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Society of Family Planning Committee Statement: Contraceptive considerations for individuals with cancer and cancer survivors part 1 – Key considerations for clinical care *Joint with the Society of Gynecologic Oncology*☆,☆☆

Pelin Batur [a,*], Ashley Brant [a], Carolyn McCourt [b], Eleanor Bimla Schwarz [c], with the assistance of Anitra Beasley; Jessica Atrio; and Danielle Gershon, on behalf of the Clinical Affairs Committee, and Neil A. Nero

[a] *Obstetrics and Gynecology Institute, Cleveland Clinic, Cleveland, OH, United States*
[b] *Gynecologic Oncology, Washington University School of Medicine, St. Louis, MO, United States*
[c] *Department of Medicine, University of California, San Francisco, CA, United States*

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ABSTRACT

With increasing trends in both cancer diagnosis and survivorship, a growing number of individuals impacted by cancer need high-quality contraceptive counseling. Individuals with cancer and cancer survivors have individualized needs with respect to sexual activity, fertility desires, and contraceptive preferences. Clinicians should provide person-centered contraceptive care that supports individual autonomy in decision-making, is tailored to the individual's expressed preferences and values, and includes cancer-specific considerations. While pregnancy prevention is generally recommended during cancer treatment, pregnancy may occur before or during treatment and require person-centered counseling. No test reliably rules out pregnancy potential in cancer survivors; clinicians should offer to discuss contraception with individuals who are pregnancy-capable before cancer treatment. Clinicians should counsel individuals about common risks and complications that may impact contraceptive choice, as cancer and chemotherapy can cause (1) vascular injury, which can increase the risk of venous thromboembolism, (2) anemia, and (3) bone loss increasing the risk of fractures. Clinicians should counsel individuals with cancer that it is safe for them to use emergency contraception. Clinicians should be aware that individuals experiencing intimate partner violence and other marginalized populations, including adolescents and young adults and gender-diverse individuals, have unique needs requiring a person-centered approach to contraceptive care complicated by cancer. Access to the full spectrum of contraceptive methods should be prioritized for individuals with cancer and cancer survivors, accommodating individual preferences and health status. This document is part 1 of a three-part series that updates the Society of Family Planning's 2012 *Cancer and contraception* clinical guidance. Its companion documents, *Society of Family Planning Clinical Recommendation: Contraceptive considerations for individuals with cancer and cancer survivors part 2 – Breast, ovarian, uterine, and cervical cancer* and *Society of Family Planning Clinical Recommendation: Contraceptive considerations for individuals with cancer and cancer survivors part 3 – Skin, blood, gastrointestinal, liver, lung, central nervous system, and other cancers*, build upon this document and focus on actionable, clinical recommendations.

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* Corresponding author.
E-mail address: baturp@ccf.org (P. Batur).

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1. Background

There are over 18 million cancer survivors in the US, representing more than 5% of the population [1]. In recent years, cancer death rates decreased; between 2015 and 2019, women's cancer deaths decreased on average by 1.9% [2]. However, among those aged 15–39, there has been an increase in cancer incidence [2]. With increasing trends in both cancer diagnosis and survivorship, a growing number of individuals impacted by cancer need high-quality contraceptive counseling. Close to half of pregnancies among cancer survivors remain unintended [3]. The current cancer treatment landscape has evolved significantly: novel therapies pose potential teratogenic risks, and maintenance treatment durations can continue for years. An unintended or undesired pregnancy while awaiting or during cancer treatment may delay necessary medical care. In recent years, access to abortion services have been further limited in many states, with direct impacts on morbidity and mortality of the pregnant individual, particularly for marginalized communities and those with chronic medical conditions such as cancer [4]. Access to the full range of contraceptive methods is an essential component of reproductive health equity and well-being for all individuals, including those affected by cancer.

