerns has been cited as an unmet need in 93% of adolescent and young adult survivors, and uncertainty about fertility status is common in young adult cancer survivors (Benedict et al., 2016; Wong et al., 2017). This highlights the importance of having timely, informed, and ongoing discussion about treatment-related effects on fertility from diagnosis through survivorship (Mulder et al., 2021). However, effective communication about the possibility of treatment-related infertility and available fertility preservation options does not routinely occur (Lampic & Wettergren, 2019; Ussher et al., 2018; Vesali et al., 2019), which can have significant and ongoing psychosocial implications for individuals with cancer and their families (Logan & Anazodo, 2019; Patterson et al., 2021).

Oncology nurses and advanced practice providers are a critical part of interprofessional care teams and have a shared responsibility for fertility preservation for those diagnosed with cancer. This interprofessional approach includes identifying and assessing risk, educating individuals diagnosed with cancer about their risk for infertility, confirming understanding of infertility risk as part of informed consent, and either providing referrals to specialists or offering fertility preservation services. When individuals and their families are well informed about their risk for infertility, they are then empowered to pursue fertility preservation and family building if desired. Research has demonstrated that individuals and their families prefer to be informed of any risk to fertility, including when the risk of infertility is minimal and when preservation options are unavailable (Chan et al., 2017; Oktay et al., 2018).

Oncology nurses and advanced practice providers are uniquely positioned to provide fertility preservation counseling and education to all patients, regardless of age, gender, and sexual orientation, who are receiving gonadotoxic therapies that place them at risk for treatment-related infertility. Assessment of risk is multifactorial; therefore, nurses and advanced practice providers will use evidence-based risk assessment factors that quantify risk for individuals based on pubertal status, the presence of reproductive organs, and planned treatment. With emerging treatment modalities and fertility preservation methods, families should still be informed regarding the uncertainty of risk in the context of information sharing and decision-making.

It is the position of APHON, CANO/ACIO, and ONS that:

1. All individuals with cancer and their families, regardless of cancer treatment, prognosis, relationship status, gender, sexual orientation, or age will receive evidence-informed information regarding their risk of treatment-related infertility and preservation options.
2. Fertility preservation counseling will occur at the time of diagnosis and throughout the cancer continuum, including survivorship, in the patient's preferred language, at the patient's level of understanding, and based on their learning needs.
3. Individuals receiving gonadotoxic therapies for nonmalignant conditions will be offered fertility preservation services.
4. Physical, psychosocial, cultural, and spiritual assessments are essential when providing fertility preservation counseling and require a collaborative interprofessional approach.
 - a. This approach may include nurses, physicians, social workers, psychologists, child life specialists, and spiritual care professionals.
 - b. Navigation to mental health, genetic, and financial counselors will be offered as needed. Accurate and accessible documentation is required for seamless communication between interprofessional team members.
5. The oncology nurse and APP are uniquely poised to assess the complexity and intersectionality of the individual and family experience and to guide the individual and their family through the fertility preservation process.
6. Oncology nurses and APPs are committed to advancing oncology care through research and endorse incorporating evidence-informed practice into fertility preservation care throughout the cancer care continuum.
7. When fertility counseling and/or methods of preservation are not available at the treating facility, the individual will be referred to centers with available resources that can provide the necessary services.
8. Oncology nurses and APPs will advocate for individuals and their families regarding equitable access to and delivery of fertility preservation services. Oncology nurses and APPs will advocate for healthcare systems to prioritize fertility preservation, ensuring the individual and family are informed of risk throughout treatment and have access to fertility preservation services if desired.
9. Advocacy efforts at the local and federal levels will support affordable, accessible, and equitable health care that includes fertility preservation services.

10. Policies, programs, resources, and training on fertility preservation will be provided to all oncology healthcare professionals and will include all aspects of family building.

APHON: Association of Pediatric Hematology/Oncology Nurses

CANO/ACIO: Canadian Association of Nurses in Oncology/Association canadienne des infirmières en oncologie

ONS: Oncology Nursing Society

Fertility Preservation Definitions

Advanced Practice Provider (APP):

An “advanced practice provider” is a non-physician provider who is independently licensed to practice within an extended scope (Kreeftenberg et al., 2019). APPs include nurse practitioners (NPs), physician assistants (PAs), clinical nurse specialists, and advanced practice nurses (Cooper et al., 1998).

Family building:

Family building, centered around planning refers to the creation or arrangement of a family, which may involve steps or measures one takes to have children (Grace et al., 2022).

Family or Families

The term “family” or “families” as related to fertility preservation is defined in this joint statement as a group of individuals that one chooses deliberately or to whom one is emotionally close enough to consider family, even if they may not be biologically or legally related (Gates et al., 2017; Kim & Feyissa, 2021; Weeks et al., 2001).

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