Individuals with cancer and cancer survivors have individualized needs with respect to sexual activity, fertility desires, and contraceptive preferences. Additionally, contraception, in particular hormonal contraception and intrauterine devices (IUDs), can impact the effectiveness of some cancer treatments or increase the risk of reoccurrence of some cancer types. Occasionally, cancer treatment can impact the effectiveness of contraception. These special considerations even further emphasize the importance of shared decision-making when discussing pregnancy desires and fertility preservation, as goals of cancer care may conflict with an individual's reproductive desires. Although there are many noncontraceptive benefits of birth control methods, this guidance focuses on pregnancy prevention for individuals of all ages, including adolescents. Pregnancy-capable individuals with cancer frequently report that the cancer diagnosis and treatments affect their reproductive desires, and 21% of reproductive-age cancer survivors report recent intercourse without a method of contraception, a rate three times greater than the general population [5,6]. Almost half of contraceptive-using cancer survivors rely on withdrawal or barrier methods [7]. It is important to highlight that estrogen blockade therapies do not function as contraception. As cancer has significant impacts on pregnancy experiences, safe and effective contraceptive methods should be offered to those who wish to avoid pregnancy.

This guidance series updates the Society of Family Planning's 2012 *Cancer and contraception* clinical guidance [8]. It is informed by a review of the relevant literature and intended to provide evidence-informed, person-centered, and equity-driven recommendations to facilitate the management of and access to contraceptive care for individuals diagnosed with, being actively treated for, or previously been treated for cancer. This document, part 1, addresses key clinical considerations that broadly apply to contraceptive care for individuals with cancer and cancer survivors. It also addresses common risks and complications, such as venous thromboembolism (VTE), anemia, and bone loss, that impact contraceptive care. Its companion documents, *Society of Family Planning Clinical Recommendation: Contraceptive considerations for individuals with cancer and cancer survivors part 2 – Breast, ovarian, uterine, and cervical cancer* and *Society of Family Planning Clinical Recommendation: Contraceptive considerations for individuals with cancer and cancer survivors part 3 – Skin, blood, gastrointestinal, liver, lung, central nervous system, and other cancers*, build upon this document and focus on actionable, clinical recommendations for cancers affecting specific organs [9,10]. When literature regarding the safety and efficacy of specific contraceptive methods in individuals with a history of a particular cancer type was not available, literature from the general population was used to inform recommendations. Well-designed studies assessing contraceptive risks in those actively undergoing cancer treatment are not available for most cancer types. Thus, statements made in these recommendations for those with a history of a specific cancer also apply to those who are actively being treated for that cancer unless indicated otherwise. However, active cancer is often associated with higher risks of thrombosis, which needs to be taken into consideration during shared decision-making for contraceptive methods that increase thrombotic risks. Whether a cancer is active or in remission is typically determined by the oncology team.

This guidance series uses shared decision-making to refer to a collaborative process in which individuals receiving care and clinicians work together to make health care decisions informed by evidence, the care team's knowledge and experience, and the individual's values, goals, preferences, and circumstances. These principles are fundamental to contraceptive care, and all recommendations in this guidance series should be interpreted in this context. Although barrier methods, spermicides, contraceptive vaginal gel, and vasectomy are safe, effective, and noninvasive for the pregnancy-capable individual, they are not the focus of this document. This guidance will focus on US Federal Drug Administration-approved forms of long-acting reversible contraception, all hormonal contraceptives, and tubal contraceptive surgeries.

2. Committee statements

2.1. For individuals with cancer and cancer survivors, clinicians should provide person-centered contraceptive care that supports individual autonomy in decision-making, is tailored to the individual's expressed preferences and values, and includes cancer-specific considerations.

The individual's preference for and acceptability of a particular contraceptive method may depend on considerations such as the specific cancer type(s), cancer hormone receptor status, thrombogenic risk, side effects of the treatment, efficacy, and whether a contraceptive method impacts cancer prognosis, treatment effectiveness, or recurrence risk. Most clinical scenarios call for shared decision-making between the individual and their clinicians, which may include primary care, gynecology, and oncology care providers. It is crucial to ensure that contraceptive counseling is conducted in a noncoercive manner, respecting individual autonomy and allowing for informed decision-making about one's reproductive health.

2.2. While pregnancy prevention is generally recommended during cancer treatment, pregnancy may occur before or during treatment and require person-centered counseling.

Approximately 1 in 1000–2000 pregnancies are affected by a new cancer diagnosis, most commonly breast, ovary, thyroid, melanoma, hematologic, and cervical cancer [11–13]. Some studies suggest an increased risk of adverse pregnancy or fetal outcomes, such as early pregnancy loss and stillbirth, when conception occurs during or shortly after the completion of cancer treatment [14]. Cancer treatments may be delayed, withheld, or modified during pregnancy secondary to known or suspected adverse pregnancy effects [15]. Even those who are remote from cancer treatment may experience increased pregnancy-related morbidity, including preterm delivery, severe maternal morbidity, and maternal cardiac morbidity [15]. Malignancy and pregnancy are independent risk factors for thrombosis, and active malignancy during pregnancy increases the risk of a thrombotic event six-fold compared to pregnancy without malignancy [16]. Thus, clinicians should discuss the risks and benefits of all pregnancy options, including abortion, when pregnancy occurs before or during cancer treatment.

2.3. No test reliably rules out pregnancy potential in cancer survivors. Therefore, clinicians should offer to discuss contraception with individuals who were pregnancy-capable before cancer treatment.

The impacts of cancer diagnosis and treatment on fertility vary based on radiation exposure and type of chemotherapy treatment. The chance of pregnancy can be difficult to predict as the usual signs of fertility, assessed through lab testing and bleeding patterns, may not be reliable indicators for intermittent ovulatory activity [17]. Markers of ovarian reserve include menstrual regularity, follicle-stimulating hormone (FSH), anti-Mullerian hormone (AMH), estradiol, and antral follicle count (AFC). Premature ovarian insufficiency (POI) is defined as age less than 40 years, amenorrhea for four or more months, and two serum FSH levels in the defined menopausal range [18]. However, POI represents a continuum of ovarian function; ovarian function can recover, and spontaneous pregnancy has occurred after diagnosis of POI [19,20]. Identifying which individuals can become pregnant after cancer treatment, including those experiencing reduced fertility, remains an area of active research.

2.4. Clinicians should counsel individuals being treated with cancer about common risks and complications that may impact contraceptive choice, as cancer and chemotherapy can cause (1) vascular injury, which can increase the risk of venous thromboembolism (VTE) [21,22], (2) anemia, and (3) bone loss increasing the risk of fractures [23].

2.4.1. Venous thromboembolism (VTE)

Combined hormonal contraceptives (CHCs) with estrogen have long been associated with an increased risk of VTE. There is limited evidence that depot medroxyprogesterone acetate (DMPA) also increases the risk of VTE by more than twofold [24–27]. As such, when there is pre-existing concern about VTE risk, such as those with history of VTE, BMI of 30 kg/m^2 or higher, or immobility, individuals may prefer to avoid contraceptive methods containing estrogen or DMPA [25,28]. However, the absolute risk of VTE while using any form of contraception is still lower than the four to five-fold increased VTE risk for pregnant individuals compared to nonpregnant individuals [29]. Pregnancies following cancer have an even greater risk of VTE at 42 days postpartum (1.11% vs 0.11% of those without a history of cancer) and at 1 year postpartum (2.19% vs 0.14%) [30].

2.4.2. Anemia

Menstrual suppression is advantageous for individuals with anemia as it can reduce the amount of blood lost during menstruation and thus prevent further iron depletion [31]. The levonorgestrel (LNG) 52 mg IUD significantly reduces menstrual blood loss [32]. Among most individuals with heavy menstrual bleeding, it is estimated that the LNG 52 mg IUD reduces blood loss by more than 90% over 6 months compared with baseline. Injectable DMPA can also induce amenorrhea over time by rates of up to 71% after 2 years of use [33]. Although some suggest administering DMPA injections more frequently than every 11–13 weeks to increase amenorrhea, there is limited evidence for this practice. Continuous use of CHCs can also reduce menstrual bleeding and may be considered.

2.4.3. Osteoporosis

When there is concern about bone strength, injectable DMPA is typically avoided because it has been associated with decreases in bone density [34]. Hormonal IUDs, which result in low systemic exogenous hormone levels, do not adversely impact bone density or increase fracture risk [35,36]. Whether other progestin-only contraceptives that produce amenorrhea meaningfully impact bone density is an area of ongoing study [37]. However, existing studies have found that contraceptive implants have minimal adverse effects on bone density [38,39]. When low bone mass is a concern and the risk of VTE is low, estrogen-containing contraceptives may also be appropriate.

2.5. Clinicians should counsel individuals with cancer that it is safe for them to use emergency contraception (EC).

There are no studies that assess the safety of EC pill use in individuals with cancer or a history of cancer due to little concern that such short-term exposure could be problematic. Episodic use of oral EC is generally considered less consequential than sustained use of systemic hormonal contraception in the presence of complicating medical conditions. The *Society of Family Planning Clinical Recommendation: Emergency contraception* provides a detailed discussion of medical considerations related to oral and intrauterine emergency contraceptive use [40]. Advanced prescriptions of ulipristal acetate EC pills should be offered to individuals receiving chemotherapy who are relying on barrier contraception or a method that requires regular adherence, as ulipristal is typically more effective than over-the-counter EC pills. IUDs, the most effective form of EC, should be offered alongside other EC options, when placement is not contraindicated [25].

2.6. Clinicians should be aware that individuals experiencing intimate partner violence (IPV) and other marginalized populations, including adolescents and young adults (AYAs) and gender-diverse individuals, have unique needs requiring a person-centered approach to contraceptive care complicated by cancer.

2.6.1. Intimate partner violence (IPV)

Although individuals of all ages may experience IPV, it is most prevalent among individuals of reproductive age and contributes to additional health concerns and complications, including undesired pregnancy [41]. An individual's risk of IPV might escalate following a cancer diagnosis, influenced by factors such as social isolation, compromised health, and heightened dependence on others for assistance [42]. Psychological and emotional consequences include a feeling of loss of control and entrapment [43]. Healthcare professionals frequently serve as the initial point of contact for providing care to individuals experiencing IPV. Thus, clinicians should screen for IPV using trauma-informed approaches, offering resources and support for those who report IPV [44]. Sensitivity to potential power

dynamics and safety concerns is paramount when addressing contraception in situations involving coercion or IPV.

2.6.2. Adolescents and young adults (AYAs)

Adolescents and young adults (AYAs) with cancer are particularly vulnerable to unmet sexual and reproductive health needs, including access to contraception. A recent descriptive report on the reproductive needs of childhood and adolescent cancer survivors from a comprehensive survivorship clinic in Australia reported 50% of the female individuals and 12% of the male individuals sought contraceptive advice [45]. In addition, while rates of undesired pregnancy are not well known among cancer survivors, studies show that young individuals with cancer are more likely to undergo an abortion compared to sibling controls and more likely to use EC compared with the general population [46,47]. Social and behavioral aspects play a significant role in the selection of contraceptive methods for adolescents. AYAs may have a lower tolerance for contraceptive side effects, leading to higher rates of discontinuation or inconsistent use [47,48]. The choice of contraceptive method may also be influenced by factors such as the desire to keep sexual activity private. When caring for AYAs with cancer, clinicians should make explicit plans to protect privacy, informing AYAs about their contraceptive choices and involving them in the decision-making process. Respect for autonomy and confidentiality is crucial to fostering trust and empowering AYAs to actively participate in managing their reproductive health while navigating the challenges of cancer care.

2.6.3. Gender-diverse individuals

Understanding the unique reproductive health needs and preferences of gender-diverse individuals allows clinicians to provide tailored and inclusive contraceptive care that aligns with their identity and health goals. Significant deficiencies exist in formal and hands-on training for clinicians related to LGBTQ+ health. Previous survey studies indicate that oncologists and other health care providers at National Cancer Institute (NCI)-Designated Comprehensive Cancer Centers possess limited knowledge about LGBTQ+ health needs, and many have a lack of understanding regarding the significance of inquiring about an individual's sexual orientation and gender identity [48–50]. For example, it is important for clinicians to understand that gender-affirming hormone therapy is not effective contraception and that regardless of gender identity, individuals may be at risk for undesired pregnancy [51,52]. Thus, clinicians should routinely discuss fertility preservation and contraceptive options with transgender individuals before starting cancer therapy.

Further research is needed to understand best practices for supporting marginalized populations impacted by cancer when providing contraceptive care, including people with disabilities [53].

2.7. Access to the full spectrum of contraceptive methods should be prioritized for individuals with cancer and cancer survivors, accommodating individual preferences and health status.

Implementing effective strategies to increase prompt access to contraceptive care requires a comprehensive approach. Factors such as fostering a supportive and nonjudgmental health care environment, clinician training, institutional guidelines to standardize contraception screening and referral, collaborative care, prescribing and dispensing practices, consumer education, and advocating for insurance coverage and financial support can increase access to contraceptive care for individuals with cancer and cancer survivors [54]. Cancer centers should ensure their institutional guidelines address potential contraception screening and referral obstacles. This includes defining roles and responsibilities for contraceptive discussions within the care team and enhancing education for oncology clinicians on contraception [55]. Collaborative efforts between oncologists and reproductive health specialists are essential to ensure integrated and person-centered care. For individuals interested in using prescription contraception, prescribing and dispensing a one-year supply should be considered to decrease gaps in use. Additionally, there is a need for education and awareness programs about fertility preservation and contraceptive options [56]. Policymakers should ensure these services are affordable and accessible.

3. Continued discussion

During the development of this document, we identified multiple areas warranting further exploration:

- Defining pregnancy potential and future fertility after cancer treatment.
- Understanding the impact of hormonal contraception on bone density after cancer treatment.
- Ways to minimize thrombotic risks after cancer treatment.
- Identifying and removing barriers to contraceptive access, with attention to those experiencing IPV, and marginalized populations, including AYAs, gender-diverse individuals, and persons with disabilities.

4. Summary of statements

- For individuals with cancer and cancer survivors, clinicians should provide person-centered contraceptive care that supports individual autonomy in decision-making, is tailored to the individual's expressed preferences and values, and includes cancer-specific considerations.
- While pregnancy prevention is generally recommended during cancer treatment, pregnancy may occur before or during treatment and require person-centered counseling.
- No test reliably rules out pregnancy potential in cancer survivors. Therefore, clinicians should offer to discuss contraception with individuals who were pregnancy-capable before cancer treatment.
- Clinicians should counsel individuals about common risks and complications that may impact contraceptive choice, as cancer and chemotherapy can cause (1) vascular injury, which can increase the risk of venous thromboembolism, (2) anemia, and (3) bone loss increasing the risk of fractures.
- Clinicians should counsel individuals with cancer that it is safe for them to use emergency contraception.
- Clinicians should be aware that individuals experiencing intimate partner violence and other marginalized populations, including adolescents and young adults and gender-diverse individuals, have unique needs requiring a person-centered approach to contraceptive care complicated by cancer.
- Access to the full spectrum of contraceptive methods should be prioritized for individuals with cancer and cancer survivors, accommodating individual preferences and health status.

5. Sources

A series of clinical questions were developed by the authors and representatives from the Society of Family Planning's Clinical Affairs Committee. With the assistance of medical librarians, we searched the databases of Medline, Embase, Cochrane reviews and registered clinical trials to identify any relevant articles related to cancer and contraception, published between January 1, 2012 and June 29, 2023. The initial search yielded over 16,000 results, which were further limited to those relevant to hormonal contraception. We reviewed 5484 references for relevance and to use in drafting the recommendations. The search was restricted to articles published in English. We also identified

studies by reviewing the references of relevant articles and clinical guidelines published by organizations or institutions with related recommendations, such as the Centers for Disease Control and Prevention, the American College of Obstetricians and Gynecologists, and the Society of Family Planning. The content of and references cited in relevant product labels and Food and Drug Administration prescribing information were also considered when developing clinical statements on topics involving medication. When relevant evidence was not available or too limited to inform practice, the expert opinion of clinicians with complex family planning expertise was used to develop the critical statements.

6. Intended audience

This Clinical Recommendation is intended for Society of Family Planning members, family planning and reproductive health service clinicians, oncologists and clinicians who care for cancer survivors, family planning and reproductive health researchers, consumers of family planning care, and policymakers.

Authorship

This Committee Statement was prepared by Pelin Batur, MDD; Ashley Brant, DO, MPH; Carolyn McCourt, MD; and Eleanor Bimla Schwarz, MD, MS, with the assistance of Anitra Beasley, MD, MPH; Jessica Atrio, MD, MSc; Danielle Gershon, MD; and Neil A. Nero, MLIS, AHIP. It was reviewed and approved by Clinical Affairs Committee members on behalf of the Board of Directors of the Society of Family Planning, the Society of Gynecologic Oncology's (SGO's) Publication Committee, and SGO's Board of Directors.

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